ANTI-CCR8 ANTIBODIES AND USES THEREOF

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Application No. 63/197,271, filed June 4, 2021, and U.S Provisional Application No. 63/236,551, filed August 24, 2021, each of which is incorporated by reference herein in its entirety.

FIELD OF THE INVENTION

[0002] The present invention relates to the field of oncology. The present invention relates to anti-CCR8 antibodies having ADCC activity, and treatment of cancer patients with said antibodies. Anti-CCR8 antibodies of the present invention bind a unique epitope, and do not block ligand binding to CCR8. The present invention also relates to methods of treatment with a Treg depleting antibody and one or more of a bispecific T-cell engager molecule, an agonist of a T cell co-stimulatory receptor, and an antagonist of the PD-1/PD-L1 pathway.

BACKGROUND OF THE INVENTION

[0003] The C-C chemokine receptor type 8 (CCR8) is a member of the beta chemokine receptor family and is a seven transmembrane G-protein-coupled receptor with a 35 amino acid extracellular N-terminus. CCL1 is a ligand for CCR8, ccr8 and CCL1-induced CCR8 signaling occurs via G proteins. CCL1 binding CCR8 results in intracellular calcium flux that can be inhibited by pertussis toxin. Downstream activation of the RAS/ERK1/2 MAP kinase pathway has been demonstrated in a CCR8 expressing cell line (*see e.g.*, Louahed et al. (2003) "CCR8-dependent activation of the RAS/MAPK pathway mediates anti-apoptotic activity of I-309/CCL1 and vMIP-I", European J. of Immunology; 33(2): 494-501).

[0004] Chemokines and their receptors are important for the migration of various cell types into the inflammatory sites. Previous studies of CCR8 and its ligands suggest a role in the proper positioning of activated T cells within antigenic challenge sites and specialized areas of peripheral and lymphoid tissues. CCR8 may also contribute to regulation of monocyte chemotaxis and thymic cell apoptosis (Tiffany et al. (1997) "Identification of

CCR8: a human monocyte and thymus receptor for the CC chemokine I-309", J Exp Med; Jul 7;186(1):165-70).

[0005] Recent data in multiple tumor types have demonstrated CCR8 expression is a marker for tumor specific T regulatory (Treg) cells (*see e.g.,* Plitas et al. (2016) "Regulatory T Cells Exhibit Distinct Features in Human Breast Cancer", Immunity; 45(5):1122-1134; Villarreal et al. (Sept. 2018) "Targeting CCR8 Induces Protective Antitumor Immunity and Enhances Vaccine-Induced Responses in Colon Cancer" Tumor Biol. And Immun.). CCR8 is expressed with much higher prevalence and at higher levels on the surface of tumor-resident Tregs compared to circulating or normal tissue Tregs and conventional T effector (Teff) cells. Treg cell infiltration in solid tumors is associated with poor clinical outcome, and Tregs suppress the anti-cancer immune response through inhibition of Teff cell cytotoxicity.

[0006] Some data suggest that Treg suppression of the immune response in the tumor can be reduced by blocking CCR8 function, thereby promoting an inflammatory response and reduced tumor volume. Another therapeutic strategy is to deplete tumor Treg cells via anti-CCR8 antibody dependent cell killing (such as ADCC). For ADCC, anti-CCR8 antibodies may induce redirected T cell lysis of tumor-resident CCR8+ Tregs while sparing normal tissue Tregs that have little to no CCR8 expression by preferentially binding to CCR8 on tumor-resident Tregs and depleting these tumor-resident Tregs via ADCC (e.g., Tanaka et al. (2019) "Targeting Treg cells in cancer immunotherapy" European J. of Immun.; 49(8)1140-1146).

[0007] Treg depleting antibodies such as anti-CCR8 antibodies are known in the art. For example, PCT publication No. WO 2018/181425 describes an antibody against CCR8 having ADCC activity for use in treating cancer, and it discloses the commercially available rat anti-mouse CCR8 antibody (SA214G2).

[0008] There exists a need for alternative anti-CCR8 antibodies that 1) are able to bind human and cynomolgus monkey CCR8 on tumor-resident Treg cells; 2) lead to specific depletion of tumor-resident Treg cells; 3) demonstrate an acceptable pharmacokinetic profile (compared to anti-CCR8 antibodies that bind a different epitope), and/or 4) display sufficient potency for the treatment of cancer.

[0009] There also exists a need for anti-CCR8 antibodies that do not block binding of ligand (such as CCL1) to CCR8, and/or that bind an epitope on CCR8 wherein the epitope comprises at least one residue at positions 1-12 of SEQ ID NO. 31.

SUMMARY OF THE INVENTION

[0010] The present invention provides an antibody that binds to human C-C chemokine receptor type 8 (CCR8), or an antigen-binding fragment thereof, wherein said antibody, or antigen-binding fragment thereof, comprises: (a) a heavy chain complementarity-determining region (HCDR) 1 amino acid sequence of SEQ ID NO: 1; (b) an HCDR2 amino acid sequence of SEQ ID NO: 2; (c) an HCDR3 amino acid sequence of SEQ ID NO: 3; (d) a light chain complementarity-determining region (LCDR) 1 amino acid sequence of KSSQSVLYSSNNX$_1$NYLA (SEQ ID NO: 1235), wherein X$_1$ is K or R, (e) an LCDR2 amino acid sequence of SEQ ID NO: 5, and (f) an LCDR3 amino acid sequence of SEQ ID NO: 6. In some embodiments, the antibody or antigen-binding fragment comprises an LCDR1 amino acid sequence of SEQ ID NO: 4. In some embodiments, the antibody or antigen binding fragment comprises a heavy chain variable region (HCVR) amino acid sequence of SEQ ID NO: 13, and a light chain variable region (LCVR) comprising the amino acid sequence: DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNX$_1$NYLA WYX$_2$QKPGQX$_3$PKLLISWASTRESGVPDRFSGSGSGTDFTLTINSLQAEDVAVYYCQQ YYSIPITFGGGTKVEIKR (SEQ ID NO: 1236), wherein X$_1$ is K or R, X$_2$ is H or Q, and/or X$_3$ is S or P. In some embodiments, the antibody or antigen-binding fragment comprises a heavy chain variable region (HCVR) amino acid sequence of SEQ ID NO: 13 and a light chain variable region (LCVR) amino acid sequence of SEQ ID NO: 14 or SEQ ID NO: 363. In some embodiments, the antibody or antigen-binding fragment comprises a heavy chain (HC) amino acid sequence of SEQ ID NO: 15 and a light chain (LC) amino acid sequence of SEQ ID NO: 16 or SEQ ID NO: 365. In other embodiments, the antibody or antigen-binding fragment comprises two HCs and two LCs, wherein both HCs comprise an amino acid sequence of SEQ ID NO: 15, and both LCs comprise an amino acid sequence of SEQ ID NO: 16. In some embodiments, the antibody or antigen-binding fragment comprises two HCs and two LCs, and wherein both HCs comprise an amino acid sequence of SEQ ID NO: 15, and both LCs comprise an amino acid sequence of SEQ ID NO: 365. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0011] The present invention provides an antibody that binds to human CCR8, or an antigen-binding fragment thereof, comprising a heavy chain (HC) and a light chain (LC), wherein the HC comprises a heavy chain variable region (HCVR) and wherein the LC comprises a light chain variable region (LCVR), wherein the HCVR comprises HCDR1, HCDR2, and HCDR3 and the LCVR comprises LCDR1, LCDR2, and LCDR3, and wherein HCDR1 comprises an amino acid sequence of SEQ ID NO: 1; HCDR2 comprises an amino acid sequence of SEQ ID NO: 2; HCDR3 comprises an amino acid sequence of SEQ ID NO:

3; LCDR1 comprises an amino acid sequence of SEQ ID NO: 4; LCDR2 comprises an amino acid sequence of SEQ ID NO: 5; and LCDR3 comprises an amino acid sequence of SEQ ID NO: 6. In an embodiment, the HCVR comprises an amino acid sequence of SEQ ID NO: 13, and the LCVR comprises an amino acid sequence of SEQ ID NO: 14 or SEQ ID NO: 365. In an embodiment, the LCVR comprises an amino acid sequence of SEQ ID NO: 14. In an embodiment, the LCVR comprises an amino acid sequence of SEQ ID NO: 365. In an embodiment, the HC has an amino acid sequence of SEQ ID NO: 15 or SEQ ID NO: 573, and the LC has an amino acid sequence given by SEQ ID NO: 16. In another embodiment, the antibody comprises two HCs and two LCs, wherein each HC has an amino acid sequence of SEQ ID NO: 15 or SEQ ID NO: 573, and each LC has an amino acid sequence of SEQ ID NO: 16. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0012] The present invention also provides an antibody that binds to human CCR8, or an antigen-binding fragment thereof, which comprises an HCDR1 amino acid sequence of SEQ ID NO: 839; an HCDR2 amino acid sequence of SEQ ID NO: 840; an HCDR3 amino acid sequence of SEQ ID NO: 841; an LCDR1 amino acid sequence of SEQ ID NO: 842; an LCDR2 amino acid sequence of SEQ ID NO: 843; and an LCDR3 amino acid sequence of SEQ ID NO: 844. In some embodiments, the antibody or antigen-binding fragment comprises an HCVR amino acid sequence of SEQ ID NO: 1017 and an LCVR amino acid sequence of SEQ ID NO: 1018. In some embodiments, the antibody comprises an HC amino acid sequence of SEQ ID NO: 1125 or SEQ ID NO: 1237 and an LC amino acid sequence of SEQ ID NO: 1126. In some embodiments, the antibody comprises an HC amino acid sequence of SEQ ID NO: 1125 and an LC amino acid sequence of SEQ ID NO: 1126. In some embodiments, the antibody comprises an HC amino acid sequence of SEQ ID NO: 1237 and an LC amino acid sequence of SEQ ID NO: 1126. For example, the antibody may comprise two HCs and two LCs, wherein both HCs comprise an amino acid sequence of SEQ ID NO: 1125 or SEQ ID NO: 1237, and both LCs comprise an amino acid sequence of SEQ ID NO: 1126. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0013] The present invention also provides an antibody that binds to human CCR8, or an antigen-binding fragment thereof, which comprises an HCDR1 amino acid sequence of SEQ ID NO: 845; an HCDR2 amino acid sequence of SEQ ID NO: 846; an HCDR3 amino acid sequence of SEQ ID NO: 847; an LCDR1 amino acid sequence of SEQ ID NO: 848; an LCDR2 amino acid sequence of SEQ ID NO: 849; and an LCDR3 amino acid sequence of SEQ ID NO: 850. In some embodiments, the antibody or antigen-binding fragment comprises

an HCVR amino acid sequence of SEQ ID NO: 1019 and an LCVR amino acid sequence of SEQ ID NO: 1020. In some embodiments, the antibody comprises an HC amino acid sequence of SEQ ID NO: 1127 or SEQ ID NO: 1238 and an LC amino acid sequence of SEQ ID NO: 1128.

[0014] The present invention further provides an antibody that binds to human CCR8, or an antigen-binding fragment thereof, which comprises: (a) an HCDR1 amino acid sequence of $X_1X_2GX_4H$, (SEQ ID NO: 1233), wherein (i) X_1 is N, S, D, G, T, or R, (ii) X_2 is C, N, Y, S, or F, and (iii) X_4 is M or F; (b) an HCDR2 amino acid sequence of SEQ ID NOs: 648, 654, 660, 666, 672, 678, 684, 690, 696, 702, 708, 714, 720, 726, 732, 738, 744, 750, 756, 762, 768, 774, 780, 786, 792, 798, 804, 810, 816, 822, 828, 834, 840, 846, 852, 858, 867, 873, 879, 885, 891, 897, 903, 909, 915, 921, 927, 933, 939, or 945, or a variant thereof that comprises 1-4 amino acid substitutions or is at least 90% identical to any one of the foregoing HCDR2 amino acid sequences; (c) an HCDR3 amino acid sequence of SEQ ID NOs: 649, 655, 661, 667, 673, 679, 685, 691, 697, 703, 709, 715, 721, 727, 733, 739, 745, 751, 757, 763, 769, 775, 781, 787, 793, 799, 805, 811, 817, 823, 829, 835, 847, 853, 859, 868, 874, 880, 886, 892, 898, 904, 910, 916, 922, 928, 934, 940, or 946 or a variant thereof that comprises 1-4 amino acid substitutions or is at least 90% identical to any one of the foregoing HCDR3 amino acid sequences; (d) an LCDR1 amino acid sequence of SEQ ID NOs: 650, 656, 662, 668, 674, 680, 686, 692, 698, 704, 710, 716, 722, 728, 734, 740, 746, 752, 758, 764, 770, 776, 782, 788, 794, 800, 806, 812, 818, 824, 830, 836, 848, 854, 860, 863, 869, 875, 881, 887, 893, 899, 905, 911, 917, 923, 929, 935, or 941 or a variant thereof that comprises 1-4 amino acid substitutions or is at least 90% identical to any one of the foregoing LCDR1 amino acid sequences; (e) an LCDR2 amino acid sequence of $RX_2X_3X_4RPS$ (SEQ ID NO: 1234), wherein (i) X_2 is A, N, D, S, or Q, (ii) X_3 is S, T, N, I, F, or A, and (iii) X_4 is N or V; and (f) an LCDR3 amino acid sequence of SEQ ID NOs: 652, 658, 664, 670, 676, 682, 688, 694, 700, 706, 712, 718, 724, 730, 736, 742, 748, 754, 760, 766, 772, 778, 784, 790, 796, 802, 808, 814, 820, 826, 832, 838, 850, 856, 862, 865, 871, 877, 883, 889, 895, 901, 907, 913, 919, 925, 931, 937, or 943 or a variant thereof that comprises 1-4 amino acid substitutions or is at least 90% identical to any one of the foregoing LCDR3 amino acid sequences. In some embodiments, the HCDR1 comprises an amino acid sequence of SEQ ID NOs: 647, 653, 659, 665, 671, 677, 683, 689, 695, 701, 707, 713, 719, 725, 731, 737, 743, 749, 755, 761, 767, 773, 779, 785, 791, 797, 803, 809, 815, 821, 827, 833, 845, 851, 857, 866, 872, 878, 884, 890, 896, 902, 908, 914, 920, 926, 932, 938, or 944. In some embodiments, the LCDR2 comprises an amino acid sequence of SEQ ID NOs: 651,

657, 663, 669, 675, 681, 687, 693, 699, 705, 711, 717, 723, 729, 735, 741, 747, 753, 759, 765, 771, 777, 783, 789, 795, 801, 807, 813, 819, 825, 831, 837 849, 855, 861, 864, 870, 876, 882, 888, 894, 900, 906, 912, 918, 924, 930, 936, or 942. In some embodiments, the HCVR comprises an amino acid sequence of SEQ ID NOs: 953, 955, 957, 959, 961, 963, 965, 967, 969, 971, 973, 975, 977, 979, 981, 983, 985, 987, 989, 991, 993, 995, 997, 999, 1001, 1003, 1005, 1007, 1009, 1011, 1013, 1015, 1019, 1021, 1023, 1026, 1028, 1030, 1032, 1034, 1036, 1038, 1040, 1042, 1044, 1046, 1048, 1050, or 1052. In some embodiments, the LCVR comprises an amino acid sequence of SEQ ID NOs: 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000, 1002, 1004, 1006, 1008, 1010, 1012, 1014, 1016, 1020, 1022, 1024, 1025, 1027, 1029, 1031, 1033, 1035, 1037, 1039, 1041, 1043, 1045, 1047, 1049, or 1051. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0015] In some embodiments, the antibody of or antigen-binding fragment comprises: (a) a HCVR comprising an amino acid sequence of SEQ ID NO: 1019 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1020; (b) a HCVR comprising an amino acid sequence of SEQ ID NO: 1021 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1022; (c) a HCVR comprising an amino acid sequence of SEQ ID NO: 1023 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1024; (d) a HCVR comprising an amino acid sequence of SEQ ID NO: 1026 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1025; (e) a HCVR comprising an amino acid sequence of SEQ ID NO: 1028 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1027; (f) a HCVR comprising an amino acid sequence of SEQ ID NO: 1030 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1029; (g) a HCVR comprising an amino acid sequence of SEQ ID NO: 1032 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1031; (h) a HCVR comprising an amino acid sequence of SEQ ID NO: 1034 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1033; (i) a HCVR comprising an amino acid sequence of SEQ ID NO: 1036 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1035; (j) a HCVR comprising an amino acid sequence of SEQ ID NO: 1038 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1037; (k) a HCVR comprising an amino acid sequence of SEQ ID NO: 1040 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1039; (l) a HCVR comprising an amino acid sequence of SEQ ID NO: 1042 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1041; (m) a HCVR comprising an amino acid sequence of SEQ ID NO: 1044 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1043; (n) a HCVR comprising an amino acid sequence of SEQ ID NO: 1046

and a LCVR comprising an amino acid sequence of SEQ ID NO: 1045; (o) a HCVR comprising an amino acid sequence of SEQ ID NO: 1048 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1047; (p) a HCVR comprising an amino acid sequence of SEQ ID NO: 1050 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1049; or (q) a HCVR comprising an amino acid sequence of SEQ ID NO: 1052 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1051. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0016] In some embodiments, the antibody comprises an HC amino acid sequence of SEQ ID NOs: 1127, 1129, 1131, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1150, 1152, 1154, 1156, 1158, 1160, or 1238-1254; and an LC amino acid sequence of SEQ ID NOs: 1128, 1130, 1132, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, or 1159. For example, in some embodiments, the antibody comprises: (a) an HC amino acid sequence of SEQ ID NO: 1127 or SEQ ID NO: 1238 and a LC amino acid sequence of SEQ ID NO: 1128; (b) an HC amino acid sequence of SEQ ID NO: 1129 or SEQ ID NO: 1239 and a LC amino acid sequence of SEQ ID NO: 1130; (c) an HC amino acid sequence of SEQ ID NO: 1131 or SEQ ID NO: 1240 and a LC amino acid sequence of SEQ ID NO: 1132; (d) an HC amino acid sequence of SEQ ID NO: 1134 or SEQ ID NO: 1241 and a LC amino acid sequence of SEQ ID NO: 1133; (e) an HC amino acid sequence of SEQ ID NO: 1136 or SEQ ID NO: 1242 and a LC amino acid sequence of SEQ ID NO: 1135; (f) an HC amino acid sequence of SEQ ID NO: 1138 or SEQ ID NO: 1243 and a LC amino acid sequence of SEQ ID NO: 1137; (g) an HC amino acid sequence of SEQ ID NO: 1140 or SEQ ID NO: 1244 and a LC amino acid sequence of SEQ ID NO: 1139; (h) an HC amino acid sequence of SEQ ID NO: 1142 or SEQ ID NO: 1245 and a LC amino acid sequence of SEQ ID NO: 1141; (i) an HC amino acid sequence of SEQ ID NO: 1144 or SEQ ID NO: 1246 and a LC amino acid sequence of SEQ ID NO: 1143; (j) an HC amino acid sequence of SEQ ID NO: 1146 or SEQ ID NO: 1247 and a LC amino acid sequence of SEQ ID NO: 1145; (k) an HC amino acid sequence of SEQ ID NO: 1148 or SEQ ID NO: 1248 and a LC amino acid sequence of SEQ ID NO: 1147; (l) an HC amino acid sequence of SEQ ID NO: 1150 or SEQ ID NO: 1249 and a LC amino acid sequence of SEQ ID NO: 1149; (m) an HC amino acid sequence of SEQ ID NO: 1152 or SEQ ID NO: 1250 and a LC amino acid sequence of SEQ ID NO: 1151; (n) an HC amino acid sequence of SEQ ID NO: 1154 or SEQ ID NO: 1251 and a LC amino acid sequence of SEQ ID NO: 1153; (o) an HC amino acid sequence of SEQ ID NO: 1156 or SEQ ID NO: 1252 and a LC amino acid sequence of SEQ ID NO: 1155; (p) an HC amino acid sequence of SEQ ID NO: 1158 or SEQ ID NO: 1253 and a LC amino acid

sequence of SEQ ID NO: 1157; or (q) an HC amino acid sequence of SEQ ID NO: 1160 or SEQ ID NO: 1254 and a LC amino acid sequence of SEQ ID NO: 1159. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0017] In some embodiments, the antibody or antigen-binding fragment thereof is an antibody. In some embodiments, the antibody or antigen-binding fragment thereof is an antigen-binding fragment thereof. In some embodiments, the antibody or antigen-binding fragment is a single chain variable fragment (scFv). In some embodiments, the antibody or antigen-binding fragment is a Fab. In particular embodiments, the antibody or antigen-binding fragment is a single chain Fab (scFab). In some embodiments, the antigen-binding fragment comprises an amino acid sequence of any one of the anti-CCR8 antibodies or antigen-binding fragments thereof of the present invention.

[0018] The present invention also provides an antibody or antigen-binding fragment thereof, that binds to human CCR8, comprising a heavy chain (HC) and a light chain (LC), wherein the HC comprises a heavy chain variable region (HCVR) and wherein the LC comprises a light chain variable region (LCVR), wherein the HCVR comprises HCDR1, HCDR2, and HCDR3 and the LCVR comprises LCDR1, LCDR2, and LCDR3, and wherein HCDR1 comprises an amino acid sequence of SEQ ID NO: 7; HCDR2 comprises an amino acid sequence of SEQ ID NO: 8, SEQ ID NO: 367, or SEQ ID NO: 377; HCDR3 comprises an amino acid sequence of SEQ ID NO: 9; LCDR1 comprises an amino acid sequence of SEQ ID NO: 10, SEQ ID NO: 369, or SEQ ID NO: 379; LCDR2 comprises an amino acid sequence of SEQ ID NO: 11; and LCDR3 comprises an amino acid sequence of SEQ ID NO: 12. In an embodiment, the HCDR2 comprises an amino acid sequence of SEQ ID NO: 8. In an embodiment, the HCDR2 comprises an amino acid sequence of SEQ ID NO: 367. In an embodiment, the HCDR2 comprises an amino acid sequence of SEQ ID NO: 377. In an embodiment, the LCDR1 comprises an amino acid sequence of SEQ ID NO: 10. In an embodiment, the LCDR1 comprises an amino acid sequence of SEQ ID NO: 369. In an embodiment, the LCDR1 comprises an amino acid sequence of SEQ ID NO: 379. In an embodiment, the HCVR comprises an amino acid sequence of SEQ ID NO: 17, SEQ ID NO: 372, or SEQ ID NO: 382, and the LCVR comprises an amino acid sequence of SEQ ID NO: 18, SEQ ID NO: 373, or SEQ ID NO: 383. In an embodiment, the HCVR comprises an amino acid sequence of SEQ ID NO: 17. In an embodiment, the HCVR comprises an amino acid sequence of SEQ ID NO: 372. In an embodiment, the HCVR comprises an amino acid sequence of SEQ ID NO: 382. In an embodiment, the LCVR comprises an amino acid sequence of SEQ ID NO: 18. In an embodiment, the LCVR comprises an amino acid

sequence of SEQ ID NO: 373. In an embodiment, the LCVR comprises an amino acid sequence of SEQ ID NO: 383. In an embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 19, SEQ ID NO: 374, or SEQ ID NO: 384, and the LC comprises an amino acid sequence of SEQ ID NO: 20, SEQ ID NO: 375, or SEQ ID NO: 385. In an embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 19. In an embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 374. In an embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 384. In an embodiment, the LC comprises an amino acid sequence of SEQ ID NO: 20. In an embodiment, the LC comprises an amino acid sequence of SEQ ID NO: 375. In an embodiment, the LC comprises an amino acid sequence of SEQ ID NO: 385. In another embodiment, the antibody comprises two HCs and two LCs, wherein each HC comprises an amino acid sequence of SEQ ID NO: 19, SEQ ID NO: 374, or SEQ ID NO: 384, and each LC comprises an amino acid sequence of SEQ ID NO: 20, SEQ ID NO: 375, or SEQ ID NO: 385. In an embodiment, each HC comprises an amino acid sequence of SEQ ID NO: 19. In an embodiment, each HC comprises an amino acid sequence of SEQ ID NO: 374. In an embodiment, each HC comprises an amino acid sequence of SEQ ID NO: 384. In an embodiment, each LC comprises an amino acid sequence of SEQ ID NO: 20. In an embodiment, each LC comprises an amino acid sequence of SEQ ID NO: 375. In an embodiment, each LC comprises an amino acid sequence of SEQ ID NO: 385. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0019] The present invention provides an antibody or antigen-binding fragment thereof, that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 1; SEQ ID NO: 2; SEQ ID NO: 3; SEQ ID NO: 4; SEQ ID NO: 5; and SEQ ID NO: 6, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 352 and SEQ ID NO: 353, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 354 and 355, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 573 and 355, respectively. In an embodiment, the antibody is Antibody 1 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0020] The present invention provides an antibody or antigen-binding fragment thereof, that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of

SEQ ID NO: 1; SEQ ID NO: 2; SEQ ID NO: 3; SEQ ID NO: 4; SEQ ID NO: 5; and SEQ ID NO: 6, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 362 and SEQ ID NO: 363, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 364 and 365, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 574 and 365, respectively. In an embodiment, the antibody is Antibody 1.1 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0021] The present invention provides an antibody or antigen-binding fragment thereof that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 366; SEQ ID NO: 367; SEQ ID NO: 368; SEQ ID NO: 369; SEQ ID NO: 370; and SEQ ID NO: 371, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 372 and SEQ ID NO: 373, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 374 and 375, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 575 and 375, respectively. In an embodiment, the antibody is Antibody 2.1 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0022] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 376; SEQ ID NO: 377; SEQ ID NO: 378; SEQ ID NO: 379; SEQ ID NO: 380; and SEQ ID NO: 381, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 382 and SEQ ID NO: 383, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 384 and 385, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 576 and 385, respectively. In an embodiment, the antibody is Antibody 2.2 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0023] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 386;

SEQ ID NO: 387; SEQ ID NO: 388; SEQ ID NO: 389; SEQ ID NO: 390; and SEQ ID NO: 391, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and an LCVR comprising amino acid sequences of SEQ ID NO: 392 and SEQ ID NO: 393, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 394 and 395, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 577 and 395, respectively. In an embodiment, the antibody is Antibody 3.0 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0024] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 396; SEQ ID NO: 397; SEQ ID NO: 398; SEQ ID NO: 399; SEQ ID NO: 400; and SEQ ID NO: 401; respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 402 and SEQ ID NO: 403, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 404 and 405, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 578 and 405, respectively. In an embodiment, the antibody is Antibody 4.0 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0025] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 406; SEQ ID NO: 407; SEQ ID NO: 408; SEQ ID NO: 409; SEQ ID NO: 410; and SEQ ID NO: 411; respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 412 and SEQ ID NO: 413, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 414 and 415, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 579 and 415, respectively. In an embodiment, the antibody is Antibody 4.1 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0026] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 416; SEQ ID NO: 417; SEQ ID NO: 418; SEQ ID NO: 419; SEQ ID NO: 420; and SEQ ID NO:

421, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 422 and SEQ ID NO: 423, respectively. In another embodiment, the antibody comprises HC and LC comprising amino acid sequences of SEQ ID NO: 424 and 425, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 580 and 425, respectively. In an embodiment, the antibody is Antibody 4.2 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0027] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 426, SEQ ID NO: 427, SEQ ID NO: 428, SEQ ID NO: 429, SEQ ID NO: 430, and SEQ ID NO: 431, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 432 and SEQ ID NO: 433, respectively. In another embodiment, the antibody comprises an HC and LC comprising amino acid sequences of SEQ ID NO: 434 and 435, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 581 and 435, respectively. In an embodiment, the antibody is Antibody 5.0 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0028] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 436, SEQ ID NO: 437, SEQ ID NO: 438, SEQ ID NO: 439, SEQ ID NO: 440, and SEQ ID NO: 441, respectively. In an embodiment, the antibody or antigen-binding fragment comprises HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 442 and SEQ ID NO: 443, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 444 and 445, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 582 and 445, respectively. In an embodiment, the antibody is Antibody 5.1 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0029] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 446; SEQ ID NO: 447; SEQ ID NO: 448; SEQ ID NO: 449; SEQ ID NO: 450; and SEQ ID NO: 451, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an

HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 452 and SEQ ID NO: 453, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 454 and 455, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 583 and 455, respectively. In an embodiment, the antibody is Antibody 5.2 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0030] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 456, SEQ ID NO: 457, SEQ ID NO: 458, SEQ ID NO: 459, SEQ ID NO: 460, and SEQ ID NO: 461, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising the amino acid sequences of SEQ ID NO: 462 and SEQ ID NO: 463, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 464 and 465, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 584 and 465, respectively. In an embodiment, the antibody is Antibody 5.3 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0031] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 466, SEQ ID NO: 467, SEQ ID NO: 468, SEQ ID NO: 469, SEQ ID NO: 470, and SEQ ID NO: 471, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising the amino acid sequences of SEQ ID NO: 472 and SEQ ID NO: 473, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 474 and 475, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 585 and 475, respectively. In an embodiment, the antibody is Antibody 5.4 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0032] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 476, SEQ ID NO: 477, SEQ ID NO: 478, SEQ ID NO: 479, SEQ ID NO: 480, and SEQ ID NO: 481, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 482 and SEQ ID NO:

483, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 484 and 485, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 586 and 485, respectively. In an embodiment, the antibody is Antibody 5.5 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0033] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 486; SEQ ID NO: 487; SEQ ID NO: 488; SEQ ID NO: 489; SEQ ID NO: 490; and SEQ ID NO: 491, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 492 and SEQ ID NO: 493, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 494 and 495, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 587 and 495, respectively. In an embodiment, the antibody is Antibody 5.6 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0034] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 496; SEQ ID NO: 497; SEQ ID NO: 498; SEQ ID NO: 499; SEQ ID NO: 500; and SEQ ID NO: 501, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 502 and SEQ ID NO: 503, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 504 and 505, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 588 and 505, respectively. In an embodiment, the antibody is Antibody 5.7 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0035] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 506; SEQ ID NO: 507; SEQ ID NO: 508; SEQ ID NO: 509; SEQ ID NO: 510; and SEQ ID NO: 511; respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 512 and SEQ ID NO: 513, respectively. In another embodiment, the antibody comprises an HC and LC comprising

the amino acid sequences of SEQ ID NO: 514 and 515, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 589 and 515, respectively. In an embodiment, the antibody is Antibody 5.8 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0036] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 516; SEQ ID NO: 517; SEQ ID NO: 518; SEQ ID NO: 519; SEQ ID NO: 520; and SEQ ID NO: 521, respectively. In an embodiment, the antibody or antigen-binding fragment comprises HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 522 and SEQ ID NO: 523, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 524 and 525, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 590 and 525, respectively. In an embodiment, the antibody is Antibody 5.9 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0037] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 526; SEQ ID NO: 527; SEQ ID NO: 528; SEQ ID NO: 529; SEQ ID NO: 530; and SEQ ID NO: 531; respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 532 and SEQ ID NO: 533, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 534 and 535, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 591 and 535, respectively. In an embodiment, the antibody is Antibody 6.0 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0038] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 536; SEQ ID NO: 537; SEQ ID NO: 538; SEQ ID NO: 539; SEQ ID NO: 540; and SEQ ID NO: 541, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising the amino acid sequences of SEQ ID NO: 542 and SEQ ID NO: 543, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 544 and 545, respectively. In another

embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 592 and 545, respectively. In an embodiment, the antibody is Antibody 6.1 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0039] The present invention provides an antibody or antigen-binding fragment that binds CCR8, wherein the antibody or antigen-binding fragment comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3 comprising amino acid sequences of SEQ ID NO: 546; SEQ ID NO: 547; SEQ ID NO: 548; SEQ ID NO: 549; SEQ ID NO: 550; and SEQ ID NO: 551, respectively. In an embodiment, the antibody or antigen-binding fragment comprises an HCVR and LCVR comprising amino acid sequences of SEQ ID NO: 552 and SEQ ID NO: 553, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 554 and 555, respectively. In another embodiment, the antibody comprises an HC and LC comprising the amino acid sequences of SEQ ID NO: 593 and 555, respectively. In an embodiment, the antibody is Antibody 6.2 IgG1. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0040] In some embodiments, the anti-CCR8 antibody or antigen-binding fragment thereof comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3, HCVR, LCVR, HC, and/or LC amino acid residues as disclosed in Table 16, Table 17, Table 19, and/or Table 20.

[0041] In another embodiment, the HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, and/or LCDR3 of an antibody or antigen-binding fragment of the present invention comprises a sequence of amino acids that is at least 70%, 75%, 80%, 85%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99% or 100% identical to the sequence of a HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, and/or LCDR3 sequence of an anti-CCR8 antibody or antigen-binding fragment of the present invention listed herein. In an embodiment, the sequence of amino acids is at least 70% identical. In an embodiment, the sequence of amino acids is at least 80% identical. In an embodiment, the sequence of amino acids is at least 90% identical. In another embodiment, the sequence of amino acids is at least 95% identical. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0042] In another embodiment, the HCVR and/or LCVR comprises a sequence of amino acids that is at least 70%, 75%, 80%, 85%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99% or 100% identical to the sequence of a HCVR and/or LCVR sequence of an anti-CCR8 antibody or antigen-binding fragment of the present invention listed herein. In an embodiment, the sequence of amino acids is at least 70% identical. In an embodiment, the sequence of amino acids is at least 80% identical. In an embodiment, the sequence of amino

acids is at least 90% identical. In another embodiment, the sequence of amino acids is at least 95% identical. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0043] In another embodiment, the HC and/or LC comprises a sequence of amino acids that is at least 70%, 75%, 80%, 85%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99% or 100% identical to the sequence of a HC and/or LC sequence of an anti-CCR8 antibody or antigen-binding fragment of the present invention listed herein. In an embodiment, the sequence of amino acids is at least 70% identical. In an embodiment, the sequence of amino acids is at least 80% identical. In an embodiment, the sequence of amino acids is at least 90% identical. In another embodiment, the sequence of amino acids is at least 95% identical. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0044] In an embodiment, the present invention provides an afucosylated antibody of the present invention. In an embodiment, an anti-CCR8 antibody of the present invention is human or humanized.

[0045] In some embodiments, an anti-CCR8 antibody or antigen-binding fragment of the present invention can be administered concurrently with, before, or after a variety of drugs and treatments widely employed in cancer treatment such as, for example, chemotherapeutic agents, non-chemotherapeutic agents (e.g., checkpoint inhibitors including anti-PD-1 or anti-PD-L1 inhibitors, such as antagonist antibodies), anti-neoplastic agents, and/or radiation. For example, administration can occur before, during, and/or after any of the treatments described herein. Examples of chemotherapeutic agents are discussed herein and include, but are not limited to, cisplatin, taxol, etoposide, mitoxantrone (Novantrone®), actinomycin D, cycloheximide, camptothecin (or water soluble derivatives thereof), methotrexate, mitomycin (e.g., mitomycin C), dacarbazine (DTIC), anti-neoplastic antibiotics such as adriamycin (doxorubicin) and daunomycin, and all the chemotherapeutic agents mentioned herein. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0046] In some embodiments, an anti-CCR8 antibody or antigen-binding fragment of the present invention may be administered concurrently with, before, or after a checkpoint inhibitor such as a PD-1 antagonist antibody or a PD-L1 antagonist antibody. The term "PD-1 antagonist antibody" refers to an antibody that specifically binds to PD-1 and decreases, blocks, inhibits, abrogates, or interferes with signal transduction resulting from the interaction of PD-1 and one or more of its ligands, such as PD-L1 and PD-L2. In some embodiments, a

PD-1 antagonist antibody inhibits the binding of PD-1 to PD-L1 and/or PD-L2. The term "PD-L1 antagonist antibody" refers to an antibody that specifically binds to PD-L1 and decreases, blocks, inhibits, abrogates, or interferes with signal transduction resulting from the interaction of PD-L1 with the PD-1 receptor. In some embodiments, a PD-L1 antagonist antibody inhibits the binding of PD-L1 to PD-1. In some embodiments, the PD-1 antagonist antibody is any one of Antibody 20C1.006 (comprising LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3 amino acid sequences of SEQ ID NOs 72-77, respectively; VL and VH amino acid sequences of SEQ ID NOs 78 and 79, respectively; and LC and HC amino acid sequences of SEQ ID NOs 80 and 81, respectively); zeluvalimab (comprising LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3 amino acid sequences of SEQ ID NOs 32-37, respectively; VL and VH amino acid sequences of SEQ ID NOs 38 and 39 respectively; LC amino acid sequence of SEQ ID NO: 40; and HC amino acid sequences of SEQ ID NOs 41 or 636); Antibody 20A2.003 (comprising LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3 amino acid sequences of SEQ ID NOs 42-47, respectively; VL and VH amino acid sequences of SEQ ID NOs 48 and 49, respectively; and LC and HC amino acid sequences of SEQ ID NOs 50 and 51, respectively); Antibody 22D4.006 (comprising LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3 amino acid sequences of SEQ ID NOs 52-57, respectively; VL and VH amino acid sequences of SEQ ID NOs 58 and 59, respectively; and LC and HC amino acid sequences of SEQ ID NOs 60 and 61, respectively); or Antibody 22D4.017 (comprising LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3 amino acid sequences of SEQ ID NOs 62-67, respectively; VL and VH amino acid sequences of SEQ ID NOs 68 and 69, respectively; and LC and HC amino acid sequences of SEQ ID NOs 70 and 71, respectively). In one embodiment, the PD-1 antagonist antibody is pembrolizumab. In another embodiment, the PD-1 antagonist antibody is nivolumab. In yet another embodiment, the PD-1 antagonist antibody is cemiplimab. In a particular embodiment, the PD-1 antagonist antibody is zeluvalimab. Zeluvalimab is also known as AMG 404 and is also known as 20C1.009. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0047] The present invention provides a method of treating cancer in a patient comprising administering an effective amount of an anti-CCR8 antibody or antigen-binding fragment, wherein the anti-CCR8 antibody or antigen-binding fragment does not block ligand binding to CCR8. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0048] The present invention provides a method of treating cancer in a patient comprising administering an effective amount of an anti-CCR8 antibody, wherein the anti-CCR8 antibody has ADCC.

[0049] The present invention provides a method of treating cancer in a patient comprising administering an effective amount of an anti-CCR8 antibody, wherein the anti-CCR8 antibody does not block ligand binding to CCR8 and wherein the anti-CCR8 antibody has ADCC. In an embodiment, the anti-CCR8 antibody further has an acceptable PK. In an embodiment, the anti-CCR8 antibody binds an epitope wherein the epitope comprises at least one residue at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least two residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least three residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least four residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least five residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises six or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises seven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises eight or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises nine or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises ten or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises eleven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises all twelve amino acid residues at positions 1-12 of SEQ ID NO: 31. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 31. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 22. The amino acid sequence of amino acid residues 1-12 of SEQ ID NO: 31 is SEQ ID NO: 82. In an embodiment, the epitope is determined by epitope binning. In an embodiment, the epitope is determined by antibody binding to CCR8 peptide-nanobody complexes. In an embodiment, the epitope is determined by screening antibody binding to CCR8 by phage display. In an embodiment, the epitope is determined by determining binding to a CCR8 peptide expressed in human cells, wherein the peptide comprises an amino acid sequence given by SEQ ID NO: 82. In some embodiments, the epitope is determined by anti-CCR8 antibody binding to the T4R mutation in cynomolgus monkey CCR8. In an embodiment, binding to the T4R mutation is determined in a cell based affinity assay, wherein antibody binding to cells expressing cynomolgus monkey cells CCR8 containing a T4R mutation is compared to antibody binding to cells expressing wild-type cynomolgus monkey CCR8

(comprising a threonine at position four). In some embodiments, an anti-CCR8 antibody binds threonine at position four if it shows reduced binding to CCR8 comprising a T4R mutation. In particular embodiments, an anti-CCR8 antibody binds threonine at position four if it shows no detectable binding to CCR8 comprising a T4R mutation. In some embodiments, wild-type cynomolgus monkey CCR8 comprises an amino acid sequence given by SEQ ID NO: 22. In some embodiments, cynomolgus monkey CCR8 comprising a T4R mutation comprises an amino acid sequence given by SEQ ID NO: 556.

[0050] The present invention provides a method of treating cancer in a patient comprising administering an effective amount of an anti-CCR8 antibody, wherein the anti-CCR8 antibody does not block ligand binding to CCR8 and wherein the anti-CCR8 antibody has ADCC. In an embodiment, the anti-CCR8 antibody further has an acceptable PK. In an embodiment, the anti-CCR8 antibody binds an epitope wherein the epitope consists of at least one residue at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least two residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least three residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least four residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comp consists of rises at least five residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of six or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of seven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of eight or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of nine or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of ten or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of eleven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of all twelve amino acid residues at positions 1-12 of SEQ ID NO: 31. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 31. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 22. In an embodiment, the epitope is determined by epitope binning. In an embodiment, the epitope is determined by antibody binding to CCR8 peptide-nanobody complexes. In an embodiment, the epitope is determined by screening antibody binding to CCR8 by phage display. In an embodiment, the epitope is determined by determining binding to a CCR8 peptide expressed in human cells, wherein the peptide comprises an amino acid sequence given by SEQ ID NO: 82. In some embodiments, the epitope is determined by anti-CCR8 antibody binding to the T4R mutation in cynomolgus monkey CCR8. In an

embodiment, binding to the T4R mutation is determined in a cell based affinity assay, wherein antibody binding to cells expressing cynomolgus monkey CCR8 containing a T4R mutation is compared to antibody binding to cells expressing wild-type cynomolgus monkey CCR8 (comprising a threonine at position four). In some embodiments, an anti-CCR8 antibody binds threonine at position four if it shows reduced binding to CCR8 comprising a T4R mutation. In particular embodiments, an anti-CCR8 antibody binds threonine at position four if it shows no detectable binding to CCR8 comprising a T4R mutation. In some embodiments, wild-type cynomolgus monkey CCR8 comprises an amino acid sequence given by SEQ ID NO: 22. In some embodiments, cynomolgus monkey CCR8 comprising a T4R mutation comprises an amino acid sequence given by SEQ ID NO: 556.

[0051] The present invention provides a method of treating cancer in a patient comprising administering an effective amount of an anti-CCR8 antibody, wherein the anti-CCR8 antibody does not block ligand binding to CCR8 and wherein the anti-CCR8 antibody has ADCC. In an embodiment, the anti-CCR8 antibody further has an acceptable PK. In an embodiment, the anti-CCR8 antibody binds an epitope wherein the epitope comprises at least one residue of SEQ ID NO: 82. In an embodiment, the epitope comprises at least two residues of SEQ ID NO: 82. In an embodiment, the epitope comprises at least three residues of SEQ ID NO: 82. In an embodiment, the epitope comprises at least four residues of SEQ ID NO: 82. In an embodiment, the epitope comprises at least five residues of SEQ ID NO: 82. In an embodiment, the epitope comprises six or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises seven or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises eight or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises nine or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises ten or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises eleven or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises all twelve amino acid residues of SEQ ID NO: 82. In an embodiment, the epitope is determined by epitope binning. In an embodiment, the epitope is determined by antibody binding to CCR8 peptide-nanobody complexes. In an embodiment, the epitope is determined by screening antibody binding to CCR8 by phage display. In an embodiment, the epitope is determined by determining binding to a CCR8 peptide expressed in human cells, wherein the peptide comprises an amino acid sequence given by SEQ ID NO: 82. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 82. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 22. In some embodiments, the epitope is determined by anti-CCR8 antibody binding

to the T4R mutation in cynomolgus monkey CCR8. In an embodiment, binding to the T4R mutation is determined in a cell based affinity assay, wherein antibody binding to cells expressing cynomolgus monkey CCR8 containing a T4R mutation is compared to antibody binding to cells expressing wild-type cynomolgus monkey CCR8 (comprising a threonine at position four). In some embodiments, an anti-CCR8 antibody binds threonine at position four if it shows reduced binding to CCR8 comprising a T4R mutation. In particular embodiments, an anti-CCR8 antibody binds threonine at position four if it shows no detectable binding to CCR8 comprising a T4R mutation. In some embodiments, wild-type cynomolgus monkey CCR8 comprises an amino acid sequence given by SEQ ID NO: 22. In some embodiments, cynomolgus monkey CCR8 comprising a T4R mutation comprises an amino acid sequence given by SEQ ID NO: 556.

[0052] The present invention provides a method of treating cancer in a patient comprising administering an effective amount of an anti-CCR8 antibody, wherein the anti-CCR8 antibody does not block ligand binding to CCR8 and wherein the anti-CCR8 antibody has ADCC. In an embodiment, the anti-CCR8 antibody further has an acceptable PK. In an embodiment, the anti-CCR8 antibody binds an epitope wherein the epitope consists of at least one residue of SEQ ID NO: 82. In an embodiment, the epitope consists of at least two residues of SEQ ID NO: 82. In an embodiment, the epitope consists of at least three residues of SEQ ID NO: 82. In an embodiment, the epitope consists of at least four residues of SEQ ID NO: 82. In an embodiment, the epitope consists of rises at least five residues of SEQ ID NO: 82. In an embodiment, the epitope consists of six or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of seven or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of eight or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of nine or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of ten or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of eleven or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of all twelve amino acid residues of SEQ ID NO: 82. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 82. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 22. In an embodiment, the epitope is determined by epitope binning. In an embodiment, the epitope is determined by antibody binding to CCR8 peptide-nanobody complexes. In an embodiment, the epitope is determined by screening antibody binding to CCR8 by phage display. In an embodiment, the epitope is determined by determining binding to a CCR8 peptide expressed in human cells, wherein the peptide comprises an amino acid sequence

given by SEQ ID NO: 82. In some embodiments, the epitope is determined by anti-CCR8 antibody binding to the T4R mutation in cynomolgus monkey CCR8. In an embodiment, binding to the T4R mutation is determined in a cell based affinity assay, wherein antibody binding to cells expressing cynomolgus monkey CCR8 containing a T4R mutation is compared to antibody binding to cells expressing wild-type cynomolgus monkey CCR8 (comprising a threonine at position four). In some embodiments, an anti-CCR8 antibody binds threonine at position four if it shows reduced binding to CCR8 comprising a T4R mutation. In particular embodiments, an anti-CCR8 antibody binds threonine at position four if it shows no detectable binding to CCR8 comprising a T4R mutation. In some embodiments, wild-type cynomolgus monkey CCR8 comprises an amino acid sequence given by SEQ ID NO: 22. In some embodiments, cynomolgus monkey CCR8 comprising a T4R mutation comprises an amino acid sequence given by SEQ ID NO: 556.

[0053] The present invention also provides a method of treating cancer in a patient comprising administering an effective amount of an anti-CCR8 antibody or antigen-binding fragment of the present invention to the patient. In an embodiment, the cancer is a solid tumor. In a more particular embodiment, the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, triple-negative breast cancer, colorectal cancer, pancreatic cancer, or metastatic castrate-resistant prostate cancer. In an embodiment, the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, or triple-negative breast cancer. In an embodiment, the cancer is non-small cell lung cancer. In an embodiment, the cancer is colorectal cancer. In an embodiment, the cancer is head and neck squamous cell carcinoma. In some embodiments, the method further comprises administering to the patient a PD-1 antagonist antibody or a PD-L1 antagonist antibody. In some such embodiments, the PD-1 antagonist antibody or PD-L1 antagonist antibody is administered prior to, concurrently with, and/or after administration of the anti-CCR8 antibody or antigen-binding fragment. In particular embodiments, the PD-1 antagonist antibody is pembrolizumab, nivolumab, cemiplimab, or zeluvalimab. In other particular embodiments, the PD-L1 antagonist antibody is atezolizumab, avelumab, or durvalumab. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0054] In some embodiments, the method further comprises administering to the patient a chemotherapeutic agent. In some embodiments, the method comprises administering to the patient an anti-CCR8 antibody or antigen-binding fragment of the present invention and a chemotherapeutic agent. In some such embodiments, the

chemotherapeutic agent may be administered prior to, concurrently with, or after administration of the anti-CCR8 antibody or antigen-binding fragment of the present invention. In some embodiments, the method comprises administering to the patient an anti-CCR8 antibody of the present invention, a PD-1 or PD-L1 antagonist antibody, and a chemotherapeutic agent. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0055] The present invention provides a method of treating cancer in a patient comprising administering to the patient an effective amount of a Treg depleting antibody, a bispecific T-cell engager molecule, an agonist of a T cell co-stimulatory receptor, and/or an antagonist of the PD-1/PD-L1 pathway. In some embodiments, the patient is administered two of a Treg depleting antibody, a bispecific T-cell engager molecule, an agonist of a T cell co-stimulatory receptor, and an antagonist of the PD-1/PD-L1 pathway. In some embodiments, the patient is administered three of a Treg depleting antibody, a bispecific T-cell engager molecule, an agonist of a T cell co-stimulatory receptor, and an antagonist of the PD-1/PD-L1 pathway. In some embodiments, the patient is administered each of a Treg depleting antibody, a bispecific T-cell engager molecule, an agonist of a T cell co-stimulatory receptor, and an antagonist of the PD-1/PD-L1 pathway. In some embodiments, the patient is administered a bispecific T-cell engager molecule, an agonist of a T cell co-stimulatory receptor, and an antagonist of the PD-1/PD-L1 pathway.

[0056] The present invention also provides a method of treating cancer in a patient comprising administering to the patient an effective amount of a Treg depleting antibody and one or more of a bispecific T-cell engager molecule, an agonist of a T cell co-stimulatory receptor, and an antagonist of the PD-1/PD-L1 pathway. In an embodiment, the method comprises administering to the patient an effective amount of a Treg depleting antibody and a bispecific T-cell engager molecule. In an embodiment, the method comprises administering to the patient an effective amount of a Treg depleting antibody and an antagonist of the PD-1/PD-L1 pathway. In an embodiment, the method comprises administering to the patient an effective amount of a Treg depleting antibody and an agonist of a T cell co-stimulatory receptor. In an embodiment, the method comprises administering to the patient an effective amount of a Treg depleting antibody, a bispecific T-cell engager molecule, and an antagonist of the PD-1/PD-L1 pathway. In an embodiment, the method comprises administering to the patient an effective amount of a Treg depleting antibody, a bispecific T-cell engager molecule, an antagonist of the PD-1/PD-L1 pathway, and an agonist of a T cell co-stimulatory receptor.

[0057] In some embodiments, the Treg depleting antibody is an anti-CCR8 antibody. In some embodiments, the Treg depleting antibody is an anti-CTLA4 antibody. In an embodiment, the method comprises administering to the patient an effective amount of an anti-CCR8 antibody and a bispecific T-cell engager molecule. In an embodiment, the method comprises administering to the patient an effective amount of an anti-CCR8 antibody of the present invention and a bispecific T-cell engager molecule. In an embodiment, the method comprises administering to the patient an effective amount of an anti-CTLA-4 antibody and a bispecific T-cell engager molecule. In an embodiment, the method comprises administering to the patient an effective amount of an anti-CCR8 antibody and an antagonist of the PD-1/PD-L1 pathway. In an embodiment, the method comprises administering to the patient an effective amount of an anti-CCR8 antibody of the present invention and an antagonist of the PD-1/PD-L1 pathway. In some such embodiments, the antagonist of the PD-1/PD-L1 pathway is an PD-1 antagonist antibody. Antibody 20C1.006 (comprising LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3 amino acid sequences of SEQ ID NOs 72-77, respectively; VL and VH amino acid sequences of SEQ ID NOs 78 and 79, respectively; and LC and HC amino acid sequences of SEQ ID NOs 80 and 81, respectively), zeluvalimab (comprising LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3 amino acid sequences of SEQ ID NOs 32-37, respectively; VL and VH amino acid sequences of SEQ ID NOs 38 and 39 respectively; LC amino acid sequence of SEQ ID NO: 40; and HC amino acid sequences of SEQ ID NOs 41 or 636), Antibody 20A2.003 (comprising LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3 amino acid sequences of SEQ ID NOs 42-47, respectively; VL and VH amino acid sequences of SEQ ID NOs 48 and 49, respectively; and LC and HC amino acid sequences of SEQ ID NOs 50 and 51, respectively), Antibody 22D4.006 (comprising LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3 amino acid sequences of SEQ ID NOs 52-57, respectively; VL and VH amino acid sequences of SEQ ID NOs 58 and 59, respectively; and LC and HC amino acid sequences of SEQ ID NOs 60 and 61, respectively), or Antibody 22D4.017 (comprising LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3 amino acid sequences of SEQ ID NOs 62-67, respectively; VL and VH amino acid sequences of SEQ ID NOs 68 and 69, respectively; and LC and HC amino acid sequences of SEQ ID NOs 70 and 71, respectively). In one embodiment, the PD-1 antagonist antibody is pembrolizumab. In another embodiment, the PD-1 antagonist antibody is nivolumab. In yet another embodiment, the PD-1 antagonist antibody is cemiplimab. In a particular embodiment, the PD-1 antagonist antibody is zeluvalimab.

[0058] In an embodiment, the method comprises administering to the patient an effective amount of an anti-CCR8 antibody, a bispecific T-cell engager molecule, and an PD-1 antagonist antibody. In an embodiment, the method comprises administering to the patient an effective amount of an anti-CCR8 antibody of the present invention, a bispecific T-cell engager molecule, and an PD-1 antagonist antibody. In an embodiment, the method comprises administering to the patient an effective amount of an anti-CTLA-4 antibody, a bispecific T-cell engager molecule, and an PD-1 antagonist antibody.

[0059] In an embodiment, the method comprises administering to the patient an effective amount of an anti-CCR8 antibody, a bispecific T-cell engager molecule, an PD-1 antagonist antibody, and an agonist of a T cell co-stimulatory receptor. In an embodiment, the method comprises administering to the patient an effective amount of an anti-CCR8 antibody of the present invention, a bispecific T-cell engager molecule, an PD-1 antagonist antibody, and an agonist of a T cell co-stimulatory receptor. In an embodiment, the method comprises administering to the patient an effective amount of an anti-CTLA-4 antibody, a bispecific T-cell engager molecule, an PD-1 antagonist antibody, and an agonist of a T cell co-stimulatory receptor.

[0060] In some embodiments, the agonist of a T cell co-stimulatory receptor is an agonist of 4-1BB.

[0061] In some embodiments, the bispecific T-cell engager molecule comprises an amino acid sequence of any one of SEQ ID NOs. 87-345 in Table 15.

[0062] In some embodiments, the Treg depleting antibody is an antibody against CTLA-4, CCR8, CD25, TIGIT, CCR4, CD27, CD28, CD39, CD40, CD73, ICOS, OX40, 4-1BB, GITR, LAYN, IL1R2, or IL21R.

[0063] In some embodiments, the Treg depleting antibody is an anti-CTLA-4 antibody.

[0064] In some embodiments, the Treg depleting antibody is an anti-CCR8 antibody. In some such embodiments, the anti-CCR8 antibody is capable of depleting Treg cells. In some embodiments, the anti-CCR8 antibody is an anti-CCR8 antibody that has ADCC activity. In some embodiments, the anti-CCR8 antibody does not block ligand binding to CCR8. In some embodiments, the anti-CCR8 antibody binds human and cynomolgus monkey CCR8 on tumor-resident Treg cells. In some embodiments, the anti-CCR8 antibody binds an epitope on CCR8 wherein the epitope comprises at least one residue at positions 1-12 of SEQ ID NO. 31. In some embodiments, the anti-CCR8 antibody binds an epitope on CCR8 wherein the epitope consists of at least one residue at positions 1-12 of SEQ ID NO.

31. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 22. The amino acid sequence of amino acid residues 1-12 of SEQ ID NO: 31 is SEQ ID NO: 82. In an embodiment, the epitope is determined by epitope binning. In an embodiment, the epitope is determined by antibody binding to CCR8 peptide-nanobody complexes. In an embodiment, the epitope is determined by screening antibody binding to CCR8 by phage display. In an embodiment, the epitope is determined by determining binding to a CCR8 peptide expressed in human cells, wherein the peptide comprises an amino acid sequence given by SEQ ID NO: 82. In some embodiments, the epitope is determined by anti-CCR8 antibody binding to the T4R mutation in cynomolgus monkey CCR8. In an embodiment, binding to the T4R mutation is determined in a cell based affinity assay, wherein antibody binding to cells expressing cynomolgus monkey CCR8 containing a T4R mutation is compared to antibody binding to cells expressing wild-type cynomolgus monkey CCR8 (comprising a threonine at position four). In some embodiments, an anti-CCR8 antibody binds threonine at position four if it shows reduced binding to CCR8 comprising a T4R mutation. In particular embodiments, an anti-CCR8 antibody binds threonine at position four if it shows no detectable binding to CCR8 comprising a T4R mutation. In some embodiments, wild-type cynomolgus monkey CCR8 comprises an amino acid sequence given by SEQ ID NO: 22. In some embodiments, cynomolgus monkey CCR8 comprising a T4R mutation comprises an amino acid sequence given by SEQ ID NO: 556.In some embodiments, the anti-CCR8 antibody demonstrates an acceptable pharmacokinetic profile. In a particular embodiment, the anti-CCR8 antibody is an anti-CCR8 antibody of the present invention.

[0065] In an embodiment, the agonist of an immune cell co-stimulatory receptor is an agonist of CD2, TNFRSF4 (OX40), TNFRSF5 (CD40), TNFRSF7 (CD27), TNFRSF8 (CD30), TNFRSF9 (4-1BB), TNFRSF14 (HVEM), TNFRSF18 (GITR), TNFR2, or ICOS. In a particular embodiment, the agonist of an immune cell co-stimulatory receptor is a 4-1BB agonist antibody.

[0066] In an embodiment, the antagonist of the PD-1/PD-L1 pathway is a PD-1 antagonist antibody or a PD-L1 antagonist antibody as described herein. In some embodiments, the PD-1 antagonist antibody is any one of Antibody 20C1.006, zeluvalimab, Antibody 20A2.003, Antibody 22D4.006, or Antibody 22D4.017. In one embodiment, the PD-1 antagonist antibody is pembrolizumab. In another embodiment, the PD-1 antagonist antibody is nivolumab. In yet another embodiment, the PD-1 antagonist antibody is cemiplimab. In a particular embodiment, the PD-1 antagonist antibody is zeluvalimab.

[0067] In an embodiment, the Treg depleting antibody is administered at the same time as the bispecific T-cell engager molecule, agonist of an immune cell co-stimulatory receptor, and/or an antagonist of the PD-1/PD-L1 pathway. In an embodiment, the Treg depleting antibody, bispecific T-cell engager molecule, agonist of an immune cell co-stimulatory receptor, and/or an antagonist of the PD-1/PD-L1 pathway are administered at different times. In a particular embodiment, the patient is administered a Treg depleting antibody, a bispecific T-cell engager molecule, an agonist of an immune cell co-stimulatory receptor, and an antagonist of the PD-1/PD-L1 pathway. In another particular embodiment, the patient is administered an anti-CCR8 antibody, a bispecific T-cell engager molecule, a 4-1BB agonist antibody, and an antagonist of the PD-1/PD-L1 pathway. In a particular embodiment, the anti-CCR8 antibody is an anti-CCR8 antibody of the present invention.

[0068] In an embodiment, the cancer is a solid tumor. In a more particular embodiment, the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, triple-negative breast cancer, colorectal cancer, pancreatic cancer, or metastatic castrate-resistant prostate cancer. In an embodiment, the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, or triple-negative breast cancer. In an embodiment, the cancer is non-small cell lung cancer. In an embodiment, the cancer is colorectal cancer. In an embodiment, the cancer is head and neck squamous cell carcinoma.

[0069] The present invention provides an anti-CCR8 antibody or antigen-binding fragment of the present invention for use in therapy. The present invention also provides an anti-CCR8 antibody or antigen-binding fragment of the present invention for use in treating cancer. In an embodiment, the cancer is a solid tumor. In an embodiment, the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, triple-negative breast cancer, colorectal cancer, pancreatic cancer, or metastatic castrate-resistant prostate cancer. In a more particular embodiment, the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, or triple-negative breast cancer. In some embodiments, the use further comprises administering to the patient a PD-1 antagonist antibody or a PD-L1 antagonist antibody. In some such embodiments, the PD-1 antagonist antibody or PD-L1 antagonist antibody is administered prior to, concurrently with, and/or after administration of the anti-CCR8 antibody or antigen-binding fragment. In particular embodiments, the PD-1 antagonist antibody is pembrolizumab, nivolumab, cemiplimab, or zeluvalimab. In other particular embodiments, the PD-L1 antagonist antibody is atezolizumab, avelumab, or durvalumab. In

some embodiments, the use further comprises administering to the patient a chemotherapeutic agent. In some such embodiments, the chemotherapeutic agent may be administered prior to, concurrently with, or after administration of the anti-CCR8 antibody or antigen-binding fragment. In some embodiments, the use comprises administering to the patient an anti-CCR8 antibody or antigen-binding fragment of the present invention and a chemotherapeutic agent. In some embodiments, the use comprises administering to the patient an anti-CCR8 antibody or antigen-binding fragment of the present invention, a PD-1 or PD-L1 antagonist antibody, and a chemotherapeutic agent. In an embodiment, the anti-CCR8 antibody or antigen-binding fragment thereof, is an antibody.

[0070] The present invention provides an anti-CCR8 antibody or antigen-binding fragment of the present invention for the manufacture of a medicament for the treatment of cancer. In an embodiment, the cancer is a solid tumor. In an embodiment, the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, triple-negative breast cancer, colorectal cancer, pancreatic cancer, or metastatic castrate-resistant prostate cancer. In a more particular embodiment, the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, or triple-negative breast cancer. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0071] The present invention also provides a pharmaceutical composition comprising an anti-CCR8 antibody of the present invention, or an antigen-binding fragment thereof, and one or more pharmaceutically acceptable carriers, diluents, or excipients. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[0072] In an embodiment, the anti-CCR8 antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 594 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 595. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 354, and the LC comprises an amino acid sequence of SEQ ID NO: 355. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 573, and the LC comprises an amino acid sequence of SEQ ID NO: 355.

[0073] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 596 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 597. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 364, and the LC comprises an amino acid sequence of SEQ ID NO: 365. In another particular embodiment, the HC comprises an amino

acid sequence of SEQ ID NO: 574, and the LC comprises an amino acid sequence of SEQ ID NO: 365.

[0074] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 598 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 599. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 374, and the LC comprises an amino acid sequence of SEQ ID NO: 375. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 575, and the LC comprises an amino acid sequence of SEQ ID NO: 375.

[0075] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 600 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 601. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 384, and the LC comprises an amino acid sequence of SEQ ID NO: 385. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 576, and the LC comprises an amino acid sequence of SEQ ID NO: 385.

[0076] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 602 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 603. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 394, and the LC comprises an amino acid sequence of SEQ ID NO: 395. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 577, and the LC comprises an amino acid sequence of SEQ ID NO: 395.

[0077] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 604 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 605. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 404, and the LC comprises an amino acid sequence of SEQ ID NO: 405. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 578, and the LC comprises an amino acid sequence of SEQ ID NO: 405.

[0078] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 606 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 607. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 414, and the LC comprises an amino acid

sequence of SEQ ID NO: 415. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 579, and the LC comprises an amino acid sequence of SEQ ID NO: 415.

[0079] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 608 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 609. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 424, and the LC comprises an amino acid sequence of SEQ ID NO: 425. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 580, and the LC comprises an amino acid sequence of SEQ ID NO: 425.

[0080] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 610 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 611. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 434, and the LC comprises an amino acid sequence of SEQ ID NO: 435. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 581, and the LC comprises an amino acid sequence of SEQ ID NO: 435.

[0081] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 612 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 613. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 444, and the LC comprises an amino acid sequence of SEQ ID NO: 445. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 582, and the LC comprises an amino acid sequence of SEQ ID NO: 445.

[0082] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 614 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 615. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 454, and the LC comprises an amino acid sequence of SEQ ID NO: 455. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 583, and the LC comprises an amino acid sequence of SEQ ID NO: 455.

[0083] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 616 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 617. In a particular embodiment, the HC

comprises an amino acid sequence of SEQ ID NO: 464, and the LC comprises an amino acid sequence of SEQ ID NO: 465. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 584, and the LC comprises an amino acid sequence of SEQ ID NO: 465.

[0084] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 618 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 619. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 474, and the LC comprises an amino acid sequence of SEQ ID NO: 475. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 585, and the LC comprises an amino acid sequence of SEQ ID NO: 475.

[0085] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 620 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 621. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 484, and the LC comprises an amino acid sequence of SEQ ID NO: 485. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 586, and the LC comprises an amino acid sequence of SEQ ID NO: 485.

[0086] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 622 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 623. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 494, and the LC comprises an amino acid sequence of SEQ ID NO: 495. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 587, and the LC comprises an amino acid sequence of SEQ ID NO: 495.

[0087] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 624 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 625. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 504, and the LC comprises an amino acid sequence of SEQ ID NO: 505. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 588, and the LC comprises an amino acid sequence of SEQ ID NO: 505.

[0088] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 626 and a LC encoded by a

polynucleotide sequence comprising SEQ ID NO: 627. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 514, and the LC comprises an amino acid sequence of SEQ ID NO: 515. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 589, and the LC comprises an amino acid sequence of SEQ ID NO: 515.

[0089] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 628 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 629. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 524, and the LC comprises an amino acid sequence of SEQ ID NO: 525. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 590, and the LC comprises an amino acid sequence of SEQ ID NO: 525.

[0090] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 630 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 631. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 534, and the LC comprises an amino acid sequence of SEQ ID NO: 535. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 591, and the LC comprises an amino acid sequence of SEQ ID NO: 535.

[0091] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 632 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 633. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 544, and the LC comprises an amino acid sequence of SEQ ID NO: 545. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 592, and the LC comprises an amino acid sequence of SEQ ID NO: 545.

[0092] In an embodiment, the antibody of the present invention comprises a HC encoded by a polynucleotide sequence comprising SEQ ID NO: 634 and a LC encoded by a polynucleotide sequence comprising SEQ ID NO: 635. In a particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 554, and the LC comprises an amino acid sequence of SEQ ID NO: 555. In another particular embodiment, the HC comprises an amino acid sequence of SEQ ID NO: 593, and the LC comprises an amino acid sequence of SEQ ID NO: 555.

[0093] Also provided herein are one or more nucleic acid sequences encoding the anti-CCR8 antibody or antigen-binding fragment of the present invention. In some embodiments, the present invention provides a DNA molecule comprising a polynucleotide that encodes a HC of an antibody of the present invention. The present invention also provides a DNA molecule comprising a polynucleotide that encodes a LC of an antibody of the present invention. The present invention also provides a DNA molecule comprising a polynucleotide that encodes both a LC of an antibody of the present invention and a HC of an antibody of the present invention. In some embodiments, the invention provides a nucleic acid sequence encoding a heavy chain amino acid sequence of SEQ ID NOs: 1127, 1129, 1131, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1150, 1152, 1154, 1156, 1158, or 1160. In other embodiments, the invention provides a nucleic acid sequence encoding a light chain amino acid sequence of SEQ ID NOs: 1128, 1130, 1132, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, or 1159.

[0094] The present invention also provides a DNA molecule comprising a polynucleotide that encodes an antibody LC wherein the LC has an amino acid sequence of SEQ ID NO: 16. In an embodiment, the polynucleotide comprises a polynucleotide sequence of SEQ ID NO: 28. The present invention also provides DNA molecules where one DNA molecule comprises a polynucleotide that encodes an antibody HC wherein the HC has an amino acid sequence of SEQ ID NO: 15, and another DNA molecule comprises a polynucleotide that encodes a LC wherein the LC has an amino acid sequence of SEQ ID NO: 16. In an embodiment, the polynucleotide that encodes the antibody HC comprises a polynucleotide sequence of SEQ ID NO: 27, and the polynucleotide that encodes the LC comprises a polynucleotide sequence of SEQ ID NO: 28.

[0095] The present invention further provides a mammalian cell transformed with a DNA molecule of the present invention, wherein the transformed mammalian cell is capable of expressing an antibody of the present invention, wherein the antibody comprises two HCs and two LCs.

[0096] The present invention further provides a mammalian cell transformed with a DNA molecule of the present invention, wherein the transformed mammalian cell is capable of expressing an antibody comprising two HCs and two LCs, wherein each HC comprises an amino acid sequence of SEQ ID NO: 15, and each LC comprises an amino acid sequence of SEQ ID NO: 16.

[0097] The present invention also provides a process for producing an antibody of the present invention, wherein the antibody comprises two HCs and two LCs, and wherein the

process comprises cultivating a mammalian cell under conditions such that the antibody is expressed and recovering the expressed antibody. In an embodiment, the mammalian cell is transformed with a DNA molecule of the present invention, wherein the transformed mammalian cell is capable of expressing an antibody of the present invention comprising two HCs and two LCs. The present invention also provides an antibody obtainable by the process.

[0098] The present invention also provides a process for producing an antibody, wherein the antibody comprises two HCs and two LCs, each HC comprises an amino acid sequence of SEQ ID NO: 15 and each LC comprises an amino acid sequence of SEQ ID NO: 16. In an embodiment, the process comprises cultivating a mammalian cell under conditions such that the antibody is expressed and recovering the expressed antibody, and wherein the mammalian cell is transformed with a DNA molecule of the present invention, wherein the transformed mammalian cell is capable of expressing an antibody comprising two HCs and two LCs, wherein each HC comprises an amino acid sequence of SEQ ID NO: 15, and each LC comprises an amino acid sequence of SEQ ID NO: 16. The present invention also provides an antibody obtainable by the process.

[0099] The present invention provides a DNA molecule comprising a polynucleotide that encodes an antibody HC, wherein the HC has an amino acid sequence of SEQ ID NO: 19. In an embodiment, the polynucleotide sequence comprises SEQ ID NO: 29.

[00100] The present invention provides a DNA molecule comprising a polynucleotide that encodes an antibody LC wherein the LC has an amino acid sequence of SEQ ID NO: 20. In an embodiment, the polynucleotide sequence comprises SEQ ID NO: 30.

[00101] The present invention provides a DNA molecule comprising a polynucleotide that encodes an antibody HC wherein the HC has an amino acid sequence of SEQ ID NO: 19. In an embodiment, the polynucleotide that encodes the antibody HC comprises a polynucleotide sequence of SEQ ID NO: 29. The present invention also provides a DNA molecule comprising a polynucleotide that encodes an antibody LC wherein the LC has an amino acid sequence of SEQ ID NO: 20. In an embodiment, the polynucleotide that encodes the LC comprises a polynucleotide sequence of SEQ ID NO: 30. The present invention also provides a mammalian cell transformed with a DNA molecule of the present invention, wherein the transformed mammalian cell is capable of expressing an antibody comprising two HCs and two LCs, wherein each HC comprises an amino acid sequence of SEQ ID NO: 19, and each LC comprises an amino acid sequence of SEQ ID NO: 20.

[00102] In some embodiments, a nucleic acid sequence encoding an HC described herein may comprise any one of SEQ ID NOs: 1195, 1197, 1199, 1201, 1204, 1206, 1208, 1210, 1212, 1214, 1216, 1218, 1220, 1222, 1224, 1226, 1228, or 1230.

[00103] In some embodiments, a nucleic acid sequence encoding an LC described herein may comprise any one of SEQ ID NOs: 1196, 1198, 1200, 1202, 1203, 1205, 1207, 1209, 1211, 1213, 1215, 1217, 1219, 1221, 1223, 1225, 1227, or 1229.

[00104] In some embodiments, a nucleic acid sequence encoding an scFv described herein may comprise any one of SEQ ID NOs: 1163-1194.

[00105] The present invention also provides a process for producing an antibody, wherein the antibody comprises two HCs and two LCs, each HC comprises an amino acid sequence of SEQ ID NO: 19 and each LC comprises an amino acid sequence of SEQ ID NO: 20. In an embodiment, the process comprises cultivating a mammalian cell under conditions such that the antibody is expressed and recovering the expressed antibody, and wherein the mammalian cell is transformed with a DNA molecule of the present invention. In an embodiment, the transformed mammalian cell is capable of expressing an antibody comprising two HCs and two LCs, wherein each HC comprises an amino acid sequence of SEQ ID NO: 19, and each LC comprises an amino acid sequence of SEQ ID NO: 20. The present invention also provides an antibody obtainable by the process.

[00106] The present invention also provides a process for producing an antibody comprising two HCs and two LCs, wherein the process comprises cultivating the above-described mammalian cell under conditions such that the antibody is expressed and recovering the expressed antibody, wherein: (a) both HCs comprise an amino acid sequence of SEQ ID NOs: 15, 1125, 1127, 1129, 1131, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1150, 1152, 1154, 1156, 1158, or 1160, or an amino acid sequence that is at least 90% identical to any one of the foregoing HC amino acid sequences; and (b) both LCs comprise an amino acid sequence of SEQ ID NOs: 16, 365, 1126, 1128, 1130, 1132, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, or 1159, or an amino acid sequence that is at least 90% identical to any one of the foregoing LC amino acid sequences.

[00107] In another embodiment, the present invention provides an antibody or antigen-binding fragment thereof that binds human CCR8 at an epitope wherein the epitope comprises at least one residue at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least two residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least three residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least four residues at positions 1-12 of SEQ

ID NO: 31. In an embodiment, the epitope comprises at least five residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises six or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises seven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises eight or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises nine or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises ten or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises eleven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises all twelve amino acid residues at positions 1-12 of SEQ ID NO: 31. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 31. The amino acid sequence of amino acid residues 1-12 of SEQ ID NO: 31 is SEQ ID NO: 82. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 22. In some such embodiments, the anti-CCR8 antibody does not block the binding of CCL1 to CCR8. In an embodiment, the epitope is determined by epitope binning. In an embodiment, the epitope is determined by antibody binding to CCR8 peptide-nanobody complexes. In an embodiment, the epitope is determined by determining binding to a CCR8 peptide expressed in human cells, wherein the peptide comprises an amino acid sequence given by SEQ ID NO: 82. In an embodiment, the epitope is determined by screening antibody binding to CCR8 by phage display. In another embodiment, the present invention provides an antibody or antigen-binding fragment thereof that binds human CCR8 at an epitope wherein the epitope consists of at least one residue at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least two residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least three residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least four residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least five residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of six or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of seven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of eight or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of nine or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of ten or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of eleven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of all twelve amino acid residues at positions 1-12 of SEQ ID NO: 31. In a particular embodiment, the

epitope consists of a threonine at position 4 of SEQ ID NO: 31. The amino acid sequence of amino acid residues 1-12 of SEQ ID NO: 31 is SEQ ID NO: 82. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 22. In some such embodiments, the anti-CCR8 antibody does not block the binding of CCL1 to CCR8. In an embodiment, the epitope is determined by epitope binning. In an embodiment, the epitope is determined by antibody binding to CCR8 peptide-nanobody complexes. In an embodiment, the epitope is determined by screening antibody binding to CCR8 by phage display. In an embodiment, the epitope is determined by determining binding to a CCR8 peptide expressed in human cells, wherein the peptide comprises an amino acid sequence given by SEQ ID NO: 82. In some embodiments, the epitope is determined by anti-CCR8 antibody or antigen-binding fragment thereof binding to the T4R mutation in cynomolgus monkey CCR8. In an embodiment, binding to the T4R mutation is determined in a cell based affinity assay, wherein antibody binding to cells expressing cynomolgus monkey CCR8 containing a T4R mutation is compared to antibody binding to cells expressing wild-type cynomolgus monkey CCR8 (comprising a threonine at position four). In some embodiments, an anti-CCR8 antibody or antigen-binding fragment thereof binds threonine at position four if it shows reduced binding to CCR8 comprising a T4R mutation. In particular embodiments, an anti-CCR8 antibody or antigen-binding fragment thereof binds threonine at position four if it shows no detectable binding to CCR8 comprising a T4R mutation. In some embodiments, wild-type cynomolgus monkey CCR8 comprises an amino acid sequence given by SEQ ID NO: 22. In some embodiments, cynomolgus monkey CCR8 comprising a T4R mutation comprises an amino acid sequence given by SEQ ID NO: 556. In an embodiment, the anti-CCR8 antibody or fragment thereof is an antibody.

[00108] In another embodiment, the present invention provides an antibody or antigen-binding fragment thereof that binds human CCR8 at an epitope wherein the epitope comprises at least one residue of SEQ ID NO: 82. In an embodiment, the epitope comprises at least two residues of SEQ ID NO: 82. In an embodiment, the epitope comprises at least three residues of SEQ ID NO: 82. In an embodiment, the epitope comprises at least four residues of SEQ ID NO: 82. In an embodiment, the epitope comprises at least five residues of SEQ ID NO: 82. In an embodiment, the epitope comprises six or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises seven or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises eight or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises nine or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises ten or more residues of SEQ ID NO: 82. In an

embodiment, the epitope comprises eleven or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises all twelve amino acid residues of SEQ ID NO: 82. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 82. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 22. In some such embodiments, the anti-CCR8 antibody does not block the binding of CCL1 to CCR8. In an embodiment, the epitope is determined by epitope binning. In an embodiment, the epitope is determined by antibody binding to CCR8 peptide-nanobody complexes. In an embodiment, the epitope is determined by screening antibody binding to CCR8 by phage display. In an embodiment, the epitope is determined by determining binding to a CCR8 peptide expressed in human cells, wherein the peptide comprises an amino acid sequence given by SEQ ID NO: 82. In some embodiments, the epitope is determined by anti-CCR8 antibody or antigen-binding fragment thereof binding to the T4R mutation in cynomolgus monkey CCR8. In an embodiment, binding to the T4R mutation is determined in a cell based affinity assay, wherein antibody binding to cells expressing cynomolgus monkey CCR8 containing a T4R mutation is compared to antibody binding to cells expressing wild-type cynomolgus monkey CCR8 (comprising a threonine at position four). In some embodiments, an anti-CCR8 antibody or antigen-binding fragment thereof binds threonine at position four if it shows reduced binding to CCR8 comprising a T4R mutation. In particular embodiments, an anti-CCR8 antibody or antigen-binding fragment thereof binds threonine at position four if it shows no detectable binding to CCR8 comprising a T4R mutation. In some embodiments, wild-type cynomolgus monkey CCR8 comprises an amino acid sequence given by SEQ ID NO: 22. In some embodiments, cynomolgus monkey CCR8 comprising a T4R mutation comprises an amino acid sequence given by SEQ ID NO: 556. In an embodiment, the anti-CCR8 antibody or fragment thereof is an antibody.

[00109] In another embodiment, the present invention provides an antibody or antigen-binding fragment thereof that binds human CCR8 at an epitope wherein the epitope consists of at least one residue of SEQ ID NO: 82. In an embodiment, the epitope consists of at least two residues of SEQ ID NO: 82. In an embodiment, the epitope consists of at least three residues of SEQ ID NO: 82. In an embodiment, the epitope consists of at least four residues of SEQ ID NO: 82. In an embodiment, the epitope consists of at least five residues of SEQ ID NO: 82. In an embodiment, the epitope consists of six or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of seven or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of eight or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of nine or more residues of SEQ ID NO: 82. In an

embodiment, the epitope consists of ten or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of eleven or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of all twelve amino acid residues of SEQ ID NO: 82. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 82. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 22. In some such embodiments, the anti-CCR8 antibody does not block the binding of CCL1 to CCR8. In an embodiment, the epitope is determined by epitope binning. In an embodiment, the epitope is determined by antibody binding to CCR8 peptide-nanobody complexes. In an embodiment, the epitope is determined by screening antibody binding to CCR8 by phage display. In an embodiment, the epitope is determined by determining binding to a CCR8 peptide expressed in human cells, wherein the peptide comprises an amino acid sequence given by SEQ ID NO: 82. In some embodiments, the epitope is determined by anti-CCR8 antibody or antigen-binding fragment thereof binding to the T4R mutation in cynomolgus monkey CCR8. In an embodiment, binding to the T4R mutation is determined in a cell based affinity assay, wherein antibody binding to cells expressing cynomolgus monkey CCR8 containing a T4R mutation is compared to antibody binding to cells expressing wild-type cynomolgus monkey CCR8 (comprising a threonine at position four). In some embodiments, an anti-CCR8 antibody or antigen-binding fragment thereof binds threonine at position four if it shows reduced binding to CCR8 comprising a T4R mutation. In particular embodiments, an anti-CCR8 antibody or antigen-binding fragment thereof binds threonine at position four if it shows no detectable binding to CCR8 comprising a T4R mutation. In some embodiments, wild-type cynomolgus monkey CCR8 comprises an amino acid sequence given by SEQ ID NO: 22. In some embodiments, cynomolgus monkey CCR8 comprising a T4R mutation comprises an amino acid sequence given by SEQ ID NO: 556. In an embodiment, the anti-CCR8 antibody or fragment thereof is an antibody.

[00110] In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope comprising amino acids of SEQ ID NO: 83. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope comprising amino acids of SEQ ID NO: 86. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope comprising amino acids of SEQ ID NO: 84. In some embodiments, the epitope is determined by antibody binding to a peptide of amino acids of SEQ ID NO: 85, SEQ ID NO: 83, SEQ ID NO: 86, and/or SEQ ID NO: 84. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope comprising amino acids at positions

13 through 35 of SEQ ID NO: 31. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope comprising amino acids at positions 13, 14, or 15 of SEQ ID NO: 31.

[00111] In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope consisting of amino acids of SEQ ID NO: 83. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope consisting of amino acids of SEQ ID NO: 86. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope consisting of amino acids of SEQ ID NO: 84. In some embodiments, the epitope is determined by antibody binding to a peptide of amino acids of SEQ ID NO: 85, SEQ ID NO: 83, SEQ ID NO: 86, and/or SEQ ID NO: 84. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope consisting of amino acids at positions 13 through 35 of SEQ ID NO: 31. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope consisting of amino acids at positions 13, 14, or 15 of SEQ ID NO: 31

[00112] In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope comprising amino acids residues at position 13-24 of SEQ ID NO: 31. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope comprising amino acids residues at position 19-30 of SEQ ID NO: 31. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope comprising amino acids residues at position 25-35 of SEQ ID NO: 31. In some embodiments, the epitope is determined by antibody binding to a peptide of amino acids of SEQ ID NO: 85, SEQ ID NO: 83, SEQ ID NO: 86, and/or SEQ ID NO: 84.

[00113] In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope consisting of amino acids residues at position 13-24 of SEQ ID NO: 31. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope consisting of amino acids residues at position 19-30 of SEQ ID NO: 31. In some embodiments, an anti-CCR8 antibody or fragment thereof of the present invention does not bind an epitope consisting of amino acids residues at position 25-35 of SEQ ID NO: 31. In some embodiments, the epitope is determined by antibody binding to a peptide of amino acids of SEQ ID NO: 85, SEQ ID NO: 83, SEQ ID NO: 86, and/or SEQ ID NO: 84.

[00114] The term "epitope" as used herein refers to sites of an antigen that are in contact with the variable region of an antibody. The epitope may be continuous or non-continuous, and may be determined by a method known to a person of ordinary skill, including flow cytometry of bound antibody to peptides, hydrogen-deuterium exchange, alanine scanning, and/or x-ray crystallography.

[00115] The epitope may be an epitope comprising or consisting of amino acid residues that are determined by antibody binding to a peptide as described herein. In some such embodiments, the peptide comprises an amino acid sequence of SEQ ID NO: 82. In some such embodiments, the peptide comprises an amino acid sequence of residues at positions 1-12 of SEQ ID NO: 31.

[00116] The epitope may be an epitope comprising or consisting of amino acid residues that are determined by epitope binning. In some such embodiments, the epitope binning is performed with biotinylated N-terminus CCR8 peptides.

[00117] The epitope may be an epitope comprising or consisting of amino acid residues that are determined by antibody binding to CCR8 peptide-nanobody complexes.

[00118] The epitope may be an epitope comprising or consisting of amino acid residues that are determined by screening antibody binding to CCR8 by phage display.

[00119] The epitope may be an epitope comprising or consisting of threonine at position four of the N-terminal region of CCR8 as determined by reduced binding to CCR8 comprising a T4R mutation compared to binding to wild-type CCR8. Binding to the T4R mutation may be tested, for example, by determining binding to wild-type cynomolgus monkey CCR8 (comprising an amino acid sequence given by SEQ ID NO: 22) compared to binding cynomolgus monkey CCR8 comprising a T4R mutation (comprising an amino acid sequence given by SEQ ID NO: 556).

[00120] The epitope may be an epitope comprising or consisting of amino acid residues that are determined by determining binding to a CCR8 peptide expressed in human cells, wherein the peptide comprises an amino acid sequence given by SEQ ID NO: 82. The CCR8 peptide may be fused to a nanobody, or other protein or Fc, for expression in human cells.

[00121] The present invention further provides an antibody or antigen-binding fragment that binds to an epitope on human CCR8, wherein said epitope comprises or consists of SEQ ID NO: 82. In some embodiments, the present invention also provides an antibody or antigen-binding fragment, wherein said antibody or antigen-binding fragment: (a) binds to an epitope on human CCR8, wherein said epitope comprises or consists of SEQ ID

NO: 82; and (b) does not block the binding of CCL1 to CCR8. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[00122] In some embodiments, the present invention provides a molecule that competes for binding to CCR8 with an anti-CCR8 antibody or antigen-binding fragment of the present invention. Such molecule that competes for binding may be, for example, an antibody, antibody fragment, or polypeptide. In some embodiments, the present invention provides a molecule that binds the same epitope as an anti-CCR8 antibody or antigen-binding fragment of the present invention. In an embodiment, the anti-CCR8 antibody or antigen-binding fragment thereof, is an antibody.

[00123] The present invention provides a method of treating cancer in a patient comprising administering to the patient an effective amount of an antibody or antigen-binding fragment that binds human CCR8 at an epitope wherein the epitope comprises at least one residue at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least two residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least three residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least four residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises at least five residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises six or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises seven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises eight or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises nine or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises ten or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises eleven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope comprises all twelve amino acid residues at positions 1-12 of SEQ ID NO: 31. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 31. The amino acid sequence of amino acid residues 1-12 of SEQ ID NO: 31 is SEQ ID NO: 82. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 22. In some such embodiments, the anti-CCR8 antibody or antigen-binding fragment does not block the binding of CCL1 to CCR8. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[00124] The present invention provides a method of treating cancer in a patient comprising administering to the patient an effective amount of an antibody or antigen-binding fragment that binds human CCR8 at an epitope wherein the epitope consists of at least one

residue at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least two residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least three residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least four residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of at least five residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of six or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of seven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of eight or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of nine or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of ten or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of eleven or more residues at positions 1-12 of SEQ ID NO: 31. In an embodiment, the epitope consists of all twelve amino acid residues at positions 1-12 of SEQ ID NO: 31. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 31. The amino acid sequence of amino acid residues 1-12 of SEQ ID NO: 31 is SEQ ID NO: 82. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 22. In some such embodiments, the anti-CCR8 antibody or antigen-binding fragment does not block the binding of CCL1 to CCR8. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[00125] The present invention provides a method of treating cancer in a patient comprising administering to the patient an effective amount of an antibody or antigen-binding fragment that binds human CCR8 at an epitope wherein the epitope comprises at least one residue of SEQ ID NO: 82. In an embodiment, the epitope comprises at least two residues of SEQ ID NO: 82. In an embodiment, the epitope comprises at least three residues of SEQ ID NO: 82. In an embodiment, the epitope comprises at least four residues of SEQ ID NO: 82. In an embodiment, the epitope comprises at least five residues of SEQ ID NO: 82. In an embodiment, the epitope comprises six or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises seven or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises eight or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises nine or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises ten or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises eleven or more residues of SEQ ID NO: 82. In an embodiment, the epitope comprises all twelve amino acid residues of SEQ ID NO: 82. In a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 82. In

a particular embodiment, the epitope comprises a threonine at position 4 of SEQ ID NO: 22. In some such embodiments, the anti-CCR8 antibody or antigen-binding fragment does not block the binding of CCL1 to CCR8. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[00126] The present invention provides a method of treating cancer in a patient comprising administering to the patient an effective amount of an antibody or antigen-binding fragment that binds human CCR8 at an epitope wherein the epitope consists of at least one residue of SEQ ID NO: 82. In an embodiment, the epitope consists of at least two residues of SEQ ID NO: 82. In an embodiment, the epitope consists of at least three residues of SEQ ID NO: 82. In an embodiment, the epitope consists of at least four residues of SEQ ID NO: 82. In an embodiment, the epitope consists of at least five residues of SEQ ID NO: 82. In an embodiment, the epitope consists of six or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of seven or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of eight or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of nine or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of ten or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of eleven or more residues of SEQ ID NO: 82. In an embodiment, the epitope consists of all twelve amino acid residues of SEQ ID NO: 82. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 82. In a particular embodiment, the epitope consists of a threonine at position 4 of SEQ ID NO: 22. In some such embodiments, the anti-CCR8 antibody or antigen-binding fragment does not block the binding of CCL1 to CCR8. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

[00127] In some embodiments, the present invention provides a method of treating cancer in a patient comprising administering to the patient an effective amount of a molecule that competes for binding to CCR8 with an anti-CCR8 antibody or antigen-binding fragment of the present invention. Such molecule that competes for binding may be, for example, an antibody, antibody fragment, or polypeptide. In some embodiments, the present invention provides a molecule that binds the same epitope as an anti-CCR8 antibody of the present invention. In an embodiment, the anti-CCR8 antibody or antigen-binding fragment thereof, is an antibody.

[00128] In some embodiments, an anti-CCR8 antibody or antigen-binding fragment of the present invention binds CCR8 from a non-human species. In some embodiments, an anti-CCR8 antibody or antigen-binding fragment of the present invention binds cynomolgus

monkey CCR8. In some embodiments, an anti-CCR8 antibody or antigen-binding fragment of the present invention binds murine CCR8. In some embodiments, the anti-CCR8 antibody or antigen-binding fragment of the present invention binds both cynomolgus monkey CCR8 and human CCR8. In a particular embodiment, an anti-CCR8 antibody or antigen-binding fragment of the present invention bind cynomolgus monkey CCR8 and human CCR8 with affinities that are within 10-fold of one another. In an embodiment, the antibody or antigen-binding fragment thereof, is an antibody.

BRIEF DESCRIPTION OF THE DRAWINGS

[00129] **Figure 1.** Anti-tumor activity of single agent muCLDN18.2 bispecific T-cell engager molecule (BiTE®) molecule (□), muCLDN18.2 BiTE molecule /anti-CTLA4 dual combination (△), muCLDN18.2 BiTE molecule /anti-PD-1/anti-4-1BB triple combination (◇), control BiTE molecule /anti-PD-1/anti-4-1BB/anti-CTLA4 quadruple combination (■), or muCLDN18.2 BiTE molecule /anti-PD-1/anti-4-1BB/anti-CTLA4 quadruple combination (▽) therapy in the KPC-M5 model.

[00130] **Figure 2.** Anti-tumor activity of CCR8 afucosylated mIgG2a antibody in an MC38 syngeneic mouse model. Individual tumor growth for isotype control mIgG2a antibody (dashed lines) or CCR8 afucosylated mIgG2a antibody (solid lines) are shown in Figures 2C and 2B, respectively. Figure 2A demonstrates the mean tumor volume for each group through day 24. **** indicates $p<0.0001$.

[00131] **Figure 3.** Percent survival of mice inoculated with MC38 tumor cells and treated with either isotype control mIgG2a antibody (dashed lines) or CCR8 afucosylated mIgG2a antibody (solid lines). **** indicates $p<0.0001$.

[00132] **Figure 4.** CD8+/Treg ratio in MC38 tumor-bearing mice treated with either isotype control mIgG2a antibody (•) or CCR8 afucosylated mIgG2a antibody (•). Figures 4A, 4B, 4C, and 4D represent % Foxp3+Treg, % CD25+Foxp3+Treg, CD8/Treg (Foxp3+), and CD8/Treg (CD25+Foxp3+), respectively.

[00133] **Figure 5.** Anti-tumor activity of CCR8 afucosylated mIgG2a as monotherapy and in combination with TAA-BiTE molecule in the B16F10 syngeneic tumor model expressing tumor-associated antigen (TAA). Individual tumor growth for the treatment groups is depicted as spider plots (Figures 5A to 5D). Animals with no measurable tumors defined as Complete Responders (CRs) have been assessed until day 48.

DETAILED DESCRIPTION

[00134] The present disclosure provides anti-CCR8 antibodies and methods of making and using said antibodies. The anti-CCR8 antibodies disclosed herein 1) are able to bind human and cynomolgus monkey CCR8 on tumor-resident Treg cells; 2) lead to specific depletion of tumor-resident Treg cells; 3) demonstrate an acceptable pharmacokinetic profile, and/or 4) display sufficient potency for the treatment of cancer. Anti-CCR8 antibodies of the present invention have an improved safety profile compared to other Treg-depleting therapeutic molecules targeting other markers that do not specifically deplete tumor-resident Tregs. In addition, anti-CCR8 depleting antibody treatment resulted in significantly increased CD8+/Treg ratios in tumors, thereby driving enhanced anti-tumor immunity.

[00135] The present invention includes anti-CCR8 antibodies that bind a unique epitope on CCR8 and do not block ligand binding to CCR8, and are therefore not neutralizing antibodies. Binding to this unique epitope, compared to antibodies that bind a different epitope, is thought to contribute to high affinity and bioactivity of the anti-CCR8 antibody, and also an acceptable pharmacokinetic profile.

[00136] In the presence of ligand (CCL1), the anti-CCR8 antibodies of the present inventio, that bind a unique epitope on CCR8 and do not block ligand binding, demonstrate ADCC activity even at the highest concentrations of ligand tested in vitro. In contrast, anti-CCR8 antibodies that bind a different epitope (and block ligand binding) demonstrate reduced ADCC activity in the presence of increased levels of CCL1. Therefore, binding to this unique epitope is thought to contribute to greater potency (via ADCC) of the anti-CCR8 antibodies of the present invention, even in the presence of increased concentration of ligand. As CCL1 is highly expressed in tumors such as breast cancer (see e.g., Kuehnemuth et al., BMC Cancer 18, Article number: 1278 (2018)), anti-CCR8 antibodies that demonstrate ADCC activity in the presence of increased concentrations of ligand are preferred.

[00137] Anti-CCR8 antibodies of the present invention are preferably afucosylated and demonstrate enhanced ADCC activity.

[00138] Additional modes of action for depletion of Tregs contemplated by the anti-CCR8 antibodies or fragments thereof of the present invention include antibody -dependent cellular phagocytosis (ADCP) and/or complement-dependent cytotoxicity (CDC).

[00139] As used herein, an "antibody" is an immunoglobulin molecule comprising 2 heavy chains (HCs) and 2 light chains (LCs) interconnected by disulfide bonds. The amino

terminal portion of each LC and HC includes a variable region of about 100-120 amino acids primarily responsible for antigen recognition via the CDRs contained therein. The CDRs are interspersed with regions that are more conserved, termed framework regions ("FR"). Each light chain variable region (LCVR) and heavy chain variable region (HCVR) is composed of 3 CDRs and 4 FRs, arranged from amino-terminus to carboxy-terminus in the following order: FR1, CDR1, FR2, CDR2, FR3, CDR3, FR4. The 3 CDRs of the LC are referred to as "LCDR1, LCDR2, and LCDR3," and the 3 CDRs of the HC are referred to as "HCDR1, HCDR2, and HCDR3." The CDRs contain most of the residues which form specific interactions with the antigen. The functional ability of an antibody to bind a particular antigen is, thus, largely influenced by the amino acid residues within the six CDRs. Assignment of amino acids to CDR domains within the LCVR and HCVR regions of the antibodies of the present invention is based on the well-known Kabat numbering convention (Kabat, et al., Ann. NY Acad. Sci. 190:382-93 (1971); Kabat et al., Sequences of Proteins of Immunological Interest, Fifth Edition, U.S. Department of Health and Human Services, NIH Publication No. 91-3242 (1991)). It is understood that other numbering conventions may also be used, such as, for example, Chothia (Chothia et al., "Canonical structures for the hypervariable regions of immunoglobulins", Journal of Molecular Biology, 196, 901-917 (1987); Al-Lazikani et al., "Standard conformations for the canonical structures of immunoglobulins", Journal of Molecular Biology, 273, 927-948 (1997)), and/or North (North et al., "A New Clustering of Antibody CDR Loop Conformations", Journal of Molecular Biology, 406, 228-256 (2011)). An "anti-CCR8 antibody" is an antibody that binds CCR8.

[00140] Antibodies of the present invention may be an IgG1, IgG2, or IgG4. Preferably, antibodies of the present invention are IgG1. IgG1 antibodies are known to trigger ADCC. The antibodies of the present invention may be human or humanized antibodies. In the context of monoclonal antibodies, the terms "human" and "humanized" are well-known to those of ordinary skill in the art (Weiner L J, J. Immunother. 2006; 29: 1-9; Mallbris L, et al., J. Clin. Aesthet. Dermatol. 2016; 9: 13-15).

[00141] In addition, antibodies of the present invention are preferably afucosylated. Removal of the core fucose from the biantennary complex-type oligosaccharides attached to the Fc greatly increased ADCC effector function without altering antigen binding or CDC effector function. Several ways are known for reducing or abolishing fucosylation of Fc-containing molecules, e.g., antibodies. These include recombinant expression in certain mammalian cell lines including a FUT8 knockout cell line, variant CHO line Lec13, rat hybridoma cell line YB2/0, a cell line comprising a small interfering RNA specifically

against the FUT8 gene, and a cell line co-expressing α-1,4-N-acetylglucosaminyltransferase III and Golgi α-mannosidase II. Alternatively, the Fc-containing molecule may be expressed in a non-mammalian cell such as a plant cell, yeast, or prokaryotic cell, e.g., *E. coli*. Zinc-finger nucleases are another known method of generating afucosylated antibodies. See e.g., Haryadi et al., Bioengineered 4:2, 90-94; March/April 2013; Ripka et al. Arch. Biochem. Biophys. 249:533-545 (1986); Yamane-Ohnuki et al. Biotech. Bioeng. 87: 614 (2004); Pereira et al. mAbs 2018 Jul; 10(5): 693-711.

[00142] The anti-CCR8 antibodies or fragments thereof are also contemplated to be in formats including scFv, scFab, Fab, bispecific T-cell engager molecules, and bispecific antibodies (which binds two different epitopes on the same antigen or binds two different antigens).

[00143] An scFv or Fab can be converted into an antibody by known methods (see e.g. Reader et al., Molec. Bio. 61, 801-815 (2019)). Constant region sequences are known in the art. Constant region sequences are also exemplified herein, for example LC and HC constant region amino acid sequences are given by SEQ ID NO: 1079 and SEQ ID NO: 1080, respectively.

[00144] In particular embodiments, the anti-CCR8 antibodies or antigen-binding fragments thereof, of the invention are heterodimeric antibodies (used interchangeably herein with "hetero immunoglobulins" or "hetero Igs"), which refer to antibodies comprising two different light chains and two different heavy chains. In some embodiments, a hetero Ig comprises two Fabs and an Fc region. In some embodiments, the two Fabs are each N-terminal to the Fc region. In some embodiments, the two Fabs are each C-terminal to the Fc region. In some embodiments at least one Fab is an anti-CCR8 antibody fragment of the present invention.

[00145] The heterodimeric antibodies can comprise any immunoglobulin constant region. The term "constant region" as used herein refers to all domains of an antibody other than the variable region. The constant region is not involved directly in binding of an antigen, but exhibits various effector functions. As described above, antibodies are divided into particular isotypes (IgA, IgD, IgE, IgG, and IgM) and subtypes (IgG1, IgG2, IgG3, IgG4, IgA1 IgA2) depending on the amino acid sequence of the constant region of their heavy chains. The light chain constant region can be, for example, a kappa- or lambda-type light chain constant region, e.g., a human kappa- or lambda-type light chain constant region, which are found in all five antibody isotypes.

[00146] The heavy chain constant region of the heterodimeric antibodies can be, for example, an alpha-, delta-, epsilon-, gamma-, or mu-type heavy chain constant region, e.g., a human alpha-, delta-, epsilon-, gamma-, or mu-type heavy chain constant region. In some embodiments, the heterodimeric antibodies comprise a heavy chain constant region from an IgG1, IgG2, IgG3, or IgG4 immunoglobulin.

[00147] An example of a heterodimeric antibody is a DuobodyTM. Duobodies can be made by the DuoBodyTM technology platform (Genmab A/S) as described, e.g., in International Publication Nos. WO 2008/119353, WO 2011/131746, WO 2011/147986, and WO 2013/060867, Labrijn A F et al., PNAS, 110(13): 5145-5150 (2013), Gramer et al., mAbs, 5(6): 962-973 (2013), and Labrijn et al., Nature Protocols, 9(10): 2450-2463 (2014). This technology can be used to combine one half of a first monospecific antibody containing two heavy and two light chains with one half of a second monospecific antibody containing two heavy and two light chains. The resultant heterodimer contains one heavy chain and one light chain from the first antibody paired with one heavy chain and one light chain from the second antibody. When both of the monospecific antibodies recognize different epitopes on different antigens, the resultant heterodimer is a multispecific antibody.

[00148] Another exemplary method of generating multispecific antibodies is by the knobs-into-holes technology (Ridgway et al., Protein Eng., 9:617-621 (1996); WO 2006/028936). The mispairing problem of Ig heavy chains that is a chief drawback for making multispecific antibodies is reduced in this technology by mutating selected amino acids forming the interface of the heavy chains in IgG. At positions within the heavy chain at which the two heavy chains interact directly, an amino acid with a small side chain (hole) is introduced into the sequence of one heavy chain and an amino acid with a large side chain (knob) into the counterpart interacting residue location on the other heavy chain. In some instances, antibodies of the disclosure have immunoglobulin chains in which the heavy chains have been modified by mutating selected amino acids that interact at the interface between two polypeptides so as to preferentially form a multispecific antibody. The multispecific antibodies can be composed of immunoglobulin chains of the same subclass or different subclasses.

[00149] Yet another method of generating multispecific antibodies is the CrossMab technology. CrossMab are chimeric antibodies constituted by the halves of two full-length antibodies. For correct chain pairing, it combines two technologies: (i) the knob-into-hole which favors a correct pairing between the two heavy chains; and (ii) an exchange between the heavy and light chains of one of the two Fabs to introduce an asymmetry which avoids

light-chain mispairing. See, Ridgway et al., Protein Eng., 9:617-621 (1996); Schaefer et al., PNAS, 108:11187-11192 (2011). CrossMabs can combine two or more antigen-binding domains for targeting two or more targets or for introducing bivalency towards one target such as the 2:1 format.

[00150] Hetero-Ig molecules may also comprise a non-canonical disulfide bond and the generation of an asymmetric cysteine interface, as described in International Publication No. WO 2022/040466 which also discloses specific pairs of mutations that may be used in antibodies of the present invention. To facilitate the association of a particular heavy chain with its cognate light chain, both the heavy and light chains may contain complimentary amino acid substitutions. As used herein, "complimentary amino acid substitutions" refer to a substitution to a positively-charged amino acid in one chain paired with a negatively-charged amino acid substitution in the other chain. For example, the heavy chain comprises at least one amino acid substitution to introduce a charged amino acid and the corresponding light chain comprises at least one amino acid substitution to introduce a charged amino acid, wherein the charged amino acid introduced into the heavy chain has the opposite charge of the amino acid introduced into the light chain. One or more positively-charged residues (e.g., lysine, histidine or arginine) can be introduced into a first light chain (LC1) and one or more negatively-charged residues (e.g., aspartic acid or glutamic acid) can be introduced into the companion heavy chain (HC1) at the binding interface of LC1/HC1, whereas one or more negatively-charged residues (e.g., aspartic acid or glutamic acid) can be introduced into a second light chain (LC2) and one or more positively-charged residues (e.g., lysine, histidine or arginine) can be introduced into the companion heavy chain (HC2) at the binding interface of LC2/HC2. The electrostatic interactions will direct the LC1 to pair with HC1 and LC2 to pair with HC2, as the opposite charged residues (polarity) at the interface attract. The heavy/light chain pairs having the same charged residues (polarity) at an interface (e.g. LC1/HC2 and LC2/HC1) will repel, resulting in suppression of the unwanted HC/LC pairings.

[00151] In some embodiments, a hetero Ig comprises at least one anti-CCR8 antibody fragment of the present invention. In particular embodiments, the anti-CCR8 antibody fragment is a Fab. In particular embodiments, the anti-CCR8 antibody fragment is a scFab. In particular embodiments, the anti-CCR8 antibody fragment is an scFv. Exemplary anti-CCR8 scFv amino acid sequences include, but are not limited to, any one of SEQ ID NOs: 1093-1124.

[00152] In some embodiments, a hetero Ig comprises an anti-CCR8 antibody fragment of the present invention attached to the hetero Ig. Said anti-CCR8 antibody fragment may be in any format as described herein, including scFv, Fab, or scFab. Such attachment may be via linker C-terminal or N-terminal to the Fc region, or N-terminal or C-terminal to another binding domain (e.g. Fab) in the hetero Ig. In some embodiments, a hetero Ig comprises at least one binding arm that is a single chain comprising an anti-CCR8 antibody fragment of the present invention and a further scFab or scFv.

[00153] The present invention also contemplates T cell engager ("TCE") molecules comprising an anti-CCR8 antibody fragment of the present invention. Such TCE molecules are preferably single chain TCE molecules. A single-chain TCE molecule having the following orientation: scFv that binds CCR8 (VH, linker, VL), linker, scFv that binds CD3 (VH, linker, VL) is contemplated. In an embodiment, the TCE molecule further comprises a scFc, and has the following orientation: scFv that binds CCR8 (VH, linker, VL), linker, scFv that binds CD3 (VH, linker, VL)-Linker- Fc1 (hinge, CH2, CH3), linker, Fc2 (hinge, CH2, CH3). In some embodiments, the scFv that binds CCR8 is an anti-CCR8 antibody fragment of the present invention.

[00154] The present invention also contemplates a TCE molecule having the following orientation from N-terminus to C-terminus: scFv that binds CCR8 (VH, linker, VL)-Linker-scFv that binds CD3 (VH, linker, VL)-Linker-Fc1 (CH2-CH3) -Linker-Fc2 (CH2-CH3). In an embodiment, the TCE molecule binds CCR8 and CD3. The present invention also provides a TCE molecule having the following orientation from N-terminus to C-terminus: scFv that binds CCR8 (VL-Linker-VH)-Linker-scFv that binds CD3 (VH-Linker-VL)-Linker-Fc1 (CH2-CH3) -Linker-Fc2 (CH2-CH3). In an embodiment, the TCE molecule binds CCR8 and CD3. In some embodiments, the scFv that binds CCR8 is an anti-CCR8 antibody fragment of the present invention.

[00155] The present invention contemplates a TCE molecule comprising an orientation, from N-terminus to C-terminus, of a scFab that binds CCR8 (VH, CH1, linker, VL, either Cκ or Cλ), linker, an scFv that binds CD3 (VH, linker, VL). In some embodiments, the scFab that binds CCR8 is an anti-CCR8 antibody fragment of the present invention.

[00156] An scFc is a fusion protein in which a CH2 and CH3 (Fc1) are joined via a linker to another CH2 and CH3 (Fc2) to form a continuous protein chain wherein the linker is long enough to allow the protein chain to fold back on itself.

[00157] A “single-chain antigen-binding fragment” (“scFab”) is a fusion protein in which a VH and CH1 are joined via a linker to a VL and Cκ to form a continuous protein chain wherein the linker is long enough to allow the protein chain to fold back on itself and form a monovalent antigen binding site. The linker may be, for example, a (G4S)6, (G4S)7, or (G4S)8 linker.

[00158] The scFab, scFv, and/or scFc may also have a cysteine clamp. A "cysteine clamp" involves the introduction of a cysteine into a polypeptide domain at a specific location, typically through replacing an existing amino acid at the specific location, so that when in proximity with another polypeptide domain, also having a cysteine introduced at a specific location, a disulfide bond (a “cysteine clamp”) may be formed between the two domains. In certain embodiments, an scFc comprises at least one cysteine clamp that results in a disulfide bond across both CH2 domains. In a further specific embodiment, an scFc comprises at least two cysteine clamps that results in a disulfide bond across both CH2 domains. In other embodiments, a binding construct’s VH and VL domains may comprise the cysteine clamp(s) to result in disulfide bond formation between the VH and VL domains. These cysteine clamps will stabilize the VH and VL domains in an antigen-binding configuration.

[00159] A cysteine clamp may be naturally occurring or it may be a result of a molecule engineered to contain cysteines. For example, a scFab may have a natural cysteine clamp between the heavy and light chain constant domains. An scFab may also have a natural cysteine clamp between the heavy and light chain constant domains and an engineered cysteine clamp between cysteines at residue 44 of the heavy chain variable region and residue 100 of the light chain variable region. In addition, an anti-target scFv may also contain a cysteine clamp between cysteines at residue 44 of the heavy chain variable region and residue 100 of the light chain variable region, whereas an anti-CD3 scFv does not contain an engineered cysteine clamp. An scFc may contain hinge cysteine clamps, natural CH2/CH3 cysteine clamps, and/or an engineered CH2 cysteine clamp (intrachain).

[00160] Antigen binding fragments derived from an antibody can be obtained, for example, by proteolytic hydrolysis of the antibody, for example, pepsin or papain digestion of whole antibodies according to conventional methods. By way of example, antibody fragments can be produced by enzymatic cleavage of antibodies with pepsin to provide a 5S fragment termed F(ab′)2. This fragment can be further cleaved using a thiol reducing agent to produce 3.5S Fab′ monovalent fragments. Optionally, the cleavage reaction can be performed

using a blocking group for the sulfhydryl groups that result from cleavage of disulfide linkages. As an alternative, an enzymatic cleavage using papain produces two monovalent Fab fragments and an Fc fragment directly. These methods are described, for example, by Goldenberg, U.S. Pat. No. 4,331,647, Nisonoff et al., Arch. Biochem. Biophys. 89:230, 1960; Porter, Biochem. J. 73:119, 1959; Edelman et al., in Methods in Enzymology 1:422 (Academic Press 1967); and by Andrews, S. M. and Titus, J. A. in Current Protocols in Immunology (Coligan J. E., et al., eds), John Wiley & Sons, New York (2003). pages 2.8.1-2.8.10 and 2.10A.1-2.10A.5. Other methods for cleaving antibodies, such as separating heavy chains to form monovalent light-heavy chain fragments (Fd), further cleaving of fragments, or other enzymatic, chemical, or genetic techniques may also be used, so long as the fragments bind to the antigen that is recognized by the intact antibody.

[00161] An antibody fragment may also be any synthetic or genetically engineered protein. For example, antibody fragments include isolated fragments comprising the light chain variable region, "Fv" fragments comprising the variable regions of the heavy and light chains, and recombinant single chain polypeptide molecules in which light and heavy variable regions are connected by a peptide linker (scFv proteins).

[00162] Another form of an antibody fragment is a peptide comprising one or more complementarity determining regions (CDRs) of an antibody. CDRs (also termed "minimal recognition units", or "hypervariable region") can be obtained by constructing polynucleotides that encode the CDR of interest. Such polynucleotides are prepared, for example, by using the polymerase chain reaction to synthesize the variable region using mRNA of antibody-producing cells as a template (see, for example, Larrick et al., Methods: A Companion to Methods in Enzymology 2:106, 1991; Courtenay-Luck, "Genetic Manipulation of Monoclonal Antibodies," in Monoclonal Antibodies: Production, Engineering and Clinical Application, Ritter et al. (eds.), page 166 (Cambridge University Press 1995); and Ward et al., "Genetic Manipulation and Expression of Antibodies," in Monoclonal Antibodies: Principles and Applications, Birch et al., (eds.), page 137 (Wiley-Liss, Inc. 1995)).

[00163] Antibodies and antigen-binding fragments of the present invention bind human CCR8. Preferably, antigen-binding fragments of the present invention bind human CCR8 at an epitope comprising or consisting of amino acid residues of SEQ ID NO: 82. Particularly, antigen-binding fragments of the present invention bind human CCR8 and do not block ligand binding to CCR8.

[00164] In the most general sense, a T cell engager ("TCE") molecule as described herein comprises a single chain polypeptide that can bind to two different antigens. A "TCE molecule" may be used interchangeably with a "BiTE molecule". A BiTE molecule can comprise an scFv or scFab, as long as it is bispecific, meaning that it binds two targets (target antigen (here, CCR8) and CD3) at the same time. A TCE molecule is an antigen-binding molecule. A TCE molecule of the present invention may comprise an scFab that binds a target (e.g. tumor or target antigen; CCR8) and an scFv that binds CD3. Such molecule may have the orientation, from N-terminus to C-terminus: scFab (VH, CH1, linker, VL, either Cκ or Cλ), linker, scFv (VH, linker, VL). Such molecules may alternatively have the orientation, from N-terminus to C-terminus: scFab (VL, either Cκ or Cλ, linker, VH, CH1), linker, scFv (VH, linker, VL). In some embodiments, the scFab binds CCR8. In particular embodiments, the TCE molecule comprises a Cκ. Such TCE molecule may have the following orientation, from N-terminus to C-terminus: scFv that binds CCR8 (VH, linker, VL), linker, scFv that binds CD3 (VH, linker, VL). In some such embodiments, the scFv or scFab that binds CCR8 is an anti-CCR8 antibody fragment of the present invention.

[00165] A TCE molecule of the present invention may also have a half-life extending (HLE) moiety. An HLE moiety may extend the in vivo half-life of the TCE molecules of the present invention. Nonlimiting examples of half-life extending moieties include an Fc polypeptide, a single-chain Fc polypeptide (scFc), albumin, an albumin fragment, a moiety that binds to albumin or to the neonatal Fc receptor (FcRn), a derivative of fibronectin that has been engineered to bind albumin or a fragment thereof, a peptide, a single domain protein fragment, or other polypeptide that can increase serum half-life. In other embodiments, a half-life-extending moiety can be a non-polypeptide molecule such as, for example, polyethylene glycol (PEG). In some embodiments, the HLE is a single-chain Fc ("scFc").

[00166] "Nucleic acid sequence" is intended to encompass a polymer of DNA or RNA, i.e., a polynucleotide, which can be single-stranded or double-stranded and which can contain non-natural or altered nucleotides. The terms "nucleic acid," "nucleic acid molecule," "nucleic acid sequence," and "polynucleotide" may be used interchangeably herein to refer to a polymeric form of nucleotides of any length, either ribonucleotides (RNA) or deoxyribonucleotides (DNA). These terms refer to the primary structure of the molecule, and thus include double- and single-stranded DNA, and double- and single-stranded RNA. The terms include, as equivalents, analogs of either RNA or DNA made from nucleotide analogs

and modified polynucleotides such as, though not limited, to methylated and/or capped polynucleotides.

[00167] A DNA molecule of the present invention is a DNA molecule that comprises a non-naturally occurring polynucleotide sequence encoding a polypeptide having the amino acid sequence of at least one of the polypeptides in an anti-CCR8 antibody of the present invention (e.g., heavy chain, light chain, variable heavy chain, and variable light chain).

[00168] An isolated DNA encoding a HCVR region can be converted to a full-length heavy chain gene by operably linking the HCVR-encoding DNA to another DNA molecule encoding heavy chain constant regions. The sequences of human, as well as other mammalian, heavy chain constant region genes are known in the art. DNA fragments encompassing these regions can be obtained, e.g., by standard PCR amplification.

[00169] An isolated DNA encoding a LCVR region may be converted to a full-length light chain gene by operably linking the LCVR-encoding DNA to another DNA molecule encoding a light chain constant region. The sequences of human, as well as other mammalian, light chain constant region genes are known in the art. DNA fragments encompassing these regions can be obtained by standard PCR amplification. The light chain constant region can be a kappa or lambda constant region. In some embodiments, the light chain constant region is a kappa constant region.

[00170] The term "encoding" or "encodes" refers to a polynucleotide sequence encoding one or more amino acids. The term does not require a start or stop codon. The present invention encompasses nucleic acid molecules encoding anti-CCR8 antibody polypeptide sequences.

[00171] The polynucleotides of the present invention can be expressed in a host cell after the sequences have been operably linked to an expression control sequence. The expression vectors are typically replicable in the host organisms either as episomes or as an integral part of the host chromosomal DNA. Commonly, expression vectors will contain selection markers, e.g., tetracycline, neomycin, and dihydrofolate reductase, to permit detection of those cells transformed with the desired DNA sequences.

[00172] Transformed cells can be cultured under conditions that promote expression of the polypeptide, and the polypeptide recovered by conventional protein purification procedures. Polypeptides contemplated for use herein include substantially homogeneous recombinant mammalian polypeptides substantially free of contaminating endogenous materials. Cells containing the nucleic acid encoding an anti-CCR8 antibody of the present invention also include hybridomas.

[00173] A polynucleotide encoding an amino acid sequence of an anti-CCR8 antibody of the present invention can be any length as appropriate for the desired use or function, and can comprise one or more additional sequences, for example, regulatory sequences, and/or can be part of a larger nucleic acid, for example, a vector. The skilled artisan will appreciate that, due to the degeneracy of the genetic code, each of the polypeptide sequences disclosed herein is encoded by a large number of other nucleic acid sequences. Mutations can also be introduced into a nucleic acid without significantly altering the biological activity of a polypeptide that it encodes. For example, one can make nucleotide substitutions leading to amino acid substitutions at non-essential amino acid residues.

[00174] It will be appreciated that an anti-CCR8 antibody of the present invention may have at least one amino acid substitution, providing that the anti-CCR8 antibody retains the same or better desired binding specificity (e.g., binding to CCR8). Therefore, modifications to the anti-CCR8 antibody are encompassed within the scope of the invention. Such modifications may include amino acid substitutions, which may be conservative or non-conservative that do not destroy the desired binding capability of a binding construct. Conservative amino acid substitutions may encompass non-naturally occurring amino acid residues, which are typically incorporated by chemical peptide synthesis rather than by synthesis in biological systems. These include peptidomimetics and other reversed or inverted forms of amino acid moieties. A conservative amino acid substitution may also involve a substitution of a native amino acid residue with a normative residue such that there is little or no effect on the polarity or charge of the amino acid residue at that position.

[00175] Human CCR8 includes the wild-type human CCR8 sequence and variants and isoforms thereof. The amino acid sequence of human CCR8 comprises the amino acid sequence of SEQ ID NO: 21. The term "variant," as used herein with respect to a nucleic acid sequence means (i) a portion or fragment of a referenced nucleotide sequence; (ii) the complement of a referenced nucleotide sequence or portion thereof; (iii) a nucleic acid that is substantially identical to a referenced nucleic acid or the complement thereof; or (iv) a nucleic acid that hybridizes under stringent conditions to the referenced nucleic acid, complement thereof, or a sequences substantially identical thereto. With respect to a peptide or polypeptide, the term "variant," as used herein, refers to a peptide or polypeptide that differs from a reference peptide or polypeptide in amino acid sequence by the insertion, deletion, or conservative substitution of amino acids, but retains at least one biological activity of the reference peptide or polypeptide. Variant can also mean a protein with an amino acid sequence that is substantially identical to a referenced protein with an amino acid

sequence that retains at least one biological activity. The term "isoform" may be used herein to refer to a polypeptide or protein variant. Typically, a protein isoform is a member of a set of highly similar proteins that originate from a single gene or gene family and are the result of genetic differences. While some protein isoforms exhibit the same or similar biological functions, some isoforms have unique functions. Isoforms may be generated from alternative splicing, variable promoter usage, or other post-transcriptional modifications of a single gene.

[00176] A variant may be a nucleic acid sequence that is substantially identical over the full length of a full gene sequence or a fragment thereof. The nucleic acid sequence may be 80%, 81%, 82%, 83%, 84%, 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical over the full length of the gene sequence or a fragment thereof. In other embodiments, a variant may be an amino acid sequence that is substantially identical over the full length of the amino acid sequence or fragment thereof. The amino acid sequence may be 80%, 81%, 82%, 83%, 84%, 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical over the full length of the amino acid sequence or a fragment thereof.

[00177] The amino acid sequence of cynomolgus monkey CCR8 comprises the amino acid sequence of SEQ ID NO: 22.

[00178] The antibodies of the present invention can readily be produced in mammalian cells, non-limiting examples of which includes CHO, NSO, HEK293 or COS cells. The host cells are cultured using techniques well known in the art.

[00179] Vectors containing the polynucleotide sequences of interest (e.g., the polynucleotides encoding the polypeptides of the antibody and expression control sequences) can be transferred into the host cell by well-known methods, which vary depending on the type of cellular host. Examples of vectors include, but are not limited to, plasmids, viral vectors, non-episomal mammalian vectors and expression vectors, for example, recombinant expression vectors.

[00180] The recombinant expression vectors of the invention can comprise a nucleic acid of the invention in a form suitable for expression of the nucleic acid in a host cell. The recombinant expression vectors include one or more regulatory sequences, selected on the basis of the host cells to be used for expression, which is operably linked to the nucleic acid sequence to be expressed. Regulatory sequences include those that direct constitutive expression of a nucleotide sequence in many types of host cells (e.g., SV40 early gene enhancer, Rous sarcoma virus promoter and cytomegalovirus promoter), those that direct expression of the nucleotide sequence only in certain host cells (e.g., tissue-specific

regulatory sequences, see Voss et al., 1986, Trends Biochem. Sci. 11:287, Maniatis et al., 1987, Science 236:1237, incorporated by reference herein in their entireties), and those that direct inducible expression of a nucleotide sequence in response to particular treatment or condition (e.g., the metallothionin promoter in mammalian cells and the tet-responsive and/or streptomycin responsive promoter in both prokaryotic and eukaryotic systems (see id.). It will be appreciated by those skilled in the art that the design of the expression vector can depend on such factors as the choice of the host cell to be transformed, the level of expression of protein desired, etc. The expression vectors of the invention can be introduced into host cells to thereby produce proteins or peptides, including fusion proteins or peptides, encoded by nucleic acids as described herein.

[00181] Typically, expression vectors used in any of the host cells will contain sequences for plasmid maintenance and for cloning and expression of exogenous nucleotide sequences. Such sequences, collectively referred to as "flanking sequences" in certain embodiments will typically include one or more of the following nucleotide sequences: a promoter, one or more enhancer sequences, an origin of replication, a transcriptional termination sequence, a complete intron sequence containing a donor and acceptor splice site, a sequence encoding a leader sequence for polypeptide secretion, a ribosome binding site, a polyadenylation sequence, a polylinker region for inserting the nucleic acid encoding the polypeptide to be expressed, and a selectable marker element. The leader sequence may comprise an amino acid sequence of SEQ ID NO: 557 (MDMRVPAQLLGLLLLWLRGARC) which is encoded by SEQ ID NO: 558 (atggacatgagagtgcctgcacagctgctgggcctgctgctgctgtggctgagaggcgccagatgc). The leader sequence may comprise an amino acid sequence of SEQ ID NO: 559. (MAWALLLLTLLTQGTGSWA) which is encoded by SEQ ID NO: 560 (atggcctggg ctctgctgct cctcaccctc ctcactcagg gcacagggtc ctgggcc). The present invention contemplates antibody protein sequences without leader sequences.

[00182] The present invention also contemplates anti-CCR8 antibodies of the present invention that have clipping of the C-terminal lysine residue of the antibody HC. Anti-CCR8 antibodies comprising an antibody HC amino acid sequence lacking the C-terminal lysine residue are contemplated.

[00183] Various methods of protein purification may be employed to purify proteins, including, but not limited to, antibodies, and such methods are known in the art.

[00184] The anti-CCR8 antibodies of the invention can be biosynthesized, purified, and formulated for administration by well-known methods. For example, an appropriate host

cell, such as HEK 293 or CHO, is either transiently or stably transfected with an expression system for secreting antibodies using a predetermined HC:LC vector ratio if two vectors are used, or a single vector system encoding both heavy chain and light chain. Vectors suitable for expression and secretion of antibodies from these commonly-used host cells are well-known. Following expression and secretion of the antibody, the medium is clarified to remove cells and the clarified medium is purified using any of many commonly-used techniques. For example, the medium may be applied to a Protein A or G column that has been equilibrated with a buffer, such as phosphate buffered saline (pH 7.4). The column is washed to remove nonspecific binding components. The bound antibody is eluted, for example, by a pH gradient (such as 0.1 M sodium phosphate buffer pH 6.8 to 0.1 M sodium citrate buffer pH 2.5). Antibody fractions are detected, such as by SDS-PAGE, and then are pooled. Further purification is optional, depending on the intended use. The antibody may be concentrated and/or sterile filtered using common techniques. Other materials than the antibody, such as host cell and growth medium components, and soluble aggregates and multimers of the antibody, may be effectively reduced or removed by common techniques, including size exclusion, hydrophobic interaction, cation exchange, anion exchange, affinity, or hydroxyapatite chromatography. The purity of the antibody after these chromatography steps is typically greater than 95%. The product may be frozen at -70 °C or may be lyophilized.

[00185] In exemplary aspects, an antibody of the present invention comprises a HC comprising a C-terminal lysine, as in SEQ ID NOs: 354, 364, 374, 384, 394, 404, 414, 424, 434, 444, 454, 464, 474, 484, 494, 504, 514, 524, 534, 544, 554, 1127, 1129, 1131, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1150, 1152, 1154, 1156, 1158, or 1160. In alternative aspects, the antibody comprises a HC without the C-terminal lysine, as in SEQ ID NOs: 573-592 or SEQ ID NOs: 1238-1254. In addition, the HC N-terminal glutamine and/or the N-terminal glutamic acid of may be converted to pyroglutamic acid. Either form is envisioned for the antibodies of the present invention.

[00186] Similarly, in exemplary aspects, the anti-PD-1 antibody comprises a heavy chain comprising a C-terminal lysine, as in SEQ ID NOs: 41, for example. In alternative aspects, the anti-PD-1 antibody comprises the heavy chain of SEQ ID NOs: 636 without the C-terminal lysine. In other exemplary aspects, the anti-PD-1 antibody comprises a heavy chain comprising a C-terminal lysine. In alternative aspects, the anti-PD-1 antibody comprises a heavy chain without the C-terminal lysine.

[00187] An anti-CCR8 antibody of the present invention, or a pharmaceutical composition comprising the same, may be administered by parenteral routes, non-limiting examples of which are subcutaneous administration and intravenous administration. Intramuscular, intraarterial, intralesional, and peritoneal bolus injection are other possible routes of administration. An anti-CCR8 antibody can also be administered via infusion, for example intravenous or subcutaneous infusion. An anti-CCR8 antibody of the present invention may be administered to a patient with pharmaceutically acceptable carriers, diluents, or excipients in single or multiple doses. Optionally, the composition additionally comprises one or more physiologically active agents. Pharmaceutical compositions of the present invention can be prepared by methods well known in the art (e.g., Remington: The Science and Practice of Pharmacy, 22nd ed. (2012), A. Loyd et al., Pharmaceutical Press) and comprise an antibody, as disclosed herein, and one or more pharmaceutically acceptable carriers, diluents, or excipients.

[00188] As used interchangeably herein, "treatment" and/or "treating" and/or "treat" are intended to refer to all processes wherein there may be a slowing, interrupting, arresting, controlling, stopping, or reversing of the progression of the disorders described herein, but does not necessarily indicate a total elimination of all disorder symptoms. Treatment includes administration of an anti-CCR8 antibody of the present invention for treatment of a disease or condition in a human that would benefit from activity of an anti-CCR8 antibody of the present invention, and includes: (a) inhibiting further progression of the disease; and (b) relieving the disease, i.e., causing regression of the disease or disorder or alleviating symptoms or complications thereof.

[00189] Therapeutically effective amounts (or dose) of an anti-CCR8 antibody of the present invention can be administered. As used herein, an "effective amount" means the amount of an anti-CCR8 antibody of the present invention or pharmaceutical composition comprising such an antibody that will elicit the biological or medical response of or desired therapeutic effect on a tissue, system, animal, mammal, or human that is being sought by the researcher, medical doctor, or other clinician. An effective amount of the antibody may vary according to factors such as the disease state, age, sex, and weight of the individual, and the ability of the antibody to elicit a desired response in the individual. An effective amount is also one in which any toxic or detrimental effect of the antibody is outweighed by the therapeutically beneficial effects. Such benefit includes improving signs or symptoms of cancer. An effective amount of an anti-CCR8 antibody of the present invention may be administered in a single dose or in multiple doses. In determining the effective amount for a

patient, a number of factors are considered by the attending medical practitioner, including, but not limited to: the patient's size (e.g., weight or mass), body surface area, age, and general health; the specific disease or disorder involved; the degree of, or involvement, or the severity of the disease or disorder; the response of the individual patient; the particular compound administered; the mode of administration; the bioavailability characteristics of the preparation administered; the dose regimen selected; the use of concomitant medication; and other relevant circumstances known to medical practitioners.

[00190] Dosages, frequency of administration, formulation, and effective amount of an antagonist of the PD-1/PD-L1 pathway, a bispecific T-cell engager molecule, and/or an agonist of an immune cell co-stimulatory receptor can also be determined as described herein.

[00191] Suitable PD-L1 antagonist antibodies for use in methods of the present invention include, but are not limited to, atezolizumab, avelumab, or durvalumab. Examples of PD-1 antagonist antibodies suitable for use in methods of the invention include, but are not limited to pembrolizumab, nivolumab, cemiplimab, pidilizumab, spartalizumab, camrelizumab, sintilimab, tislelizumab, toripalimab, dostarlimab, Antibody 20C1.006, zeluvalimab, Antibody 20A2.003, Antibody 22D4.006, or Antibody 22D4.017, and any of the PD-1 antagonist antibodies described in WO 2019/140196. Such methods include a method of treating cancer in a patient comprising administering an effective amount of an anti-CCR8 antibody of the present invention and a PD-L1 antagonist antibody or PD-1 antagonist antibody. Such methods also include a method of treating cancer in a patient comprising administering to the patient an effective amount of a Treg depleting antibody and one or more of a bispecific T-cell engager molecule, an agonist of a T cell co-stimulatory receptor, and an antagonist of the PD-1/PD-L1 pathway.

[00192] Bispecific T-cell engager molecules are recombinant protein constructs made from two flexibly linked antibody derived binding domains. A "bispecific T-cell engager molecule" may be used interchangeably with a "BiTE® molecule". One binding domain of bispecific T-cell engager is specific for a selected tumor-associated surface antigen on target cells; the second binding domain is specific for CD3, a subunit of the T cell receptor complex on T cells. By their particular design, bispecific T-cell engager molecules are uniquely suited to transiently connect T cells with target cells and, at the same time, potently activate the inherent cytolytic potential of T cells against target cells (Yang, Fa; Wen, Weihong; Qin, Weijun (2016). "Bispecific Antibodies as a Development Platform for New Concepts and Treatment Strategies". International Journal of Molecular Sciences. 18 (1): 48 (2016)). A bispecific T-cell engager molecule is bispecific, meaning that it binds two targets (target

antigen and CD3) at the same time. Sequences of examples of scFvs that bind CD3 include I2E and I2C and are described in Table 15. Suitable bispecific T-cell engager molecules for use in methods of the present invention include, but are not limited to, the bispecific T-cell engager molecules given in Table 15.

[00193] The CD3 binding domain I2C comprises LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3, VH, VL, and VH-VL amino acids sequences of SEQ ID NO: 87-95, respectively. The CD3 binding domain I2E comprises LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3, VH, and VL amino acids sequences of SEQ ID NO: 96-103, respectively. An example of a CD33 T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 104-118. An example of an EGFRVIII T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 119-129. An example of a MSLN T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 130-141. An example of a CDH19 T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 142-159. An example of a FLT3 T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 160-170. An example of a DLL3 T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 171-181. An example of a CD19 T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 182-191. An example of a BCMA T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 192-202. An example of a PSMA T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 203-240. An example of a CD70 T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 241-250. An example of a CLDN18.2 T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 251-266. An example of a MUC17 T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 267-302. An example of a CDH3 T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 303-313. An

example of a CD19 T cell engager molecule is one that comprises CDR, VH/VL region, and bispecific single chain molecule amino acids sequences of SEQ ID NO: 314-332.

[00194] Methods of the present invention include a method of treating cancer in a patient comprising administering an effective amount of an anti-CCR8 antibody of the present invention and a bispecific T-cell engager molecule. Such methods also include a method of treating cancer in a patient comprising administering to the patient an effective amount of a Treg depleting antibody and one or more of a bispecific T-cell engager molecule, an agonist of a T cell co-stimulatory receptor, and an antagonist of the PD-1/PD-L1 pathway.

[00195] An agonist of an immune cell co-stimulatory receptor is a molecule that binds a co-stimulatory receptor on an immune cell (such as an activated T cell) and promotes activity of the receptor. Examples of co-stimulatory receptors include CD2, TNFRSF4 (OX40), TNFRSF5 (CD40), TNFRSF7 (CD27), TNFRSF8 (CD30), TNFRSF9 (4-1BB), TNFRSF14 (HVEM), TNFRSF18 (GITR), and ICOS.

EXAMPLES

Example 1: CCR8 Specificity

[00196] Transfected cells were used to assess an antibody's binding specificity using flow cytometry on host Human Embryonic Kidney (HEK) 293T cells. Proteins were expressed on HEK 293T cells by transfection using human CCR8 (SEQ ID NO: 21), human CCR8 with an A27G point mutation (SEQ ID NO: 23), murine CCR8 (SEQ ID NO: 24), rat CCR8 (SEQ ID NO: 25), human CCR4 (SEQ ID NO: 26), or control expression vectors, Gibco™ Opti-MEM® media (Gibco), and 293Fectin™ reagent (Invitrogen) according to the manufacturer's instructions. Human T-cell lymphoma (HuT78) cell lines were also used to determine specificity to endogenously expressed CCR8.

[00197] Transfected HEK293T cells (24 hours after transfection) or HuT78 cells were resuspended in FACS buffer (PBS + 2 % Fetal Bovine Serum) and added to a 96-well plate. Hybridoma supernatant samples containing control antibodies 433H (BD Biosciences) or L263G8 (BioLegend), Antibody 1 IgG2, or Antibody 2 IgG2 were added at a final concentration of 5.0 μg/mL, cells were resuspended and incubated for 1 hour at 4° C. Plates were washed twice with FACS buffer, centrifuged to pellet the cells, and supernatant was removed and resuspended in FACS buffer to remove unbound antibodies.

[00198] Alexa Fluor 647 goat anti-human or rat IgG (Fcγ fragment specific) secondary antibodies (Jackson ImmunoResearch) made up in FACS buffer at 5.0 μg/mL were added to

each well, and cells were resuspended and incubated for 15 minutes at 4° C. Plates were washed twice with FACS buffer, centrifuged to pellet the cells, and supernatant was removed and resuspended in FACS buffer to remove unbound secondary antibodies. Samples were resuspended in FACS buffer and read on either IntelliCyt® iQue or BD Accuri™ Flow Cytometer with an Intellicyt HyperCyt autosampler. Data derived from three cohorts of immunized animals are represented in Table 2.

Table 2. Binding of hybridoma supernatants (final Ab concentration at 5 μg/ml) to native conformation of CCR8 expressed on surface of cells as determined by FACS analysis.

Antibody Hybridoma Supernatant	Human CCR8 [A27G] transiently expressed on HEK293T	HUT78 (endogenous human CCR8)	Rat CCR8 transiently expressed on HEK293T	Mouse CCR8 transiently expressed on HEK293T
Antibody 1 IgG2	36924	7756.9	105325	24729
Antibody 2 IgG2	24205	1466.0	11023	3597
L263G8	41425	4500	N.D.	N.D.
SA214G2	N.D.	N.D.	1594	56829

[00199] These data demonstrate that hybridoma supernatant containing Antibody 1 IgG2 or Antibody 2 IgG2 bound human CCR8, including human CCR8 with the A27G mutation, rat, and mouse CCR8. None of the tested antibodies in supernatant bound to human CCR4 or 293T cells transfected with a control expression vector.

Example 2: Antibody Binding to Human and Cynomolgus Monkey Regulatory T Cells

[00200] Binding of anti-CCR8 antibodies to endogenous CCR8 expressed by primary human and cynomolgus monkey regulatory T cells (human or cyno T-regs) was assessed by flow cytometry. Freshly isolated human (N=3) and cynomolgus monkey (N=2) peripheral blood mononuclear cells (PBMCs) were incubated with anti-CCR8 hybridoma culture supernatants at 20% final concentration in the presence of human Fc Block for one hour at 4°C. The primary antibodies were washed out from the cells, and the secondary anti-human or anti-rat IgG Fc antibodies and the cocktail of human/cyno cross-reactive anti-CD4/anti-CD25/anti-CD127 antibodies were added and incubated for thirty minutes at 4°C. 200,000 events were collected using FACS Canto flow cytometer, and binding was detected on the

CD4+/CD25+/CD127- gated viable cells. The percent positive cells represents the percentage of human or cyno Tregs that were stained by the hybridoma culture supernatant containing the antibody under investigation. Control antibody 433H was purified and used at a concentration of 20 µg/ml. Results are shown in Table 3.

Table 3. Binding of hybridoma supernatants to primary human and cynomolgus monkey regulatory T cells.

Antibody	**CCR8+CD127-CD25+CD4, % positive**				
	Human (3 samples)			**Cynomolgus Monkey (2 samples)**	
Antibody 2 IgG2	24.4	9.4	11.9	8.5	17.9
Antibody 1 IgG2	23.3	Not tested	32.7	9.4	17.1
Antibody 3 IgG2	55.6	Not tested	15.1	15.5	21.9
Antibody 4 IgG2	72.6	26.5	34.8	7.7	17.6
Hu IgG2b	1.5	0.0	1.9	11.9	11.3
433H	83.4	29.4	67.5	66.2	63.7
Cyno IgG2a	0.0	0.1	0.0	0.3	0.8

[00201] These data demonstrate that hybridoma supernatants containing antibodies of the present invention bind to endogenously expressed human and cynomolgus CCR8 expressed on primary T-cells.

Example 3: Epitope Binning

[00202] To enable epitope mapping of the anti-CCR8 antibodies, human CCR8-binding hybridoma supernatants were tested for binding to five biotinylated N-terminus CCR8 peptides generated from the 1-35 amino acid N-terminal portion of CCR8 (SEQ ID NO: 31). Each of the five peptides was twelve amino acids long with six amino acids overlapping. The amino acid sequences of Peptide 1, Peptide 2, Peptide 3, Peptide 4, and Peptide 5 comprise amino acids 1-12 (SEQ ID NO: 82), 7-18 (SEQ ID NO: 85), 13-24 (SEQ ID NO: 83), 19-30 (SEQ ID NO: 86), and 25-35 (SEQ ID NO: 84) of SEQ ID NO. 31, respectively.

[00203] The biotinylated human CCR8 peptides were captured on streptavidin polystyrene beads (Spherotech) in FACS buffer (PBS + 2 % Fetal Bovine Serum) at a final

protein concentration of 50-100 ng/mL and incubated for 30 minutes at room temperature. Beads were washed twice with FACS buffer to remove unbound protein, centrifuged to pellet the beads, and resuspended and pooled together in StabilGuard (SurModics). The pooled biotinylated human CCR8 coated beads were added to hybridoma supernatant samples in a 96-well plate, such that the final antibody concentration was 5.0 µg/mL, and then incubated for one hour at room temperature.

[00204] Plates were washed twice with FACS buffer, centrifuged to pellet the beads, and supernatant was removed and resuspended in FACS buffer to remove unbound antibodies. Alexa Fluor 488 goat anti-human or rat IgG (Fcγ fragment specific) secondary antibodies (Jackson ImmunoResearch) made up in FACS buffer at 5.0 µg/mL were added to each well, resuspended with beads and incubated for 15 minutes at room temperature. Plates were washed twice with FACS buffer, centrifuged to pellet the beads, and supernatant was removed and resuspended in FACS buffer to remove unbound secondary antibodies. Samples were then resuspended in FACS buffer and read on either IntelliCyt® iQue Flow Cytometer.

[00205] Results are shown in Table 4. Data are represented as a ratio of geometric mean binding to beads coated with specific peptide divided by geometric mean of binding to a bead coated with a negative control peptide (peptide with unrelated sequence). A value above two represents presence of binding.

Table 4. Binding of hybridoma supernatants to biotinylated peptides coated on streptavidin beads as determined by FACS.

	Peptide Antigen Coating: 100 ng/mL				
Antibody	**Peptide 1**	**Peptide 2**	**Peptide 3**	**Peptide 4**	**Peptide 5**
Antibody 2 IgG2	0	0	157	1	0
Antibody 1 IgG2	3	0	0	0	1
Antibody 3 IgG2	1	1	83	1	1
Antibody 4 IgG2	1	2	8	2	1
Antibody 5 IgG2	0	0	120	0	0
Antibody 6 IgG2	0	0	154	0	0
433H	1	1	1	1	1
L263G8	1	0	0	1	0

[00206] Interestingly, hybridoma supernatants containing Antibody 1 IgG2 bound to the most N-terminal region (1-12), suggesting Antibody 1 IgG2 binds a unique epitope on CCR8, which is thought to contribute to the high affinity and bioactivity of Antibody 1 IgG2.

EXAMPLE 4: Epitope Clustering

[00207] The extracellular domain of human CCR8 comprises three loops and a N-terminal peptide of 35 amino acids. For epitope mapping, the N-terminal peptide of human CCR8 (designated P_1-35 (SEQ ID NO: 31)) was divided into three consecutive segments (designated P_1-12 (SEQ ID NO: 82), P_13-24 (SEQ ID NO: 83), and P_25-35 (SEQ ID NO: 84)). To cover the adjacent N- or C-terminal regions of the consecutive segments, two additional overlapping fragments (designated P_7-18 (SEQ ID NO: 85 and P_19-30 (SEQ ID NO: 86)) were made. At the C-terminal end of the full-length N-terminal peptide and all truncated N-terminal peptides of human CCR8 described above, a V5 tag was fused via a G4S-linker. Following the V5 tag, chicken albumin was fused via a further G4S-linker followed by a FLAG tag, BAP (biotin acceptor protein) for *in vivo* biotinylation, and H3G, each fused via a SG-linker. All constructs described above were cloned into a pEFDHFR vector and transiently transfected into HEK 293 cells.

[00208] HEK 293 cells ($1x10^8$) were resuspended in 100 ml FreeStyle expression medium (Gibco 12338-018) and transfected with 4 ml OptiMEM (Gibco 31985-047), 100 µl 293fectin (Invitrogen 12347-019), and 50 µg DNA encoding either the full-length or truncated N-terminal CCR8 constructs according to the manufacturers protocol. Cells were grown in FreeStyle expression medium for 72 hours at 130 rpm in a humidified incubator with 8% CO_2. Cells were centrifuged at 1,500 rpm for 10 minutes and the supernatant was harvested. 10 ml of the supernatant of each of the transfected cells or 9 ml of HEK 293 cells as negative control were 20x concentrated with Amicon Ultra-15 tubes (UFC901008) to 500 µL. For each of the full-length and truncated N-terminal CCR8 constructs, as well as HEK 293 negative control, $18x10^6$ washed streptavidin-beads (Streptavidin Microspheres, 6 µm; Polysciences 24172-1) were resuspended in 500 µL of the concentrated supernatant and incubated slowly shaking for one hour. Beads coupled with the respective antigen or negative control were washed and stored at 4°C overnight.

[00209] To verify expression and binding of the full-length and truncated N-terminal CCR8 constructs to streptavidin-beads, $2x10^5$ beads per staining were incubated with 5 µg/mL of an anti-FLAG antibody (clone M2, Sigma F3165/ F1804), 5 µg/mL of an anti-V5

antibody (clone SV5-Pk1; AbD Serotec, MCA 1360), and a 1:100 dilution of PE-labeled anti mouse Fcγ secondary antibody (Jackson 115-116-071). Antigen-bound beads were incubated with three different anti-human CCR8 antibodies. Binding of two of the anti-human CCR8 antibodies (clone L263G8; BioLegend, 360602 and clone 433H; BD 747578; 5 µg/ml each) was detected with a 1:100 dilution of a PE-labeled anti mouse Fcγ secondary antibody (Jackson 115-116-071). Binding of anti-human CCR8 antibody (polyclonal; Abcam, ab140796) was detected with a 1:50 dilution of PE-labeled anti goat Fcγ secondary antibody (Jackson 109-116-098).

[00210] Binding of CCR8-binding TCE molecules and scFab-containing CCR8-binding TCE molecules to the full-length and truncated N-terminal CCR8 constructs bound to streptavidin-beads was determined. In the most general sense, a T cell engager ("TCE") molecule comprises a single chain polypeptide that can bind to two different antigens. The term "TCE molecule" may be used interchangeably with the terms "BiTE® molecule" or "bispecific T-cell engager" molecule. Tested TCE molecules included molecules comprising an scFab that binds CCR8 and an scFv binds CD3 (scFab-containing TCE molecules), and molecules comprising an scFv that binds CCR8 and an scFv that binds CD3. The tested TCE molecules also included an scFc at the C-terminus as a half-life extending (HLE) moiety. The CDRs of Antibody 1 antibodies are the same as the CDRs of TCE1 (TCE1 CDR amino acid sequences comprise SEQ ID NOs 561 to 566). The CDRs of Antibody 2 IgG2 are the same as the CDRs of TCE2 (TCE2 CDR amino acid sequences comprise SEQ ID NOs 567 to 572).

[00211] Beads were incubated with 5 µg/mL of the respective TCE molecule. Binding of these CCR8-binding TCE molecules and scFab-containing CCR8-binding TCE molecules was detected using 2 µg/ml of an anti-Histidine-antibody (clone AD1.1.10; AbD Serotec MCA 1396) and a 1:100 dilution of a PE-labeled anti mouse Fcγ secondary antibody (Jackson 115-116-071). All antibodies, CCR8-binding TCE molecules, and scFab-containing CCR8-binding TCE molecules were diluted in PBS with 2% FBS and all incubations were performed at 4 °C for 45 minutes (primary antibodies) or for 30 minutes (secondary antibodies). Washes were performed using PBS with 2% FBS, and the final suspension buffer prior to FACS analysis was also PBS with 2% FBS. Antibody and TCE binding was detected using an Intellicyte IQue. Changes in mean fluorescence were analyzed with an Intellicyte IQue and FlowJo. Binding to the various full-length and truncated N-terminal CCR8 constructs was reflected as a positive signal detected by flow cytometry.

[00212] Expression and binding of the full-length and the various truncated N-terminal CCR8 constructs to streptavidin-beads were verified by flow cytometry, as shown in Tables 5 and 6.

Table 5. Flow Cytometry Binding Analysis of CCR8 Antibodies to Full-length or Truncated N-terminal Peptides of Human CCR8.

Sample	Peptide or controls							
	Beads (control)	HEK (control)	1-35	1-12	7-18	13-24	19-30	25-35
	Median Fluorescence of Sample/Median Fluorescence of Negative Control							
PBS	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9
Flag	0.9	0.9	522.0	596.0	588.7	628.1	589.5	582.0
V5 Tag	0.9	0.9	952.6	1091.5	1085.9	1303.2	1016.2	1094.2
anti-CCR8 (clone L263G8)	1.2	0.9	751.2	0.9	0.9	284.8	0.9	0.9
anti-CCR8 (clone BV510)	1.8	0.9	290.2	0.9	0.9	300.3	0.9	0.9
anti-CCR8 (polyclonal)	0.9	1.0	259.7	0.9	222.6	385.6	0.9	0.9

[00213] The data in Table 5 demonstrate that anti-human CCR8 antibodies bound the full-length N-terminal peptide of human CCR8 P_1-35, indicating they recognized the N-terminal peptide of human CCR8. None of the antibodies showed binding to either streptavidin-beads alone or to the HEK 293 control. The anti-human CCR8 antibodies (clone L263G8 and clone 433H) showed the same binding pattern, while the polyclonal anti-human CCR8 antibody showed additional binding to the overlapping fragment P_7-18.

Table 6. Flow Cytometry Binding Analysis of CCR8 Antibodies and scFab-containing CCR8-binding TCE molecules to Full-length or Truncated N-terminal Peptides of Human CCR8.

Construct	Peptide or controls							
	Beads (control)	HEK (control)	1-35	1-12	7-18	13-24	19-30	25-35
	Median Fluorescence of Sample/Median Fluorescence of Negative Control							
PBS	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

	Peptide or controls							
Construct	**Beads (control)**	**HEK (control)**	**1-35**	**1-12**	**7-18**	**13-24**	**19-30**	**25-35**
	Median Fluorescence of Sample/Median Fluorescence of Negative Control							
CCR8 TCE1 scFab x I2E x scFc	1.2	1.1	470.8	413.5	1.0	1.1	1.1	1.1
CCR8 TCE1 scFv x I2E x scFc	1.1	1.0	381.8	306.2	1.0	1.1	1.1	1.0
CCR8 TCE2 scFab x I2E x scFc	1.0	1.0	814.0	1.0	1.0	432.5	1.1	1.0
Negative control	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1

[00214] The data in Table 5 demonstrate that CCR8-binding TCE molecules and scFab-containing CCR8-binding TCE molecules bound to the full-length N-terminal CCR8 peptide P_1-35. TCE2 bound to the truncated N-terminal CCR8 peptide P_13-24. Interestingly, TCE1 bound to the truncated N-terminal CCR8 peptide P_1-12, demonstrating that TCE1 binds a unique epitope on CCR8.

Example 5: Antibody Functional Activity

[00215] Hybridoma supernatants were tested for blocking of CLL-1 dependent chemotaxis in HUT78 cells (human T lymphocyte cell line that endogenously expresses CCR8). Testing was done in a 96-well transwell plate with 5 µm pore size in complete HUT-78 growth medium. The cells were pre-incubated with purified antibodies for thirty minutes and transferred to the top transwell chambers (total 50 µl volume and 50,000 cells per well).

[00216] Recombinant Hu CCL1 (R&D) was prepared at suboptimal concentration of 100 pM and added to the bottom transwell chambers at 100 µl per well. The transwell plates were incubated at 37 ºC with 5% CO_2 overnight. The suboptimal concentration of CCL1 was established based on the cells' chemotactic dose response curve and allowed for selection of antibodies with IC_{50} ≤100 pM. At the end of incubation, the top chambers were removed and 50 µl/well of CellTiterGlo reagent (Promega) was added to the bottom chambers with migrated cells. After ten minutes of incubation at room temperature, 100 µl of the mixture from the bottom chamber was transferred to the black well clear bottom plates for Luminescence readout (Envision plate reader). Percent inhibition of chemotaxis was calculated using Basal and Max chemotaxis control wells present on each plate. Percent

inhibition and IC_{50} values were calculated using Screener analysis software. The average of three experiments is shown in Table 7.

Table 7. Inhibition of CCR8-expressing HUT78 chemotaxis following treatment with antibody.

Antibody	Percent Inhibition (IC_{50} nM)
Antibody 1 IgG1	>690
Antibody 2.2 IgG1	0.076
Antibody 3.0 IgG1	3.7
Antibody 4.0 IgG1	8.4
Antibody 5.0 IgG1	13.6
Antibody 6.0 IgG1	20.1

[00217] These data demonstrate that Antibody 1, which binds a unique epitope, does not block chemotactic activity, despite binding CCR8, and is not a neutralizing antibody. These data demonstrate that Antibody 1 does not block ligand binding to CCR8. Similar data were also observed in an experiment testing antibodies in hybridoma supernatant.

Example 6: Antibody-Mediated Cytotoxicity Assay

[00218] To determine if anti-CCR8 antibodies can mediate antibody-mediated cytotoxicity (ADCC), a killing assay was developed using HUT78.luc target cells, which were stably transfected with a luciferase reporter gene and express endogenous human CCR8. Primary NK cells with VF phenotype from six different donors were used as effector cells (for data from Table 8a and Table 8b); Primary NK cells with VF phenotype from two different donors were used as effector cells (for data from Table 8c), or Primary NK cells with FF phenotype from three different donors were used with three separate bleeds for one of them as effector cells (for data from Table 8d). NK cells negative selection was done from leukopak using StemCell EasySep Hu NK isolation kit.

[00219] Purified antibodies were tested in a range of concentrations, starting at 5 µg/ml (35 nM with 1:10 dilutions). The antibodies were incubated with target and effector cells in a 384-well plate at 5% CO_2 37°C in a humidified incubator overnight. The effector to target ratio was 5:1 with 20,000 target cells per well in total 50 µl per well. At the end of the incubation, 30 µl per well of BioGlo (Tables 8a and 8b) or SteadyGlo (Table 8c) reagent was added, mixed, and luminescence was read on an Envision plate reader. Luminescence signal was proportional to the amount of viable target cells. The percent ADCC was calculated as (1

– (luminescence signal in the presence of Ab/luminescence signal for T+E cells alone)) x 100. The EC_{50} was calculated using GraphPad Prism 7. Results are shown in Tables 8a, 8b, 8c, and 8d (N.D. means not determined).

Table 8a. Anti-CCR8 Antibody mediated ADCC of CCR8-expressing HUT78 cells (EC50 pM).

Percent Non-Viable cells (EC_{50} pM)			
Antibody	**Donor 1**	**Donor 2**	**Donor 3**
Antibody 1 IgG1	<0.256	5.582	1.3
Antibody 1.1 IgG1	<0.256	8.129	2.2
Antibody 2.1 IgG1	<0.256	13.3	1
Antibody 2.2 IgG1	<0.256	6.035	1.8
Antibody 3.0 IgG1	<0.256	15.47	N.D.
Antibody 4.0 IgG1	<0.256	217.9	N.D.
Antibody 5.0 IgG1	<0.256	167	N.D.
Antibody 6.0 IgG1	2	37.39	N.D.

Table 8b. Anti-CCR8 Antibody mediated ADCC of CCR8-expressing HUT78 cells (EC50 pM).

Percent Non-Viable cells (EC_{50} pM)			
Antibody	**Donor 4**	**Donor 5**	**Donor 6**
Antibody 5.1 IgG1	3.684	0.8653	4.891
Antibody 5.2 IgG1	6.198	1.008	6.112
Antibody 5.3 IgG1	3.342	0.6424	3.479
Antibody 5.4 IgG1	3.429	0.8886	4.615
Antibody 5.5 IgG1	4.891	0.837	3.771
Antibody 6.1 IgG1	4.518	1.047	3.617
Antibody 6.2 IgG1	4.119	2.04	5.136

Table 8c. Anti-CCR8 Antibody mediated ADCC of CCR8-expressing HUT78 cells (EC50 pM).

Percent Non-Viable cells (EC_{50} pM)	
Antibody	**Donor 7**
HC SEQ ID NO: 1239; LC SEQ ID NO: 1130	0.52
HC SEQ ID NO: 1240; LC SEQ ID NO: 1132	0.28
HC SEQ ID NO: 1238; LC SEQ ID NO: 1128	0.48
HC SEQ ID NO: 573; LC SEQ ID NO: 16	1.14

Table 8d. Anti-CCR8 Antibody mediated ADCC of CCR8-expressing HUT78 cells (EC50 pM).

Percent Non-Viable cells (EC_{50} pM)		
Antibody	**Donor 8**	**Donor 9**
huCCR8(32360LC:K38R)_huIgG1z (mAb) (HC SEQ ID NO: 1237; LC SEQ ID NO: 1126	3.0	2.7

[00220] These data demonstrate that antibodies of the present invention exhibit ADCC based killing via CCR8 receptor expressed on the surface of HUT78 cells.

Example 7: Affinity of Anti-CCR8 Antibodies

[00221] Hybridoma supernatants containing Antibody 1 IgG2, Antibody 2 IgG2, or Antibody 4 IgG2 were evaluated by a Kinetic Exclusion Assay (KinExA) for their affinity to native cynomolgus CCR8 transiently expressed on 293T cells or to native human CCR8 expressed on HUT78 cells.

Cynomolgus CCR8: 293T cells

[00222] KinExA was performed in which the K_d was determined from the concentration of free antibody that remains in solution after equilibrium has been established between the antibody and the cell-surface-expressed antigen. KinExA provides a more sensitive determination of binding affinity for the native form of CCR8 compared to soluble CCR8. The Kinetic Exclusion Assay method was performed as essentially described in Rathanaswami et al. Anal. Biochem: 373(1): 52-60 (2008).

[00223] Briefly, equilibrium sets were set up for each antibody using either human CCR8-expressing HUT78 cells or cynomolgus monkey CCR8-expressing 293T cells. The cells were counted using a hemocytometer. The HUT78 cells were titrated and incubated with two different constant antibody concentrations, one at 48 pM and the other at 2 nM, in HUT media (RPMI 1640, 10% FBS, 10mM HEPES, 2mM L-Glut, 1mM Sod. Pyr, 0.1mM NEAA, 50uM 2-ME) with 0.05% Sodium Azide. For the high [Ab] equilibrium set, HUT78 cells were titrated from 62.5 million per milliliter concentration 1:2 for 10 points in eppendorf tubes and equilibrated with 2 nM antibody in a total volume of 400 µl. For the low

[Ab] equilibrium set, HUT78 cells were titrated from 3.89 million per milliliter concentration, 1:2 for 10 points in 50 ml Fulcon tubes and equilibrated with 48 pM antibody in a total volume of 15.5 mL.

[00224] The cyno CCR8-expressing 293T cells were titrated and incubated with two different constant antibody concentrations, one at 118 pM and the other at 5 nM, in 293T media (Freestyle expression 293T media with 2% FBS and 50µg/ml G418) with 0.05% Sodium Azide. For the high [Ab] equilibrium set, 293T cells were titrated from 25 million per milliliter concentration 1:3 for 10 points in eppendorf tubes and equilibrated with 5 nM antibody in a total volume of 200 µl. For the low [Ab] equilibrium set, 293T cells were titrated from 0.98 million per milliliter concentration 1:3 for 10 points in 15 ml Fulcon tubes and equilibrated with 118 pM antibody in a total volume of 10.2 mL.

[00225] For each equilibrium set, reference point controls included a sample with cell media only and a sample without cells. The equilibrium sets were incubated for 24 hours at room temperature, with shaking. After 24 hours of incubation, the supernatants were separated from the cell pellets via centrifugation at 500 x g for five minutes. The supernatants of both high [Ab] and low [Ab] equilibrium sets were then run through a KinExA 3200 machine.

[00226] Each equilibrium sample set was read in duplicate on the KinExA machine. For low [Ab] equilibrium samples, 6.8 mL and 4.6 mL of each sample were run in duplicate, respectively, for human and cyno CCR8 equilibrium experiments. For high [Ab] equilibrium samples 16 µL and 75 µL of each sample were run in duplicate, respectively for human and cyno CCR8 equilibrium experiments.

[00227] PMMA (Polymethyl Methacrylate Particles) beads were coated with goat anti-human Fc Ab or Goat anti-hIgG (H+L) Ab and subsequently blocked with a blocking solution (1X PBS pH7.4 + 10mg/mL BSA + 0.05% Sodium Azide). For each equilibrium sample the free [Ab] was detected by running the equilibrium samples through the coated beads followed by a quick wash with the running buffer (1X PBS pH7.4 + 1%BSA + 0.05% Sodium Azide). The secondary detection antibody (goat anti-huIgG (H+L) Alexa 647) was run through the flow cell at 680 ng/mL and 500 µL per run. The KinExA voltage output signal was used in KinExA software to calculate the K_d. From the plots at two different initial total [Ab] concentrations the K_d was obtained from curve fitting using n-curve analysis in KinExA Pro software version 4.3.11 (Sapidyne Instruments Inc.). The 95% confidence interval was given as K_d low and K_d high. Results are shown in Table 9.

Table 9. Determination of K_d of hybridoma supernatants containing CCR8 antibodies for cell-membrane-expressed cynomolgus CCR8.

Antibody	Kd	95% confidence interval	
		Kd Low	Kd High
Antibody 1 IgG2	229 pM	73.2 pM	552.9 pM
Antibody 2 IgG2	>50 nM	<1.85 nM	>500 nM
Antibody 4 IgG2	>50 nM	<2 pM	>179 nM

Native human CCR8 expressed on HUT78 cells

[00228] Cells in media were serially diluted and incubated with 48 pM or 2 nM active binding site concentration of antibody in media in the presence of 0.05% NaN3, and allowed to equilibrate. The free mAb left in the supernatant was measured as described above. The percent free antibody was plotted against the cell concentration. N-curve analysis was performed using the equilibrium; a whole cell method was performed to determine optimal values for K_d and the antigen expression level. The 95% confidence intervals were determined by the software by changing iteratively the optimized value for Kd or antigen expression level while keeping other parameters at their optimal values.

[00229] The affinities of tested antibodies to endogenous human CCR8 expressed on HUT78 cells is shown in Table 10.

Table 10. Affinity of hybridoma supernatant containing antibodies to endogenous human CCR8 expressed on HUT78 cells.

Antibody	Kd	95% confidence interval	
		Kd Low	Kd High
Antibody 1 IgG2	216 pM	112.5 pM	420.1 pM
Antibody 2 IgG2	>5nM	816 pM	>50 nM
Antibody 4 IgG2	378 pM	275.5 pM	540.6 pM

[00230] IgG2 antibodies were further engineered to increase affinity to human and/or cynomolgus monkey CCR8.

Example 8: Cynomolgus CCR8 T4R variant: CHO cells

[00231] CHO cells expressing cynomolgus monkey CCR8 (comprising threonine at position four; SEQ ID NO: 22) or cynomolgus monkey CCR8 (T4R; comprising arginine at position four; SEQ ID NO: 556) were incubated with decreasing concentrations of anti-CCR8 antibodies (0.005 – 100 nM, step 1:3, 10 steps) for 30 minutes at 4° C. Bound anti-CCR8 antibody molecules were detected with Alexa Fluor 647 conjugated Goat anti-Human IgG (H+L). Cells were subsequently stained with Zombie Violet viability dye, fixed with 4% PFA on ice, and detected by fluorescence cytometry. Equilibrium dissociation constant (K_d) values were calculated by non-linear regression with the one site specific binding evaluation tool of the GraphPad Prism software. The affinities of the anti-CCR8 antibodies are shown in Table 11. "N.D." means not detectable.

Table 11. Affinity of anti-CCR8 antibodies to cell-membrane-expressed cynomolgus CCR8 variant T4R.

Antibody	Cell based affinity cyno CCR8 Kd [nM]	Cell based affinity cy CCR8 (T4R) Kd [nM]
HuIgG1 Negative Control	N.D.	N.D.
Antibody 1 IgG1	0.635	N.D.
Antibody 1.1 IgG1	0.172	N.D.
Antibody 2.2 IgG1	0.399	0.989

[00232] These data demonstrate that binding of Antibody 1 antibodies to cynomolgus CCR8 was reduced with the T4R mutation while Antibody 2 was unaffected, consistent with their respective epitope binning and clustering determined above. These data demonstrate that antibodies that bind a unique epitope as described herein bind CCR8 at threonine at position four.

Example 9: IgG1 Afucosylated Antibodies

[00233] Afucosylated anti-CCR8 IgG1 antibodies were generated. Examples of antibody amino acid sequences of afucosylated antibodies are SEQ ID NOs.: 346 to 555, SEQ ID NOs: 1125-1160, and SEQ ID NOs: 1238-1254. SEQ ID NOs 573 to 592 and SEQ ID NOs: 1237-1254 correspond to an antibody HCs without the C-terminal lysine. Antibodies were designated according to the parental molecule. For example, Antibody 5.1, Antibody 5.2, Antibody 5.3, Antibody 5.4, Antibody 5.5, Antibody 5.6, Antibody 5.7,

Antibody 5.8, and Antibody 5.9 all refer to antibodies engineered from Antibody 5. "Antibody 1 IgG2" and "Antibody 2 IgG2" refer to an IgG2 antibody, whereas "Antibody 1 IgG1" and "Antibody 2 IgG1" refer to an IgG1 afucosylated antibody. In addition, and for example, Antibody 2 IgG1 molecules were further engineered from Antibody 2 IgG2 antibodies, as described in the sequences table (Table 16), to obtain Antibody 2.1 and Antibody 2.2 IgG1 afucosylated antibodies. Antibody 2.2 IgG1, for example, comprises HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, LCDR3, HCVR, LCVR, HC, and LC amino acid sequences as set out in SEQ ID NOs. 376-385, respectively.

[00234] Engineered molecules may demonstrate desirable properties, such as, but not limited to, increased affinity to human and/or cynomolgus monkey. Sites of engineering are described in the sequence table (Table 19).

[00235] The Examples described herein demonstrate the activity of afucosylated anti-CCR8 antibodies, for example ADCC activity (Example 16), in vivo studies demonstrating anti-tumor activity (Example 11) and increased survival (Example 12).

Example 10: Treg Depleting Combination Therapy

[00236] Efficacy of administration of a bispecific T-cell engager molecule, PD-1 antagonist antibody, 4-1BB agonist antibody, and a Treg depleting antibody was determined. Mice genetically engineered to express a humanized CD3ε molecule at the surface of their T cells were implanted subcutaneously with the KPC-M5 syngeneic tumor cell line with an inoculum consisting of 10^5 KPC-M5 cancer cells in 50 µl of PBS mixed with 50 µl of Matrigel. When tumors reached a volume of 50-100 mm^3, mice were injected with one or more of a bispecific T-cell engager molecule (a bispecific molecule that binds CD3 and a target antigen), PD-1 antagonist antibody, 4-1BB agonist antibody, and a Treg depleting antibody, and tumor volume was measured over time. Depending on the bispecific T-cell engager molecule administered, the bispecific T-cell engager molecule was administered at doses ranging from 15 to 5,000 µg/kg.

[00237] Tumor-bearing mice were injected once weekly with an anti-mouse CLDN18.2 BiTE® molecule via intravenous administration at a dose of 150 µg/kg. Mice were co-injected via intravenous administration every three days with an anti-mouse PD-1 mIgG1 antagonist antibody at a dose of 100 µg per mouse, an agonist antibody to the 4-1BB co-stimulatory receptor (anti-mouse 41BB rIgG1 (Clone LOB12.3, BioXcell)) at a dose of 150 µg per mouse, and/or with a Treg-depleting antibody (mIgG1) at a dose of 300 µg per mouse. Tumor volume was measured on days 7, 10, 14, 17, and 20 post-implantation.

[00238] The data in Figure 1 demonstrate that while minimal activity was observed with combination of anti-CTLA4 with 4-1BB agonist + anti-PD-1 or CLDN18.2 BiTE® molecule alone, the quadruple combination of CLDN18.2 BiTE® molecule + 4-1BB agonist + anti-PD-1 + anti-CTLA4 demonstrated robust efficacy, similar to that observed with $CD4^+$ T cell depletion. Notably, this anti-tumor effect was associated with a pronounced increase in the intra-tumoral $CD8^+$ T cell:Treg ratio. Taken together, these data demonstrate the selective activity and dependence of bispecific T-cell engager molecules on $CD8^+$ T cells and suggest context dependent inhibitory roles for $CD4^+$ T cells on bispecific T-cell engager molecule-mediated anti-tumor efficacy. The results also suggest a potential dominant role for Tregs in suppressing the activity bispecific T-cell engager + anti-4-1BB + anti-PD-1 combination immunotherapy.

Example 11: CCR8 Depleting Antibody is Efficacious in the MC38 In Vivo Tumor Model

[00239] Anti-tumor activity of afucosylated anti-CCR8 mIgG2a in the MC38 syngeneic tumor model was determined. MC38 tumor cells were implanted subcutaneously in the right flank of female hCD3eKI animals on study day 0. On day 10, tumors were assigned to different treatment groups (n=10/group) with an average tumor volume of 99.93 mm^3. Animals were dosed intra-peritoneally with 10 mg/kg of either control isotype mIgG2a or anti-CCR8 afucosylated mIgG2a on study days 11, 14, 17 and 20 (Q3D x 4). The anti-CCR8 afucosylated mIgG2a antibody comprises LCDR1, LCDR2, LCDR3, HCDR1, HCDR2, HCDR3, LCVR, HCVR, LC, and HC amino acid sequences of SEQ ID NOs 637 through 646, respectively.

[00240] Tumor volume was measured twice per week. Statistical analysis to evaluate effect of treatment on tumor size over time of anti-CCR8 antibody relative to isotype control was performed using Linear Mixed Effects (LME) model with Dunnett's post-hoc analysis. **** indicates $p<0.0001$.

[00241] Individual tumor growth for the treatment groups is depicted as spider plots in Figures 2C and 2B. Figure 2A demonstrates the mean tumor volume +/- SEM for each group until the last timepoint (day 24). Mice treated with the anti-CCR8 afucosylated mIgG2a antibody showed a statistically reduced tumor volume by day 24 compared to isotype control treated animals. There was one complete responder, as shown in Figure 2B. This complete responder animal was assessed until day 48, at which time there was no measurable tumor. Animals with no measurable tumors defined as Complete Responders (CRs) were assessed

until day 48. These data demonstrate that MC38 tumor-bearing animals showed a significant reduction in tumor volume when treated with an anti-CCR8 afucosylated mIgG2a antibody (66.44% TGI, ****p<0.0001) compared to isotype control.

Example 12: CCR8 Depleting Antibody Treatment Extends Survival In Vivo

[00242] MC38 tumor cells were implanted subcutaneously in the right flank of female hCD3eKI animals on study day 0. On day 10, tumors were assigned to different treatment groups (n=10/group) with an average tumor volume of 99.93 mm^3. Animals were dosed intra-peritoneally with 10 mg/kg of either isotype control mIgG2a or anti-CCR8 afucosylated mIgG2a antibody on study days 11, 14, 17 and 20 (Q3D x 4). All animals were assessed until their tumors reached 800 mm^3 or according to IACUC standards of animal welfare. Statistical analysis was performed using the Log-rank (Mantel-Cox) test comparing anti-CCR8 afucosylated mIgG2a antibody (treatment Grp2) to isotype control mIgG2a (control Grp1). **** indicates p<0.0001.

[00243] Survival data is shown in Figure 3. The median survival for isotype control mIgG2a treated animals was 24 days, whereas the median survival for anti-CCR8 afucosylated mIgG2a antibody treated animals was 27 days (****p<0.0001). These data demonstrate that MC38 tumor-bearing animals have increased survival when treated with an anti-CCR8 afucosylated mIgG2a antibody as compared to animals treated with an isotype control antibody.

Example 13: Treg Depletion with CCR8 mIgG2a Antibody Leads to Enhanced CD8+/Treg Ratio in Tumors

[00244] MC38 tumor bearing animals were treated with a single 10 mg/kg dose of either control isotype mIgG2a or anti-CCR8 afucosylated mIgG2a intra-peritoneally on study day eleven. PD evaluation was performed at 48 hours post treatment (day 13). Tumor weights were collected during harvest for the different groups and used for normalization to determine absolute cell counts in tumors. Single cell suspensions of tumor, draining lymph node (DLN), and spleen were prepared for flow cytometry analysis of T cell proportions and phenotypes.

[00245] Total T cells were gated using TCRβ+Thy1.2+ staining within the Live/CD45+ fraction. Percentage and absolute numbers of Treg cells depicted in Figure 4A were assessed within the CD4+ T cell compartment using both Foxp3+ and CD25+Foxp3+

gating. CD8+ T cells were gated on total T cells and CD8/Treg ratios in tumor were calculated as depicted in Figure 4B. Each dot represents data obtained from an individual mouse. Statistical analysis was performed using Unpaired T-test (two-tailed) comparing treatment to control group (* $p < 0.05$, ** $p < 0.01$).

[00246] These data demonstrate a reduction in percent Tregs following a single dose of anti-CCR8 afucosylated antibody, as assessed using both Foxp3+ and CD25+Foxp3+ gating schemes (Figures 4A and 4B). Importantly, anti-CCR8 depleting antibody treatment resulted in significantly increased CD8+/Treg ratios in tumors (Figures 4C and 4D), thereby driving enhanced anti-tumor immunity.

Example 14: CCR8-Binding scFvs Screened by Phage Display

[00247] A preferred type of an amino acid substitutional variation of the CCR8-binding molecules described herein involves substituting one or more CDR residues of a parent antibody (e. g. a humanized or human antibody). Generally, the resulting variant(s) selected for further development will have improved biological properties relative to the parent antibody from which they are generated. One way for generating such substitutional variants involves affinity maturation using phage display. Briefly, several CDR sides (e.g., 6-7 sides) were mutated to generate all possible amino acid substitutions at each side. The antibody variants thus generated were displayed in a monovalent fashion from filamentous phage particles as fusions to, e.g., the gene III product of M13 packaged within each particle. The phage-displayed variants were then screened for their biological activity (e.g., binding affinity) as disclosed herein. In order to identify candidate CDR sides for modification, alanine scanning mutagenesis was performed to identify CDR residues contributing significantly to antigen binding.

[00248] Once such variants were generated, the panel of variants was subjected to screening as described herein and antibodies with superior properties in one or more relevant assays were selected for further development. Phage display is described, for example, in Ladner et al., U.S. Patent No. 5,223,409; Smith (1985) Science 228:1315-1317, Clackson et al., Nature, 352: 624-628 (1991) and Marks et al., J. Mol. Biol., 222: 581-597 (1991).

[00249] Anti-CCR8 scFvs that bind in the 1-12 amino acid epitope (amino acid sequence given by SEQ ID NO: 82) were generated and screened for epitope binding by phage display essentially as described above. Heavy and light chain amino acid sequences of scFvs that bind CCR8 in the 1-12 amino acid epitope cluster are shown in Table 12.

Table 12. HCVR and LCVR amino acid SEQ ID NOs of anti-CCR8 scFvs.

scFv Molecule	HCVR Amino Acid SEQ ID NO	LCVR Amino Acid SEQ ID NO
MPK20298-A4_SCFV huCCR8	953	954
MPK20299-D2_SCFV huCCR8	955	956
MPK20299-F11_SCFV huCCR8	957	958
MPK20298-H6_SCFV huCCR8	959	960
MPK20297-A4_SCFV huCCR8	961	962
MPK20299-H8_SCFV huCCR8	963	964
MPK20300-C11_SCFV huCCR8	965	966
MPK20298-B1_SCFV huCCR8	967	968
MPK20297-E5_SCFV huCCR8	969	970
MPK20299-A3_SCFV huCCR8	971	972
MPK20297-B4_SCFV huCCR8	973	974
MPK20298-F6_SCFV huCCR8	975	976
MPK20299-H3_SCFV huCCR8	977	978
MPK20298-B9_SCFV huCCR8	979	980
MPK20299-E2_SCFV huCCR8	981	982
MPK20299-D6_SCFV huCCR8	983	984
MPK20299-A4_SCFV huCCR8	985	986
MPK20300-G5_SCFV huCCR8	987	988
MPK20299-C3_SCFV huCCR8	989	990
MPK20299-B7_SCFV huCCR8	991	992
MPK20299-A5_SCFV huCCR8	993	994
MPK20299-D1_SCFV huCCR8	995	996
MPK20299-C5_SCFV huCCR8	997	998
MPK20299-B5_SCFV huCCR8	999	1000
MPK20299-G9_SCFV huCCR8	1001	1002
MPK20299-G5_SCFV huCCR8	1003	1004
MPK20298-C10_SCFV huCCR8	1005	1006
MPK20298-B5_SCFV huCCR8	1007	1008
MPK20299-F2_SCFV huCCR8	1009	1010
MPK20298-D4_SCFV huCCR8	1011	1012
MPK20297-F5_SCFV huCCR8	1013	1014
MPK20299-D9_SCFV huCCR8	1015	1016

[00250] The anti-CCR8 scFv MPK20299-A4 was further engineered and converted into afucosylated anti-CCR8 antibodies to generate additional anti-CCR8 antibodies that bind 1-12.

Example 15: Affinity of CCR8-Binding Antibodies to CCR8 Peptide-Nanobody Complexes

[00251] Binding affinities (K_D equilibrium dissociation constant) and rate constants (k_a association rate constant, k_d dissociation rate constant) of an Antibody 1 Fab and CCR8-binding monoclonal antibodies (mAbs) of the present invention to a CCR8 1-12 epitope (SEQ ID NO: 82)-nanobody (Nb) fusion protein were measured using an OCTET® Biolayer Interferometry system (Sartorius AG, Göttingen, Germany). The CCR8-nanobody fusion proteins were expressed in human cells. For Fab binding, biotinylated CCR8 peptide-Nb fusions were captured on streptavidin SAX biosensors to loading levels between 2 and 4 nm and then incubated with a dilution series of the soluble Fab (top 100 nM, 6-point, 1:3 serial dilution) for 300 seconds followed by 500 seconds in buffer for dissociation. For mAb binding, mAbs were captured on an anti-huIgG Fc capture biosensor to 1 to 2 nm loading level and then incubated with a dilution series of non-biotinylated CCR8 peptide-Nb fusions (top 100 nM, 6-point, 1:3 serial dilution) for 300 seconds followed by 500 seconds in buffer for dissociation.

[00252] The OCTET® system acquires data over time (seconds) using a mechanism called Biolayer Interferometry; as proteins bind to biosensor tips, a sensitive binding signal in nm is measured by the instrument. All fiber optic tips were used once and then discarded, i.e., no regeneration. OCTET® buffer baselines, dissociation steps, and protein dilutions were made with OCTET® buffer (10 mM TRIS pH 7.5, 150 mM NaCl, 1 mM $CaCl_2$, 0.13% (v/v) Triton X-100 and 0.10 mg/mL BSA).

[00253] Raw data was processed with GeneData Screener v18 SPR package which uses the same data processing as the OCTET® instrument Data Analysis software (subtract average of two reference wells per column; Align Y-axis to baseline; Interstep correction align to dissociation; and Savitzky-Golay filtering). Each Fab or mAb interaction was grouped into its own sensorgram and globally fit with a 1:1 binding model to determine the association rate constant (k_a; units $M^{-1}sec^{-1}$) and the dissociation rate constant (k_d; units sec^{-1}). The equilibrium dissociation constant (K_D; units nanomolar (nM) = 1 x 10^{-9} mol/L) was then calculated as a ratio of k_d/k_a.

[00254] Results are shown in Table 13a and 13b. Errors in the 1:1 model fit to the processed data were reported as standard errors (i.e., k_a error was the standard error of the association rate constant measurement while the k_d error was the standard error of the dissociation rate constant measurement). The standard error of the equilibrium dissociation constant (ΔK_D) is calculated from the statistical propagation of error as defined for the ratio of two measured variables and their standard errors (k_a, Δk_a, k_d, Δk_d).

Table 13a. Binding Affinities and Rate Constants of CCR8-Binding Antibodies to CCR8 Epitope-Nanobody Complexes (1-12).

CCR8 Fab & mAbs	huCCR8(1-12)-Nb						isotype Nb
	$k_a(M^{-1}s^{-1})$	ka error	k_d (s^{-1})	kd error	K_D (nM)	KD Error	
Fab (HCVR SEQ ID NO: 13; LCVR SEQ ID NO: 14)	5.84E+05	6.19E+03	1.32E-02	9.20E-05	**22.6**	0.2	no binding
huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb) (HC SEQ ID NO: 1239; LC SEQ ID NO: 1130)	1.42E+05	1.05E+03	1.34E-03	1.15E-05	**9.5**	0.1	no binding
huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb) (HC SEQ ID NO: 1240; LC SEQ ID NO: 1132)	1.32E+05	1.40E+03	1.07E-03	1.60E-05	**8.1**	0.2	no binding
huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb) (HC SEQ ID NO: 1238; LC SEQ ID NO: 1128)	1.22E+05	1.11E+03	1.10E-03	1.33E-05	**9.0**	0.1	no binding
huCCR8(32360LC:K38R)_huIgG1z (mAb) (HC SEQ ID NO: 1237; LC SEQ ID NO: 1126	3.97E+05	1.42E+04	2.40E-02	5.59E-04	**60.6**	2.1	no binding

Table 13b. Binding Affinities and Rate Constants of CCR8-Binding Antibodies to CCR8 Epitope-Nanobody Complexes (1-25).

CCR8 Fab & mAbs	huCCR8(1-25)[C25S]-Nb						isotype Nb
	k_a ($M^{-1}s^{-1}$)	ka error	k_d (s^{-1})	kd error	K_D (nM)	KD Error	
Fab (HCVR SEQ ID NO: 13; LCVR SEQ ID NO: 14)	6.06E+05	5.75E+03	1.06E-02	6.36E-05	**17.4**	0.2	no binding
huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb) (HC SEQ ID NO: 1239; LC SEQ ID NO: 1130)	1.46E+05	1.32E+03	1.14E-03	1.39E-05	**7.8**	0.1	no binding
huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)	1.10E+05	1.18E+03	7.98E-04	1.53E-05	**7.2**	0.2	no binding

CCR8 Fab & mAbs	huCCR8(1-25)[C25S]-Nb						isotype Nb
	k_a ($M^{-1}s^{-1}$)	ka error	k_d (s^{-1})	kd error	K_D (nM)	KD Error	
(HC SEQ ID NO: 1240; LC SEQ ID NO: 1132)							
huCCR8_44379(VH:D72S,VL: N67A_S68A_ M99G_W109F_S111A)_huIgG1z (mAb) (HC SEQ ID NO: 1238; LC SEQ ID NO: 1128)	9.93E+04	9.76E+02	9.75E-04	1.37E-05	**9.8**	0.2	no binding
huCCR8(32360LC:K38R)_huIgG1z (mAb) (HC SEQ ID NO: 1237; LC SEQ ID NO: 1126	Biphasic Binding						no binding

[00255] These data demonstrate that CCR8-binding antibodies of the present invention bind to N-terminal peptides of human CCR8 containing amino acids 1-12 (SEQ ID NO: 82) and amino acids 1-25 (residues 1-25 of SEQ ID NO: 31), expressed in human cells, with high affinity.

Example 16: ADCC in the Presence or Absence of Ligand

[00256] To determine ADCC with anti-CCR8 antibodies that either block ligand binding or do not block ligand binding, flow cytometry was utilized to measure live and dead cells in the presence of varying concentrations of ligand and anti-CCR8 antibody. In an experiment ("Study A"), 100 pM of an afucosylated anti-CCR8 antibody of the present invention which binds a unique epitope and does not block ligand binding (antibody comprising HCDR1, HCDR2, HCDR3, LCDR1, LCDR2, and LCDR3 amino acid sequences of SEQ ID NOs 1-6, respectively; "Non-blocking mAb") or three anti-CCR8 antibodies that block ligand binding ("Blocking mAb") were incubated with HUT78 cells that express CCR8, NK cell line NK92MI expressing CD16 (effector cells), and increasing concentrations of CCL1 (ligand) from 0.128 pM to 50 nM. In another experiment ("Study B"), similar procedures were followed as described above except increasing concentrations of CCL1 was first added to the HUT78 cells for thirty minutes, followed by addition of 100 pM antibody and effector cells. IC_{50} values and bottom % killing values are reported in Table 14.

Following procedures essentially as described, the following data were obtained.

Table 14. ADCC activity of blocking and non-blocking anti-CCR8 antibodies in the presence of CCL1.

	Study A	Study A	Study B	Study B
Antibody	**IC_{50} (CCL1) nM**	**Bottom % Killing**	**IC_{50} (CCL1) nM**	**Bottom % Killing**
Non-blocking mAb	0.34	19.6	1.0	12.9
Blocking mAb 1	3.0	-2.6	2.3	-8.7
Blocking mAb 2	1.0	4.3	1.1	7.0
Blocking mAb 3	2.4	3.6	2.8	2.8
huIgG1 control	N/A	-1.5	N/A	1.3

[00257] These data demonstrate in both Study A and Study B, in the presence of ligand, the anti-CCR8 antibody of the present invention that binds a unique epitope and does not block ligand binding had high potency and also demonstrated the highest Bottom % Killing, which measures the ADCC ability at high concentrations of CCL1.

Example 17: Anti-CCR8 and BiTE® Molecule Combination In Vivo

CCR8 depleting mouse surrogate antibody was evaluated in combination with surrogate TAA-BiTE molecule for its ability to enhance anti-tumor activity in the B16F10 tumor model. The B16F10 tumor model was chosen for this combination efficacy study since this model is refractory to checkpoint inhibitors (anti-PD1 and anti-CTLA4), and therefore can be used to assess meaningful differences with the combination therapy of BiTE molecule and anti-CCR8 mAb in this Example.

B16F10 tumor cells were engineered to express the BiTE molecule tumor-associated antigen (TAA) and implanted on the immunocompetent humanized CD3e KI strain that enables evaluation of TAA-BiTE molecules with an I2C anti-CD3 scFv recognizing human CD3e. B16F10-TAA tumor-bearing animals were treated with either single agents of CCR8 depleting mIgG2a antibody, TAA-BiTE molecule, or a combination of CCR8 depleting mIgG2a antibody and TAA-BiTE molecule.

B16F10-TAA expressing tumor cells were implanted subcutaneously in an immunocompetent mouse model expressing a humanized CD3e chain (huCD3e KI) on day 0. Tumors were assigned on day 12 into different treatment groups (n=10/group) with an average tumor volume of 108.37 mm3. Animals were dosed retro-orbitally with 50 µg/kg of either control BiTE molecule or TAA-BiTE on study days 13 and 20 (QWk x 2). Animals also received 10 mg/kg of either control isotype mIgG2a or a CCR8 afucosylated mIgG2a antibody dosed intra-peritoneally on study days 13, 16, and 19 (Q3D x 3).

Tumor volume was measured twice per week. Individual tumor growth for the treatment groups is depicted as spider plots in Figure 5. Animals with no measurable tumors defined as Complete Responders (CRs) have been assessed until day 48.

As shown in Figure 5, monotherapy of CCR8 mIgG2a (Grp3; Fig. 5C) was not efficacious in this cold tumor model refractory to anti-CTLA4. Monotherapy with TAA-BiTE (Grp2; Fig. 5B) led to tumor growth delay and 1 tumor-free/complete responder (CR) at end of the study. Interestingly, the combination of CCR8 mIgG2a and TAA-BiTE (Grp4; Fig. 5D) led to 7 CRs, demonstrating the significant benefit of combining CCR8 depleting mAbs with BiTE molecules to boost anti-tumor immunity.

SEQUENCES

Antibody 1 IgG2 HCDR1 (SEQ ID NO: 1)

NARMG

Antibody 1 IgG2 HCDR2 (SEQ ID NO: 2)

RIKSKTEGGTRDYAAPVKG

Antibody 1 IgG2 HCDR3 (SEQ ID NO: 3)

YSGV

Antibody 1 IgG2 LCDR1 (SEQ ID NO: 4)

KSSQSVLYSSNNKNYLA

Antibody 1 IgG2 LCDR2 (SEQ ID NO: 5)

WASTRES

Antibody 1 IgG2 LCDR3 (SEQ ID NO: 6)

QQYYSIPIT

Antibody 2 IgG2 HCDR1 (SEQ ID NO: 7)

NYGMH

Antibody 2 IgG2 HCDR2 (SEQ ID NO: 8)

VISYDGSNKFYADSVKG

Antibody 2 IgG2 HCDR3 (SEQ ID NO: 9)

AGGIGRFDY

Antibody 2 IgG2 LCDR1 (SEQ ID NO: 10)

KYSQSLLHSDGKTYLF

Antibody 2 IgG2 LCDR2 (SEQ ID NO: 11)

EVSNRFS

Antibody 2 IgG2 LCDR3 (SEQ ID NO: 12)

MQTLKLPLT

Antibody 1 IgG2 HCVR (SEQ ID NO: 13)

EVQLVESGGGLVKPGGSLRLSCAASGFTFSNARMGWVRQAPGKGLEWVGRIKSKTE
GGTRDYAAPVKGRFTISRDDSKNTLYLQMNSLKTEDTAVYYCTSYSGVWGQGTMV
TVSS

Antibody 1 IgG2 LCVR (SEQ ID NO: 14)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYHQKPGQSPKLLISWA
STRESGVPDRFSGSGSGTDFTLTINSLQAEDVAVYYCQQYYSIPITFGGGTKVEIKR

Antibody 1 IgG2 HC (SEQ ID NO: 15)

EVQLVESGGGLVKPGGSLRLSCAASGFTFSNARMGWVRQAPGKGLEWVGRIKSKTE
GGTRDYAAPVKGRFTISRDDSKNTLYLQMNSLKTEDTAVYYCTSYSGVWGQGTMV
TVSSASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFP
AVLQSSGLYSLSSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKT
KPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTKGQPREP
QVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPMLDSDGS
FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

Antibody 1 IgG2 LC (SEQ ID NO: 16)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYHQKPGQSPKLLISWA
STRESGVPDRFSGSGSGTDFTLTINSLQAEDVAVYYCQQYYSIPITFGGGTKVEIKRTV
AAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQD
SKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Antibody 2 IgG2 HCVR (SEQ ID NO: 17)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSNYGMHWVRQAPGKGLEWVAVISYDG
SNKFYADSVKGRFTISRDNSKKTLYLQMSSLRVEDTAVYYCARAGGIGRFDYWGQG
TLVTVSS

Antibody 2 IgG2 LCVR (SEQ ID NO: 18)

DFVMTQTPLSLSVTPGQPASISCKYSQSLLHSDGKTYLFWYLQKPGQPPHLLIYEVSN
RFSGVPDRFSGSGSGTDFTLKISRVEAEDVGLYYCMQTLKLPLTFGGGTKVEIN

Antibody 2 IgG2 HC (SEQ ID NO: 19)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSNYGMHWVRQAPGKGLEWVAVISYDG
SNKFYADSVKGRFTISRDNSKKTLYLQMSSLRVEDTAVYYCARAGGIGRFDYWGQG
TLVTVSSASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVH
TFPAVLQSSGLYSLSSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPP
CPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHN
AKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTKGQP

REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPMLDS
DGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

Antibody 2 IgG2 LC (SEQ ID NO: 20)

DFVMTQTPLSLSVTPGQPASISCKYSQSLLHSDGKTYLFWYLQKPGQPPHLLIYEVSN
RFSGVPDRFSGSGSGTDFTLKISRVEAEDVGLYYCMQTLKLPLTFGGGTKVEINRTVA
APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDS
KDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

hCCR8 (SEQ ID NO: 21)

MDYTLDLSVTTVTDYYYPDIFSSPCDAELIQTNGKLLLAVFYCLLFVFSLLGNSLVIL
VLVVCKKLRSITDVYLLNLALSDLLFVFSFPFQTYYLLDQWVFGTVMCKVVSGFYYI
GFYSSMFFITLMSVDRYLAVVHAVYALKVRTIRMGTTLCLAVWLTAIMATIPLLVFY
QVASEDGVLQCYSFYNQQTLKWKIFTNFKMNILGLLIPFTIFMFCYIKILHQLKRCQN
HNKTKAIRLVLIVVIASLLFWVPFNVVLFLTSLHSMHILDGCSISQQLTYATHVTEIISF
THCCVNPVIYAFVGEKFKKHLSEIFQKSCSQIFNYLGRQMPRESCEKSSSCQQHSSRSS
SVDYIL

Cyno CCR8 (SEQ ID NO: 22)

MDYTLDPSMTTMTDYYYPDSLSSPCDGELIQRNDKLLLAVFYCLLFVFSLLGNSLVIL
VLVVCKKLRNITDIYLLNLALSDLLFVFSFPFQTYYQLDQWVFGTVMCKVVSGFYYI
GFYSSMFFITLMSVDRYLAVVHAVYAIKVRTIRMGTTLSLVVWLTAIMATIPLLVFY
QVASEDGVLQCYSFYNQQTLKWKIFTNFEMNILGLLIPFTIFMFCYIKILHQLKRCQN
HNKTKAIRLVLIVVIASLLFWVPFNVVLFLTSLHSMHILDGCSISQQLNYATHVTEIISF
THCCVNPVIYAFVGEKFKKHLSEIFQKSCSHIFIYLGRQMPRESCEKSSSCQQHSFRSS
SIDYIL

humanCCR8[A27G] (SEQ ID NO: 23)
MDYTLDLSVTTVTDYYYPDIFSSPCDGELIQTNGKLLLAVFYCLLFVFSLLGNSLVIL
VLVVCKKLRSITDVYLLNLALSDLLFVFSFPFQTYYLLDQWVFGTVMCKVVSGFYYI
GFYSSMFFITLMSVDRYLAVVHAVYALKVRTIRMGTTLCLAVWLTAIMATIPLLVFY
QVASEDGVLQCYSFYNQQTLKWKIFTNFKMNILGLLIPFTIFMFCYIKILHQLKRCQN
HNKTKAIRLVLIVVIASLLFWVPFNVVLFLTSLHSMHILDGCSISQQLTYATHVTEIISF
THCCVNPVIYAFVGEKFKKHLSEIFQKSCSQIFNYLGRQMPRESCEKSSSCQQHSSRSS
SVDYIL

mCCR8 (SEQ ID NO: 24)

MDYTMEPNVTMTDYYPDFFTAPCDAEFLLRGSMLYLAILYCVLFVLGLLGNSLVILV
LVGCKKLRSITDIYLLNLAASDLLFVLSIPFQTHNLLDQWVFGTAMCKVVSGLYYIGF
FSSMFFITLMSVDRYLAIVHAVYAIKVRTASVGTALSLTVWLAAVTATIPLMVFYQV
ASEDGMLQCFQFYEEQSLRWKLFTHFEINALGLLLPFAILLFCYVRILQQLRGCLNHN
RTRAIKLVLTVVIVSLLFWVPFNVALFLTSLHDLHILDGCATRQRLALAIHVTEVISFT
HCCVNPVIYAFIGEKFKKHLMDVFQKSCSHIFLYLGRQMPVGALERQLSSNQRSSHSS
TLDDIL

Rat CCR8 (SEQ ID NO: 25)

MDYTLEPNVTMTDYYPDFFTTPCDTELLLRGGTLYLAVLYCILFVLGLLGNSLVILVL
VACKKLRSITDVYLLNLAASDLLFVLSIPFQTHNLLDQWVFGTVMCKVVSGLYYIGF
FSSMLFITLMSVDRYLAVVHPVHAIKVRTARVGTALSLAVWLAAIAATVPLMVFYQ
VSSEDGMLQCFQLYDEQSLRWKLFTHFEVNALGLLLPFAILLFCYVRILQQLRGCLN
HNRTRAIKLVLTIVVVSLLFWVPFNVVLFLTSLHDMHILEGCATRQRLALATHVTEVI
SFMHCCVNPVIYAFIGEKFKKHLVDVFQKSCSHIFLYVGRQMPVGALERQLSSNQRS
SHSSTLDYIL

hCCR4 (SEQ ID NO: 26)

MNPTDIADTTLDESIYSNYYLYESIPKPCTKEGIKAFGELFLPPLYSLVFVFGLLGNSV
VVLVLFKYKRLRSMTDVYLLNLAISDLLFVFSLPFWGYYAADQWVFGLGLCKMISW
MYLVGFYSGIFFVMLMSIDRYLAIVHAVFSLRARTLTYGVITSLATWSVAVFASLPGF
LFSTCYTERNHTYCKTKYSLNSTTWKVLSSLEINILGLVIPLGIMLFCYSMIIRTLQHC
KNEKKNKAVKMIFAVVVLFLGFWTPYNIVLFLETLVELEVLQDCTFERYLDYAIQAT
ETLAFVHCCLNPIIYFFLGEKFRKYILQLFKTCRGLFVLCQYCGLLQIYSADTPSSSYT
QSTMDHDLHDAL

Antibody 1 IgG2 HC DNA (SEQ ID NO: 27)

GAGGTGCAGCTGGTGGAGTCTGGGGGAGGCTTGGTAAAGCCTGGGGGGTCCCTG
AGACTCTCCTGTGCAGCCTCTGGATTTACTTTCAGTAACGCCCGGATGGGCTGGG
TCCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTTGGCCGTATTAAAAGCAAAA
CTGAAGGTGGGACAAGAGACTACGCTGCACCCGTGAAAGGCAGATTCACCATCT
CAAGAGATGATTCAAAAAACACGCTGTATCTGCAAATGAACAGCCTGAAAACCG
AGGACACAGCCGTGTATTATTGTACCTCGTATAGTGGGGTCTGGGGCCAAGGGA
CAATGGTCACCGTCTCTTCAGCCTCCACCAAGGGCCCATCGGTCTTCCCCCTGGC
GCCCTGCTCCAGGAGCACCTCCGAGAGCACAGCGGCCCTGGGCTGCCTGGTCAA
GGACTACTTCCCCGAACCGGTGACGGTGTCGTGGAACTCAGGCGCTCTGACCAGC
GGCGTGCACACCTTCCCAGCTGTCCTACAGTCCTCAGGACTCTACTCCCTCAGCA
GCGTGGTGACCGTGCCCTCCAGCAACTTCGGCACCCAGACCTACACCTGCAACGT
AGATCACAAGCCCAGCAACACCAAGGTGGACAAGACAGTTGAGCGCAAATGTTG
TGTCGAGTGCCCACCGTGCCCAGCACCACCTGTGGCAGGACCGTCAGTCTTCCTC
TTCCCCCCAAAACCCAAGGACACCCTCATGATCTCCCGGACCCCTGAGGTCACGT
GCGTGGTGGTGGACGTGAGCCACGAAGACCCCGAGGTCCAGTTCAACTGGTACG
TGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCACGGGAGGAGCAGTTCA
ACAGCACGTTCCGTGTGGTCAGCGTCCTCACCGTTGTGCACCAGGACTGGCTGAA
CGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGGCCTCCCAGCCCCCATCGA
GAAAACCATCTCCAAAACCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCT
GCCCCCATCCCGGGAGGAGATGACCAAGAACCAGGTCAGCCTGACCTGCCTGGT
CAAAGGCTTCTACCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGCC
GGAGAACAACTACAAGACCACACCTCCCATGCTGGACTCCGACGGCTCCTTCTTC
CTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTC
TCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCT
CCCTGTCTCCGGGTAAATAG

Antibody 1 IgG2 LC DNA (SEQ ID NO: 28)

GACATCGTGATGACCCAGTCTCCAGACTCCCTGGCTGTGTCTCTGGGCGAGAG
GGCCACCATCAACTGCAAGTCCAGCCAGAGTGTTTTATACAGTTCCAACAATA
AGAACTACTTAGCTTGGTACCATCAGAAACCAGGACAGTCTCCTAAGCTGCTC
ATTTCCTGGGCATCTACCCGGGAATCCGGGGTCCCTGACCGATTCAGTGGCAG
CGGGTCTGGGACAGATTTCACTCTCACCATCAACAGCCTGCAGGCTGAAGATG
TGGCAGTTTATTACTGTCAACAATATTATAGTATTCCGATCACTTTCGGCGGAG
GGACCAAGGTGGAGATCAAACGA

Antibody 2 IgG2 HC DNA (SEQ ID NO: 29)

CAGGTGCAGTTGGTGGAGTCTGGGGGAGGCGTGGTCCAGCCTGGGAGGTCCCTG
AGACTCTCCTGTGCAGCCTCTGGATTCACCTTCAGTAACTATGGCATGCACTGGG
TCCGCCAGGCTCCAGGCAAGGGGCTGGAGTGGGTGGCAGTCATATCATATGATG
GAAGTAATAAATTCTATGCAGACTCCGTGAAGGGCCGATTCACCATCTCCAGAG
ACAATTCCAAGAAGACTCTGTATCTTCAAATGAGCAGCCTGAGAGTTGAGGACA
CGGCTGTATATTATTGTGCGAGAGCCGGGGGTATAGGGCGTTTTGACTACTGGGG
CCAGGGAACCCTGGTCACCGTCTCCTCAGCCTCCACCAAGGGCCCATCGGTCTTC
CCCCTGGCGCCCTGCTCCAGGAGCACCTCCGAGAGCACAGCGGCCCTGGGCTGC
CTGGTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCGTGGAACTCAGGCGCTC
TGACCAGCGGCGTGCACACCTTCCCAGCTGTCCTACAGTCCTCAGGACTCTACTC
CCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAACTTCGGCACCCAGACCTACACC
TGCAACGTAGATCACAAGCCCAGCAACACCAAGGTGGACAAGACAGTTGAGCGC
AAATGTTGTGTCGAGTGCCCACCGTGCCCAGCACCACCTGTGGCAGGACCGTCAG
TCTTCCTCTTCCCCCCAAAACCCAAGGACACCCTCATGATCTCCCGGACCCCTGA
GGTCACGTGCGTGGTGGTGGACGTGAGCCACGAAGACCCCGAGGTCCAGTTCAA
CTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCACGGGAGGA
GCAGTTCAACAGCACGTTCCGTGTGGTCAGCGTCCTCACCGTTGTGCACCAGGAC
TGGCTGAACGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGGCCTCCCAGCC
CCCATCGAGAAAACCATCTCCAAAACCAAAGGGCAGCCCCGAGAACCACAGGTG
TACACCCTGCCCCCATCCCGGGAGGAGATGACCAAGAACCAGGTCAGCCTGACC
TGCCTGGTCAAAGGCTTCTACCCCAGCGACATCGCCGTGGAGTGGGAGAGCAAT
GGGCAGCCGGAGAACAACTACAAGACCACACCTCCCATGCTGGACTCCGACGGC
TCCTTCTTCCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGG
AACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAGA
AGAGCCTCTCCCTGTCTCCGGGTAAATAG

Antibody 2 IgG2 LC DNA (SEQ ID NO: 30)

GATTTTGTAATGACCCAGACTCCACTCTCTCTGTCCGTCACCCCTGGACAGCCGG
CCTCCATCTCCTGCAAGTATAGTCAGAGCCTCCTGCACAGTGATGGAAAGACCTA
TTTGTTTTGGTACCTGCAGAAGCCAGGCCAGCCTCCACACCTCCTGATCTATGAA
GTTTCCAACCGGTTCTCTGGAGTGCCAGATAGGTTCAGTGGCAGCGGGTCAGGGA
CAGATTTCACACTGAAGATCAGCCGGGTGGAGGCTGAGGATGTTGGGCTTTATTA
CTGCATGCAAACTTTAAAGCTTCCGCTCACTTTCGGCGGAGGGACCAAGGTGGAG
ATCAACCGA

Human CCR8 1-35 (SEQ ID NO: 31)

MDYTLDLSVTTVTDYYYPDIFSSPCDAELIQTNGK

zeluvalimab LCDR1 (SEQ ID NO: 32)
RASQGISNWLA

zeluvalimab LCDR2 (SEQ ID NO: 33)
AASSLQS

zeluvalimab LCDR3 (SEQ ID NO: 34)
QQAESFPHT

zeluvalimab HCDR1 (SEQ ID NO: 35)
SYDMS

zeluvalimab HCDR2 (SEQ ID NO: 36)
LISGGGSQTYYAESVKG

zeluvalimab HCDR3 (SEQ ID NO: 37)
PSGHYFYAMDV

zeluvalimab VL (SEQ ID NO: 38)
DIQMTQSPSSVSASVGDRVTITCRASQGISNWLAWYQQKPGKAPKLLIFAASSLQSG
VPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQAESFPHTFGGGTKVEIK

zeluvalimab VH (SEQ ID NO: 39)
EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYDMSWVRQAPGKGLEWVSLISGGGS
QTYYAESVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYFCASPSGHYFYAMDVWG
QGTTVTVSS

zeluvalimab LC (SEQ ID NO: 40)
DIQMTQSPSSVSASVGDRVTITCRASQGISNWLAWYQQKPGKAPKLLIFAASSLQSG
VPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQAESFPHTFGGGTKVEIKRTVAAPSVF
IFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTY
SLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

zeluvalimab HC (SEQ ID NO: 41)
EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYDMSWVRQAPGKGLEWVSLISGGGS
QTYYAESVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYFCASPSGHYFYAMDVWG
QGTTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG
VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKT
HTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD
GVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTI
SKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT
TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

Antibody 20A2.003 LCDR1 (SEQ ID NO: 42)
SGDKLGDKYAS

Antibody 20A2.003 LCDR2 (SEQ ID NO: 43)
QDRKRPS

Antibody 20A2.003 LCDR3 (SEQ ID NO: 44)

QAFESSTEV

Antibody 20A2.003 HCDR1 (SEQ ID NO: 45)
NYGMH

Antibody 20A2.003 HCDR2 (SEQ ID NO: 46)
LIWYDASKKYYAESVKG

Antibody 20A2.003 HCDR3 (SEQ ID NO: 47)
DPSSLTGSTGYYGMDV

Antibody 20A2.003 VL (SEQ ID NO: 48)
SYELTQPPSVSVSPGQTASITCSGDKLGDKYASWYQQKPGQSPVLVIYQDRKRPSGIP
ERFSGSNSGNTATLTISGTQAMDEADYYCQAFESSTEVFGGGTKLTVL

Antibody 20A2.003 VH (SEQ ID NO: 49)
QVQLVESGGGVVQPGRSLRLSCAASGFTFSNYGMHWVRQAPGKGLEWVALIWYDA
SKKYYAESVKGRFTISRDNSKNTLYLQMNSLRAEDTAAYYCARDPSSLTGSTGYYG
MDVWGQGTTVTVSS

Antibody 20A2.003 LC (SEQ ID NO: 50)
SYELTQPPSVSVSPGQTASITCSGDKLGDKYASWYQQKPGQSPVLVIYQDRKRPSGIP
ERFSGSNSGNTATLTISGTQAMDEADYYCQAFESSTEVFGGGTKLTVLGQPKAAPSV
TLFPPSSEELQANKATLVCLISDFYPGAVTVAWKADSSPVKAGVETTTPSKQSNNKY
AASSYLSLTPEQWKSHRSYSCQVTHEGSTVEKTVAPTECS

Antibody 20A2.003 HC (SEQ ID NO: 51)
QVQLVESGGGVVQPGRSLRLSCAASGFTFSNYGMHWVRQAPGKGLEWVALIWYDA
SKKYYAESVKGRFTISRDNSKNTLYLQMNSLRAEDTAAYYCARDPSSLTGSTGYYG
MDVWGQGTTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWN
SGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEP
KSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKF
NWYVDGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKALP
APIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL
SPGK

Antibody 22D4.006 LCDR1 (SEQ ID NO: 52)
SGDALPKKYAY

Antibody 22D4.006 LCDR2 (SEQ ID NO: 53)
EDAKRPS

Antibody 22D4.006 LCDR3 (SEQ ID NO: 54)
YSTDASGNHRV

Antibody 22D4.006 HCDR1 (SEQ ID NO: 55)
DYSMS

Antibody 22D4.006 HCDR2 (SEQ ID NO: 56)

GINWNGGRTRYADAVKG

Antibody 22D4.006 HCDR3 (SEQ ID NO: 57)
EFNNFESNWFDP

Antibody 22D4.006 VL (SEQ ID NO: 58)
SYELTQPPSVSVSPGQTARITCSGDALPKKYAYWYQQKPGQAPVLVISEDAKRPSGIP
ERFSGSSSGTMATLTISGAQVEDEADYYCYSTDASGNHRVFGGGTKLTVL

Antibody 22D4.006 VH (SEQ ID NO: 59)
EVQLVESGGSVVRPGGSLRLSCAASGFTVDDYSMSWVRQVPGKGLEWVSGINWNG
GRTRYADAVKGRFTISRDSAKNSLYLQMNSLRAEDTALYYCAREFNNFESNWFDPW
GQGTLVTVSS

Antibody 22D4.006 LC (SEQ ID NO: 60)
SYELTQPPSVSVSPGQTARITCSGDALPKKYAYWYQQKPGQAPVLVISEDAKRPSGIP
ERFSGSSSGTMATLTISGAQVEDEADYYCYSTDASGNHRVFGGGTKLTVLGQPKAAP
SVTLFPPSSEELQANKATLVCLISDFYPGAVTVAWKADSSPVKAGVETTTPSKQSNN
KYAASSYLSLTPEQWKSHRSYSCQVTHEGSTVEKTVAPTECS

Antibody 22D4.006 HC (SEQ ID NO: 61)
EVQLVESGGSVVRPGGSLRLSCAASGFTVDDYSMSWVRQVPGKGLEWVSGINWNG
GRTRYADAVKGRFTISRDSAKNSLYLQMNSLRAEDTALYYCAREFNNFESNWFDPW
GQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS
GVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDK
THTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD
GVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTI
SKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT
TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

Antibody 22D4.017 LCDR1 (SEQ ID NO: 62)
SGDALPKKYAY

Antibody 22D4.017 LCDR2 (SEQ ID NO: 63)
EDAKRPS

Antibody 22D4.017 LCDR3 (SEQ ID NO: 64)
YSTDASGNHRV

Antibody 22D4.017 HCDR1 (SEQ ID NO: 65)
DYSMS

Antibody 22D4.017 HCDR2 (SEQ ID NO: 66)
GINWNAGRTRYADAVKG

Antibody 22D4.017 HCDR3 (SEQ ID NO: 67)
EFNNFESNWFDP

Antibody 22D4.017 VL (SEQ ID NO: 68)

SYELTQPPSVSVSPGQTARITCSGDALPKKYAYWYQQKPGQAPVLVISEDAKRPSGIP
ERFSGSSSGTMATLTISGAQVEDEADYYCYSTDASGNHRVFGGGTKLTVL

Antibody 22D4.017 VH (SEQ ID NO: 69)
EVQLVESGGSVVRPGGSLRLSCAASGFTVDDYSMSWVRQVPGKGLEWVSGINWNA
GRTRYADAVKGRFTISRDSAKNSLYLQMNSLRAEDTALYYCAREFNNFESNWFDPW
GQGTLVTVSS

Antibody 22D4.017 LC (SEQ ID NO: 70)
SYELTQPPSVSVSPGQTARITCSGDALPKKYAYWYQQKPGQAPVLVISEDAKRPSGIP
ERFSGSSSGTMATLTISGAQVEDEADYYCYSTDASGNHRVFGGGTKLTVLGQPKAAP
SVTLFPPSSEELQANKATLVCLISDFYPGAVTVAWKADSSPVKAGVETTTPSKQSNN
KYAASSYLSLTPEQWKSHRSYSCQVTHEGSTVEKTVAPTECS

Antibody 22D4.017 HC (SEQ ID NO: 71)
EVQLVESGGSVVRPGGSLRLSCAASGFTVDDYSMSWVRQVPGKGLEWVSGINWNA
GRTRYADAVKGRFTISRDSAKNSLYLQMNSLRAEDTALYYCAREFNNFESNWFDPW
GQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS
GVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDK
THTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD
GVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTI
SKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT
TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

Antibody 20C1.006 LCDR1 (SEQ ID NO: 72)
RASQGISNWLA

Antibody 20C1.006 LCDR2 (SEQ ID NO: 73)
AASSLQS

Antibody 20C1.006 LCDR3 (SEQ ID NO: 74)
QQAESFPHT

Antibody 20C1.006 HCDR1 (SEQ ID NO: 75)
SYDMS

Antibody 20C1.006 HCDR2 (SEQ ID NO: 76)
LISGGGSNTYYAESVKG

Antibody 20C1.006 HCDR3 (SEQ ID NO: 77)
PSGHYFYAMDV

Antibody 20C1.006 VL (SEQ ID NO: 78)
DIQMTQSPSSVSASVGDRVTITCRASQGISNWLAWYQQKPGKAPKLLIFAASSLQSG
VPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQAESFPHTFGGGTKVEIK

Antibody 20C1.006 VH (SEQ ID NO: 79)
EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYDMSWVRQAPGKGLEWVSLISGGGS
NTYYAESVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYFCASPSGHYFYAMDVWG
QGTTVTVSS

Antibody 20C1.006 LC (SEQ ID NO: 80)
DIQMTQSPSSVSASVGDRVTITCRASQGISNWLAWYQQKPGKAPKLLIFAASSLQSG
VPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQAESFPHTFGGGTKVEIKRTVAAPSVF
IFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTY
SLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Antibody 20C1.006 HC (SEQ ID NO: 81)
EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYDMSWVRQAPGKGLEWVSLISGGGS
NTYYAESVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYFCASPSGHYFYAMDVWG
QGTTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG
VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKT
HTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD
GVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTI
SKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT
TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

CCR8 P_1-12 peptide (SEQ ID NO: 82)
MDYTLDLSVTTV

CCR8 P_13-24 peptide (SEQ ID NO: 83)
TDYYYPDIFSSP

CCR8 P_25-35 peptide (SEQ ID NO: 84)
CDAELIQTNGK

CCR8 P_7-18 peptide (SEQ ID NO: 85)
LSVTTVTDYYYP

CCR8 P_19-30 peptide (SEQ ID NO: 86)
DIFSSPCDAELI

Table 15. BiTE Molecule Sequences.

	DESCRIPTION	SEQUENCE
CD3 BINDING DOMAIN (I2C)		
87	Anti-CD3 CDR-L1 (I2C)	GSSTGAVTSGNYPN
88	Anti-CD3 CDR-L2 (I2C)	GTKFLAP
89	Anti-CD3 CDR-L3 (I2C)	VLWYSNRWV
90	Anti-CD3 CDR-H1 (I2C)	KYAMN
91	Anti-CD3 CDR-H2 (I2C)	RIRSKYNNYATYYADSVKD
92	Anti-CD3 CDR-H3 (I2C)	HGNFGNSYISYWAY

93	Anti-CD3 VH (I2C)	EVQLVESGGGLVQPGGSLKLSCAASGFTFNKYAMNWV RQAPGKGLEWVARIRSKYNNYATYYADSVKDRFTISRD DSKNTAYLQMNNLKTEDTAVYYCVRHGNFGNSYISYW AYWGQGTLVTVSS
94	Anti-CD3 VL (I2C)	QTVVTQEPSLTVSPGGTVTLTCGSSTGAVTSGNYPNWV QQKPGQAPRGLIGGTKFLAPGTPARFSGSLLGGKAALTL SGVQPEDEAEYYCVLWYSNRWVFGGGTKLTVL
95	Anti-CD3 VH-VL (I2C)	EVQLVESGGGLVQPGGSLKLSCAASGFTFNKYAMNWV RQAPGKGLEWVARIRSKYNNYATYYADSVKDRFTISRD DSKNTAYLQMNNLKTEDTAVYYCVRHGNFGNSYISYW AYWGQGTLVTVSSGGGGSGGGGSGGGGSQTVVTQEPS LTVSPGGTVTLTCGSSTGAVTSGNYPNWVQQKPGQAPR GLIGGTKFLAPGTPARFSGSLLGGKAALTLSGVQPEDEA EYYCVLWYSNRWVFGGGTKLTVL
CD3 BINDING DOMAIN (I2E)		
96	Anti-CD3 CDR-L1 (I2E)	GSSTGAVTSGNYPN
97	Anti-CD3 CDR-L2 (I2E)	GTKFLAP
98	Anti-CD3 CDR-L3 (I2E)	VLWYSNRWV
99	Anti-CD3 CDR-H1 (I2E)	KYAIN
100	Anti-CD3 CDR-H2 (I2E)	RIRSKYNNYATYYADAVKD
101	Anti-CD3 CDR-H3 (I2E)	AGNFGSSYISYWAY
102	Anti-CD3 VH (I2E)	EVQLVESGGGLVQPGGSLKLSCAASGFTFNKYAINWVR QAPGKGLEWVARIRSKYNNYATYYADAVKDRFTISRD DSKNTVYLQMNNLKTEDTAVYYCARAGNFGSSYISYW AYWGQGTLVTVSS
103	Anti-CD3 VL (I2E)	QTVVTQEPSLTVSPGGTVTITCGSSTGAVTSGNYPNWV QKKPGQAPRGLIGGTKFLAPGTPARFSGSLSGGKAALTL SGVQPEDEAEYYCVLWYSNRWVFGSGTKLTVL
CD33		
104	Anti-CD33 CDR-L1 (E11)	KSSQSVLDSSTNKNSLA
105	Anti-CD33 CDR-L2 (E11)	WASTRES
106	Anti-CD33 CDR-L3 (E11)	QQSAHFPIT
107	Anti-CD33 CDR-H1 (E11)	NYGMN
108	Anti-CD33 CDR-H2 (E11)	WINTYTGEPTYADKFQG
109	Anti-CD33 CDR-H3 (E11)	WSWSDGYYVYFDY

110	Anti-CD33 VH with cys-clamp (E11)	QVQLVQSGAEVKKPGESVKVSCKASGYTFTNYGMNW VKQAPGQCLEWMGWINTYTGEPTYADKFQGRVTMTT DTSTSTAYMEIRNLGGDDTAVYYCARWSWSDGYYVYF DYWGQGTSVTVSS
111	Anti-CD33 VH without cys-clamp (E11)	QVQLVQSGAEVKKPGESVKVSCKASGYTFTNYGMNW VKQAPGQGLEWMGWINTYTGEPTYADKFQGRVTMTT DTSTSTAYMEIRNLGGDDTAVYYCARWSWSDGYYVYF DYWGQGTSVTVSS
112	Anti-CD33 VL with cys-clamp (E11)	DIVMTQSPDSLTVSLGERTTINCKSSQSVLDSSTNKNSL AWYQQKPGQPPKLLLSWASTRESGIPDRFSGSGSGTDFT LTIDSPQPEDSATYYCQQSAHFPITFGCGTRLEIK
113	Anti-CD33 VL without cys-clamp (E11)	DIVMTQSPDSLTVSLGERTTINCKSSQSVLDSSTNKNSL AWYQQKPGQPPKLLLSWASTRESGIPDRFSGSGSGTDFT LTIDSPQPEDSATYYCQQSAHFPITFGQGTRLEIK
114	CD33 scFv with cys-clamp E11	QVQLVQSGAEVKKPGESVKVSCKASGYTFTNYGMNW VKQAPGQCLEWMGWINTYTGEPTYADKFQGRVTMTT DTSTSTAYMEIRNLGGDDTAVYYCARWSWSDGYYVYF DYWGQGTSVTVSSGGGGSGGGGSGGGGSDIVMTQSPD SLTVSLGERTTINCKSSQSVLDSSTNKNSLAWYQQKPG QPPKLLLSWASTRESGIPDRFSGSGSGTDFTLTIDSPQPE DSATYYCQQSAHFPITFGCGTRLEIK
115	CD33 scFv without cys-clamp E11	QVQLVQSGAEVKKPGESVKVSCKASGYTFTNYGMNW VKQAPGQGLEWMGWINTYTGEPTYADKFQGRVTMTT DTSTSTAYMEIRNLGGDDTAVYYCARWSWSDGYYVYF DYWGQGTSVTVSSGGGGSGGGGSGGGGSDIVMTQSPD SLTVSLGERTTINCKSSQSVLDSSTNKNSLAWYQQKPG QPPKLLLSWASTRESGIPDRFSGSGSGTDFTLTIDSPQPE DSATYYCQQSAHFPITFGQGTRLEIK
116	Anti-CD33 with cys-clamp (E11) x anti-CD3 (I2C) Bispecific molecule	QVQLVQSGAEVKKPGESVKVSCKASGYTFTNYGMNW VKQAPGQCLEWMGWINTYTGEPTYADKFQGRVTMTT DTSTSTAYMEIRNLGGDDTAVYYCARWSWSDGYYVYF DYWGQGTSVTVSSGGGGSGGGGSGGGGSDIVMTQSPD SLTVSLGERTTINCKSSQSVLDSSTNKNSLAWYQQKPG QPPKLLLSWASTRESGIPDRFSGSGSGTDFTLTIDSPQPE DSATYYCQQSAHFPITFGCGTRLEIKSGGGGSEVQLVES GGGLVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGK GLEWVARIRSKYNNYATYYADSVKDRFTISRDDSKNTA YLQMNNLKTEDTAVYYCVRHGNFGNSYISYWAYWGQ GTLVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPG GTVTLTCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGT KFLAPGTPARFSGSLLGGKAALTLSGVQPEDEAEYYCV LWYSNRWVFGGGTKLTVL
117	Anti-CD33 with cys-clamp (E11) x anti-CD3 (I2C) scFc Bispecific HLE molecule	QVQLVQSGAEVKKPGESVKVSCKASGYTFTNYGMNW VKQAPGQCLEWMGWINTYTGEPTYADKFQGRVTMTT DTSTSTAYMEIRNLGGDDTAVYYCARWSWSDGYYVYF DYWGQGTSVTVSSGGGGSGGGGSGGGGSDIVMTQSPD SLTVSLGERTTINCKSSQSVLDSSTNKNSLAWYQQKPG QPPKLLLSWASTRESGIPDRFSGSGSGTDFTLTIDSPQPE DSATYYCQQSAHFPITFGCGTRLEIKSGGGGSEVQLVES

		GGGLVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGK GLEWVARIRSKYNNYATYYADSVKDRFTISRDDSKNTA YLQMNNLKTEDTAVYYCVRHGNFGNSYISYWAYWGQ GTLVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPG GTVTLTCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGT KFLAPGTPARFSGSLLGGKAALTLSGVQPEDEAEYYCV LWYSNRWVFGGGTKLTVLGGGGDKTHTCPPCPAPELL GGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQ DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVY TLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPE NNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSG GGGSGGGGSGGGGSDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGK
118	Anti-CD33 bispecific molecule with His-tag (no cys clamp)	QVQLVQSGAE VKKPGESVKV SCKASGYTFT NYGMNWVKQA PGQGLEWMGW INTYTGEPTY ADKFQGRVTM TTDTSTSTAY MEIRNLGGDD TAVYYCARWS WSDGYYVYFD YWGQGTSVTV SSGGGGSGGG GSGGGGSDIV MTQSPDSLTV SLGERTTINC KSSQSVLDSS TNKNSLAWYQ QKPGQPPKLL LSWASTRESG IPDRFSGSGS GTDFTLTIDS PQPEDSATYY CQQSAHFPIT FGQGTRLEIK SGGGGSEVQL VESGGGLVQP GGSLKLSCAA SGFTFNKYAM NWVRQAPGKG LEWVARIRSK YNNYATYYAD SVKDRFTISR DDSKNTAYLQ MNNLKTEDTA VYYCVRHGNF GNSYISYWAY WGQGTLVTVS SGGGGSGGGG SGGGGSQTVV TQEPSLTVSP GGTVTLTCGS STGAVTSGNY PNWVQQKPGQ APRGLIGGTK FLAPGTPARF SGSLLGGKAA LTLSGVQPED EAEYYCVLWY SNRWVFGGGT KLTVLHHHHH H
EGFRVIII		
119	Anti-EGFRvIII CDR-L1	RSSQSLVHSDGNTYLS
120	Anti-EGFRvIII CDR-L2	RISRRFS
121	Anti-EGFRvIII CDR-L3	MQSTHVPRT
122	Anti-EGFRvIII CDR-H1	NYGMH
123	Anti-EGFRvIII CDR-H2	VIWYDGSDKYYADSVRG
124	Anti-EGFRvIII CDR-H3	DGYDILTGNPRDFDY

125	Anti-EGFRvIII VH	QVQLVESGGGVVQSGRSLRLSCAASGFTFRNYGMHWV RQAPGKCLEWVAVIWYDGSDKYYADSVRGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARDGYDILTGNPRDF DYWGQGTLVTVSS
126	Anti-EGFRvIII VL	DTVMTQTPLSSHVTLGQPASISCRSSQSLVHSDGNTYLS WLQQRPGQPPRLLIYRISRRFSGVPDRFSGSGAGTDFTL EISRVEAEDVGVYYCMQSTHVPRTFGCGTKVEIK
127	EGFRvIII scFv	QVQLVESGGGVVQSGRSLRLSCAASGFTFRNYGMHWV RQAPGKCLEWVAVIWYDGSDKYYADSVRGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARDGYDILTGNPRDF DYWGQGTLVTVSSGGGGSGGGGSGGGGSDTVMTQTPL SSHVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQP PRLLIYRISRRFSGVPDRFSGSGAGTDFTLEISRVEAEDV GVYYCMQSTHVPRTFGCGTKVEIK
128	EGFRvIII_CCxCD3 Bispecific molecule	QVQLVESGGGVVQSGRSLRLSCAASGFTFRNYGMHWV RQAPGKCLEWVAVIWYDGSDKYYADSVRGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARDGYDILTGNPRDF DYWGQGTLVTVSSGGGGSGGGGSGGGGSDTVMTQTPL SSHVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQP PRLLIYRISRRFSGVPDRFSGSGAGTDFTLEISRVEAEDV GVYYCMQSTHVPRTFGCGTKVEIKSGGGGSEVQLVESG GGLVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGL EWVARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYL QMNNLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGT LVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGT VTLTCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKF LAPGTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLW YSNRWVFGGGTKLTVL
129	EGFRvIII_CCxCD3-scFc Bispecific HLE molecule	QVQLVESGGGVVQSGRSLRLSCAASGFTFRNYGMHWV RQAPGKCLEWVAVIWYDGSDKYYADSVRGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARDGYDILTGNPRDF DYWGQGTLVTVSSGGGGSGGGGSGGGGSDTVMTQTPL SSHVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQP PRLLIYRISRRFSGVPDRFSGSGAGTDFTLEISRVEAEDV GVYYCMQSTHVPRTFGCGTKVEIKSGGGGSEVQLVESG GGLVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGL EWVARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYL QMNNLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGT LVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGT VTLTCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKF LAPGTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLW YSNRWVFGGGTKLTVLGGGGDKTHTCPPCPAPELLGGP SVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWL NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMH EALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGG SGGGGSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPK DTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH

		NAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKN QVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLD SDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHY TQKSLSLSPGK
ANTI-MSLN		
130	Anti-MSLN CDR-H1	DYYMT
131	Anti-MSLN CDR-H2	YISSSGSTIYYADSVKG
132	Anti-MSLN CDR-H3	DRNSHFDY
133	Anti-MSLN CDR-L1	RASQGINTWLA
134	Anti-MSLN CDR-L2	GASGLQS
135	Anti-MSLN CDR-L3	QQAKSFPRT
136	Anti-MSLN VH	QVQLVESGGGLVKPGGSLRLSCAASGFTFSDYYMTWIR QAPGKGLEWLSYISSSGSTIYYADSVKGRFTISRDNAKN SLFLQMNSLRAEDTAVYYCARDRNSHFDYWGQGTLVT VSS
137	Anti-MSLN VL	DIQMTQSPSSVSASVGDRVTITCRASQGINTWLAWYQQ KPGKAPKLLIYGASGLQSGVPSRFSGSGSGTDFTLTISSL QPEDFATYYCQQAKSFPRTFGQGTKVEIK
138	Anti-MSLN scFv	QVQLVESGGGLVKPGGSLRLSCAASGFTFSDYYMTWIR QAPGKGLEWLSYISSSGSTIYYADSVKGRFTISRDNAKN SLFLQMNSLRAEDTAVYYCARDRNSHFDYWGQGTLVT VSSGGGGSGGGGSGGGGSDIQMTQSPSSVSASVGDRVT ITCRASQGINTWLAWYQQKPGKAPKLLIYGASGLQSGV PSRFSGSGSGTDFTLTISSLQPEDFATYYCQQAKSFPRTF GQGTKVEIK
139	Anti-MSLN_5 x CD3 (I2C) bispecific molecule	QVQLVESGGGLVKPGGSLRLSCAASGFTFSDYYMTWIR QAPGKGLEWLSYISSSGSTIYYADSVKGRFTISRDNAKN SLFLQMNSLRAEDTAVYYCARDRNSHFDYWGQGTLVT VSSGGGGSGGGGSGGGGSDIQMTQSPSSVSASVGDRVT ITCRASQGINTWLAWYQQKPGKAPKLLIYGASGLQSGV PSRFSGSGSGTDFTLTISSLQPEDFATYYCQQAKSFPRTF GQGTKVEIKSGGGGSEVQLVESGGGLVQPGGSLKLSCA ASGFTFNKYAMNWVRQAPGKGLEWVARIRSKYNNYA TYYADSVKDRFTISRDDSKNTAYLQMNNLKTEDTAVY YCVRHGNFGNSYISYWAYWGQGTLVTVSSGGGGSGGG GSGGGGSQTVVTQEPSLTVSPGGTVTLTCGSSTGAVTS GNYPNWVQQKPGQAPRGLIGGTKFLAPGTPARFSGSLL

		GGKAALTLSGVQPEDEAEYYCVLWYSNRWVFGGGTK LTVL
140	MSLN_5xCD3-scFc Bispecific HLE molecule	QVQLVESGGGLVKPGGSLRLSCAASGFTFSDYYMTWIR QAPGKGLEWLSYISSSGSTIYYADSVKGRFTISRDNAKN SLFLQMNSLRAEDTAVYYCARDRNSHFDYWGQGTLVT VSSGGGGSGGGGSGGGGSDIQMTQSPSSVSASVGDRVT ITCRASQGINTWLAWYQQKPGKAPKLLIYGASGLQSGV PSRFSGSGSGTDFTLTISSLQPEDFATYYCQQAKSFPRTF GQGTKVEIKSGGGGSEVQLVESGGGLVQPGGSLKLSCA ASGFTFNKYAMNWVRQAPGKGLEWVARIRSKYNNYA TYYADSVKDRFTISRDDSKNTAYLQMNNLKTEDTAVY YCVRHGNFGNSYISYWAYWGQGTLVTVSSGGGGSGGG GSGGGGSQTVVTQEPSLTVSPGGTVTLTCGSSTGAVTS GNYPNWVQQKPGQAPRGLIGGTKFLAPGTPARFSGSLL GGKAALTLSGVQPEDEAEYYCVLWYSNRWVFGGGTK LTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPPKPKDTL MISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK TKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSN KALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVS LTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDG SFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQK SLSLSPGKGGGGSGGGGSGGGGSGGGGSGGGGSGGGG SDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEV TCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPCEEQ YGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPI EKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSK LTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG K
141	MSLN_5_CCxCD3-scFc Bispecific HLE molecule (with cys-clamp)	QVQLVESGGGLVKPGGSLRLSCAASGFTFSDYYMTWIR QAPGKCLEWLSYISSSGSTIYYADSVKGRFTISRDNAKN SLFLQMNSLRAEDTAVYYCARDRNSHFDYWGQGTLVT VSSGGGGSGGGGSGGGGSDIQMTQSPSSVSASVGDRVT ITCRASQGINTWLAWYQQKPGKAPKLLIYGASGLQSGV PSRFSGSGSGTDFTLTISSLQPEDFATYYCQQAKSFPRTF GCGTKVEIKSGGGGSEVQLVESGGGLVQPGGSLKLSCA ASGFTFNKYAMNWVRQAPGKGLEWVARIRSKYNNYA TYYADSVKDRFTISRDDSKNTAYLQMNNLKTEDTAVY YCVRHGNFGNSYISYWAYWGQGTLVTVSSGGGGSGGG GSGGGGSQTVVTQEPSLTVSPGGTVTLTCGSSTGAVTS GNYPNWVQQKPGQAPRGLIGGTKFLAPGTPARFSGSLL GGKAALTLSGVQPEDEAEYYCVLWYSNRWVFGGGTK LTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPPKPKDTL MISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK TKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSN KALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVS LTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDG SFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQK SLSLSPGKGGGGSGGGGSGGGGSGGGGSGGGGSGGGG SDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEV

		TCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPCEEQ YGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPI EKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSK LTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG K
CDH19		
142	Anti-CDH19 CDR-H1	SYGMH
143	Anti-CDH19 CDR-H2	FIWYEGSNKYYAESVKD
144	Anti-CDH19 CDR-H3	RAGIIGTIGYYYGMDV
145	Anti-CDH19 CDR-L1	SGDRLGEKYTS
146	Anti-CDH19 CDR-L2	QDTKRPS
147	Anti-CDH19 CDR-L3	QAWESSTVV
148	Anti-CDH19 VH	QVQLVESGGGVVQPGGSLRLSCAASGFTFSSYGMHWV RQAPGKGLEWVAFIWYEGSNKYYAESVKDRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARRAGIIGTIGYYYGM DVWGQGTTVTVSS
149	CDH19 65254.007 VH with Cys clamp	QVQLVESGGGVVQPGGSLRLSCAASGFTFSSYGMHWV RQAPGKCLEWVAFIWYEGSNKYYAESVKDRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARRAGIIGTIGYYYGM DVWGQGTTVTVSS
150	Anti-CDH19 VL	SYELTQPPSVSVSPGQTASITCSGDRLGEKYTSWYQQRP GQSPLLVIYQDTKRPSGIPERFSGSNSGNTATLTISGTQA MDEADYYCQAWESSTVVFGGGTKLTVLS
151	CDH19 65254.007 VL with Cys clamp	SYELTQPPSVSVSPGQTASITCSGDRLGEKYTSWYQQRP GQSPLLVIYQDTKRPSGIPERFSGSNSGNTATLTISGTQA MDEADYYCQAWESSTVVFGCGTKLTVL
152	Anti-CDH19 VH-VL	QVQLVESGGGVVQPGGSLRLSCAASGFTFSSYGMHWV RQAPGKGLEWVAFIWYEGSNKYYAESVKDRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARRAGIIGTIGYYYGM DVWGQGTTVTVSSGGGGSGGGGSGGGGSSYELTQPPS VSVSPGQTASITCSGDRLGEKYTSWYQQRPGQSPLLVIY QDTKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYC QAWESSTVVFGGGTKLTVLS
153	CDH19 65254.007 scFv with cys clamp	QVQLVESGGGVVQPGGSLRLSCAASGFTFSSYGMHWV RQAPGKCLEWVAFIWYEGSNKYYAESVKDRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARRAGIIGTIGYYYGM DVWGQGTTVTVSSGGGGSGGGGSGGGGSSYELTQPPS VSVSPGQTASITCSGDRLGEKYTSWYQQRPGQSPLLVIY QDTKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYC QAWESSTVVFGCGTKLTVL
154	Anti-CDH19 Bispecific molecule	QVQLVESGGGVVQPGGSLRLSCAASGFTFSSYGMHWV RQAPGKGLEWVAFIWYEGSNKYYAESVKDRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARRAGIIGTIGYYYGM DVWGQGTTVTVSSGGGGSGGGGSGGGGSSYELTQPPS VSVSPGQTASITCSGDRLGEKYTSWYQQRPGQSPLLVIY QDTKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYC QAWESSTVVFGGGTKLTVLSGGGGSEVQLVESGGGLV QPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWV

		ARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYLQMN NLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVT VSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTL TCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAP GTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSN RWVFGGGTKLTVLHHHHHH
155	CDH19 65254.007 Bispecific molecule with cys clamp	QVQLVESGGGVVQPGGSLRLSCAASGFTFSSYGMHWV RQAPGKCLEWVAFIWYEGSNKYYAESVKDRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARRAGIIGTIGYYYGM DVWGQGTTVTVSSGGGGSGGGGSGGGGSSYELTQPPS VSVSPGQTASITCSGDRLGEKYTSWYQQRPGQSPLLVIY QDTKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYC QAWESSTVVFGCGTKLTVLSGGGGSEVQLVESGGGLV QPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWV ARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYLQMN NLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVT VSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTL TCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAP GTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSN RWVFGGGTKLTVL
156	CDH19 65254.007 x I2C -scFc Bispecific HLE molecule	QVQLVESGGGVVQPGGSLRLSCAASGFTFSSYGMHWV RQAPGKGLEWVAFIWYEGSNKYYAESVKDRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARRAGIIGTIGYYYGM DVWGQGTTVTVSSGGGGSGGGGSGGGGSSYELTQPPS VSVSPGQTASITCSGDRLGEKYTSWYQQRPGQSPLLVIY QDTKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYC QAWESSTVVFGGGTKLTVLSGGGGSEVQLVESGGGLV QPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWV ARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYLQMN NLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVT VSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTL TCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAP GTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSN RWVFGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEA LHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSG GGGSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDT LMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNA KTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVS NKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQV SLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSD GSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQ KSLSLSPGK
157	CDH19 65254.007 x I2C -scFc_ Bispecific HLE molecule	QVQLVESGGGVVQPGGSLRLSCAASGFTFSSYGMHWV RQAPGKGLEWVAFIWYEGSNKYYAESVKDRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARRAGIIGTIGYYYGM

		DVWGQGTTVTVSSGGGGSGGGGSGGGGSSYELTQPPS VSVSPGQTASITCSGDRLGEKYTSWYQQRPGQSPLLVIY QDTKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYC QAWESSTVVFGGGTKLTVLSGGGGSEVQLVESGGGLV QPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWV ARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYLQMN NLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVT VSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTL TCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAP GTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSN RWVFGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEA LHNHYTQKSLSLSPGGGGSGGGGSGGGGSGGGGSGGG GSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLM ISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKT KPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSL TCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGS FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKS LSLSPGK
158	CDH19 65254.007 x I2C -scFc Bispecific HLE molecule with cys clamp	QVQLVESGGGVVQPGGSLRLSCAASGFTFSSYGMHWV RQAPGKCLEWVAFIWYEGSNKYYAESVKDRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARRAGIIGTIGYYYGM DVWGQGTTVTVSSGGGGSGGGGSGGGGSSYELTQPPS VSVSPGQTASITCSGDRLGEKYTSWYQQRPGQSPLLVIY QDTKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYC QAWESSTVVFGCGTKLTVLSGGGGSEVQLVESGGGLV QPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWV ARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYLQMN NLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVT VSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTL TCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAP GTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSN RWVFGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEA LHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSG GGGSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDT LMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNA KTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVS NKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQV SLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSD

		GSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQ KSLSLSPGK
159	CDH19 65254.007 x I2C -scFc_delGK Bispecific HLE molecule with cys clamp	QVQLVESGGGVVQPGGSLRLSCAASGFTFSSYGMHWV RQAPGKCLEWVAFIWYEGSNKYYAESVKDRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARRAGIIGTIGYYYGM DVWGQGTTVTVSSGGGGSGGGGSGGGGSSYELTQPPS VSVSPGQTASITCSGDRLGEKYTSWYQQRPGQSPLLVIY QDTKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYC QAWESSTVVFGCGTKLTVLSGGGGSEVQLVESGGGLV QPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWV ARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYLQMN NLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVT VSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTL TCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAP GTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSN RWVFGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEA LHNHYTQKSLSLSPGGGGSGGGGSGGGGSGGGGSGGG GSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLM ISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKT KPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSL TCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGS FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKS LSLSPGK
FLT3		
160	Anti-FLT3 CDR-H1	NARMGVS
161	Anti-FLT3 CDR-H2	HIFSNDEKSYSTSLKN
162	Anti-FLT3 CDR-H3	IVGYGSGWYGFFDY
163	Anti-FLT3 CDR-L1	RASQGIRNDLG
164	Anti-FLT3 CDR-L2	AASTLQS
165	Anti-FLT3 CDR-L3	LQHNSYPLT
166	Anti-FLT3 VH	QVTLKESGPTLVKPTETLTLTCTLSGFSLNNARMGVSWI RQPPGKCLEWLAHIFSNDEKSYSTSLKNRLTISKDSSKT QVVLTMTNVDPVDTATYYCARIVGYGSGWYGFFDYW GQGTLVTVSS
167	Anti-FLT3 VL	DIQMTQSPSSLSASVGDRVTITCRASQGIRNDLGWYQQ KPGKAPKRLIYAASTLQSGVPSRFSGSGSGTEFTLTISSL QPEDFATYYCLQHNSYPLTFGCGTKVEIK
168	Anti-FLT3 VH-VL	QVTLKESGPTLVKPTETLTLTCTLSGFSLNNARMGVSWI RQPPGKCLEWLAHIFSNDEKSYSTSLKNRLTISKDSSKT QVVLTMTNVDPVDTATYYCARIVGYGSGWYGFFDYW GQGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSA SVGDRVTITCRASQGIRNDLGWYQQKPGKAPKRLIYAA STLQSGVPSRFSGSGSGTEFTLTISSLQPEDFATYYCLQH NSYPLTFGCGTKVEIK

169	FLT3_7 A8xCD3 Bispecific molecule	QVTLKESGPTLVKPTETLTLTCTLSGFSLNNARMGVSWI RQPPGKCLEWLAHIFSNDEKSYSTSLKNRLTISKDSSKT QVVLTMTNVDPVDTATYYCARIVGYGSGWYGFFDYW GQGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSA SVGDRVTITCRASQGIRNDLGWYQQKPGKAPKRLIYAA STLQSGVPSRFSGSGSGTEFTLTISSLQPEDFATYYCLQH NSYPLTFGCGTKVEIKSGGGGSEVQLVESGGGLVQPGG SLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIRS KYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLKT EDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSGG GGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGSS TGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPAR FSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWVF GGGTKLTVL
170	FLT3_7 A8xCD3-scFc Bispecific HLE molecule	QVTLKESGPTLVKPTETLTLTCTLSGFSLNNARMGVSWI RQPPGKCLEWLAHIFSNDEKSYSTSLKNRLTISKDSSKT QVVLTMTNVDPVDTATYYCARIVGYGSGWYGFFDYW GQGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSA SVGDRVTITCRASQGIRNDLGWYQQKPGKAPKRLIYAA STLQSGVPSRFSGSGSGTEFTLTISSLQPEDFATYYCLQH NSYPLTFGCGTKVEIKSGGGGSEVQLVESGGGLVQPGG SLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIRS KYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLKT EDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSGG GGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGSS TGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPAR FSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWVF GGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYK CKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPV LDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHN HYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSGGGG SGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMIS RTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKP CEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTC LVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL SPGK
		ANTI-DLL3
171	Anti-DLL3 HCDR1	SYYWS
172	Anti-DLL3 HCDR2	YVYYSGTTNYNPSLKS
173	Anti-DLL3 HCDR3	IAVTGFYFDY
174	Anti-DLL3 LCDR1	RASQRVNNNYLA
175	Anti-DLL3 LCDR2	GASSRAT
176	Anti-DLL3 LCDR3	QQYDRSPLT
177	Anti-DLL3 VH with cys-clamp	QVQLQESGPGLVKPSETLSLTCTVSGGSISSYYWSWIRQ PPGKCLEWIGYVYYSGTTNYNPSLKSRVTISVDTSKNQF

		SLKLSSVTAADTAVYYCASIAVTGFYFDYWGQGTLVTV SS
178	Anti-DLL3 VL with cys-clamp	EIVLTQSPGTLSLSPGERVTLSCRASQRVNNNYLAWYQ QRPGQAPRLLIYGASSRATGIPDRFSGSGSGTDFTLTISR LEPEDFAVYYCQQYDRSPLTFGCGTKLEIK
179	Anti-DLL3 VH-VL with cys-clamp	QVQLQESGPGLVKPSETLSLTCTVSGGSISSYYWSWIRQ PPGKCLEWIGYVYYSGTTNYNPSLKSRVTISVDTSKNQF SLKLSSVTAADTAVYYCASIAVTGFYFDYWGQGTLVTV SSGGGGSGGGGSGGGGSEIVLTQSPGTLSLSPGERVTLS CRASQRVNNNYLAWYQQRPGQAPRLLIYGASSRATGIP DRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDRSPLTF GCGTKLEIK
180	DLL3_1_CCxCD3 Bispecific molecule	QVQLQESGPGLVKPSETLSLTCTVSGGSISSYYWSWIRQ PPGKCLEWIGYVYYSGTTNYNPSLKSRVTISVDTSKNQF SLKLSSVTAADTAVYYCASIAVTGFYFDYWGQGTLVTV SSGGGGSGGGGSGGGGSEIVLTQSPGTLSLSPGERVTLS CRASQRVNNNYLAWYQQRPGQAPRLLIYGASSRATGIP DRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDRSPLTF GCGTKLEIKSGGGGSEVQLVESGGGLVQPGGSLKLSCA ASGFTFNKYAMNWVRQAPGKGLEWVARIRSKYNNYA TYYADSVKDRFTISRDDSKNTAYLQMNNLKTEDTAVY YCVRHGNFGNSYISYWAYWGQGTLVTVSSGGGGSGGG GSGGGGSQTVVTQEPSLTVSPGGTVTLTCGSSTGAVTS GNYPNWVQQKPGQAPRGLIGGTKFLAPGTPARFSGSLL GGKAALTLSGVQPEDEAEYYCVLWYSNRWVFGGGTK LTVL
181	DLL3_1_CCxCD3-scFc_ Bispecific HLE molecule	QVQLQESGPGLVKPSETLSLTCTVSGGSISSYYWSWIRQ PPGKCLEWIGYVYYSGTTNYNPSLKSRVTISVDTSKNQF SLKLSSVTAADTAVYYCASIAVTGFYFDYWGQGTLVTV SSGGGGSGGGGSGGGGSEIVLTQSPGTLSLSPGERVTLS CRASQRVNNNYLAWYQQRPGQAPRLLIYGASSRATGIP DRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDRSPLTF GCGTKLEIKSGGGGSEVQLVESGGGLVQPGGSLKLSCA ASGFTFNKYAMNWVRQAPGKGLEWVARIRSKYNNYA TYYADSVKDRFTISRDDSKNTAYLQMNNLKTEDTAVY YCVRHGNFGNSYISYWAYWGQGTLVTVSSGGGGSGGG GSGGGGSQTVVTQEPSLTVSPGGTVTLTCGSSTGAVTS GNYPNWVQQKPGQAPRGLIGGTKFLAPGTPARFSGSLL GGKAALTLSGVQPEDEAEYYCVLWYSNRWVFGGGTK LTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPPKPKDTL MISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK TKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSN KALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVS LTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDG SFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQK SLSLSPGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSD KTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTC VVVDVSHEDPEVKFNWYVDGVEVHNAKTKPCEEQYG STYRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKT ISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYP

		SDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVD KSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK
		ANTI-CD19
182	Anti-CD19 CDR-H1 (97-G1RE-C2)	SYGMH
183	Anti-CD19 CDR-H2	VISYEGSNKYYAESVKG
184	Anti-CD19 CDR-H3	DRGTIFGNYGLEV
185	Anti-CD19 CDR-L1	RSSQSLLHKNAFNYLD
186	Anti-CD19 CDR-L2	LGSNRAS
187	Anti-CD19 CDR-L3	MQALQTPFT
188	Anti-CD19 VH	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWV RQAPGKCLEWVAVISYEGSNKYYAESVKGRFTISRDNS KNTLYLQMNSLRDEDTAVYYCARDRGTIFGNYGLEVW GQGTTVTVSS
189	Anti-CD19 VL	DIVMTQSPLSLPVISGEPASISCRSSQSLLHKNAFNYLDW YLQKPGQSPQLLIYLGSNRASGVPDRFSGSGSGTDFTLK ISRVEAEDVGVYYCMQALQTPFTFGCGTKVDIK
190	Anti-CD19 VL-VH	DIVMTQSPLSLPVISGEPASISCRSSQSLLHKNAFNYLDW YLQKPGQSPQLLIYLGSNRASGVPDRFSGSGSGTDFTLK ISRVEAEDVGVYYCMQALQTPFTFGCGTKVDIKGGGGS GGGGSGGGGSQVQLVESGGGVVQPGRSLRLSCAASGF TFSSYGMHWVRQAPGKCLEWVAVISYEGSNKYYAESV KGRFTISRDNSKNTLYLQMNSLRDEDTAVYYCARDRGT IFGNYGLEVWGQGTTVTVSSGGGGSEVQLVESGGGLV QPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWV ARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYLQMN NLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVT VSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTL TCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAP GTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSN RWVFGGGTKLTVL
191	CD19 97-G1RE-C2 CC x I2C-scFc	DIVMTQSPLSLPVISGEPASISCRSSQSLLHKNAFNYLDW YLQKPGQSPQLLIYLGSNRASGVPDRFSGSGSGTDFTLK ISRVEAEDVGVYYCMQALQTPFTFGCGTKVDIKGGGGS GGGGSGGGGSQVQLVESGGGVVQPGRSLRLSCAASGF TFSSYGMHWVRQAPGKCLEWVAVISYEGSNKYYAESV KGRFTISRDNSKNTLYLQMNSLRDEDTAVYYCARDRGT IFGNYGLEVWGQGTTVTVSSGGGGSEVQLVESGGGLV QPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWV ARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYLQMN NLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVT VSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTL TCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAP GTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSN RWVFGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEA

		LHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSG GGGSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDT LMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNA KTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVS NKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQV SLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSD GSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQ KSLSLSPGK
BCMA		
192	Anti-BCMA CDR-H1 (27-C4-G7)	NHIIH
193	Anti-BCMA CDR-H2	YINPYPGYHAYNEKFQG
194	Anti-BCMA CDR-H3	DGYYRDTDVLDY
195	Anti-BCMA CDR-L1	QASQDISNYLN
196	Anti-BCMA CDR-L2	YTSRLHT
197	Anti-BCMA CDR-L3	QQGNTLPWT
198	Anti-BCMA VH	QVQLVQSGAEVKKPGASVKVSCKASGYTFTNHIIHWVR QAPGQCLEWMGYINPYPGYHAYNEKFQGRATMTSDTS TSTVYMELSSLRSEDTAVYYCARDGYYRDTDVLDYWG QGTLVTVSS
199	Anti-BCMA VL	DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQ KPGKAPKLLIYYTSRLHTGVPSRFSGSGSGTDFTFTISSL EPEDIATYYCQQGNTLPWTFGCGTKLEIK
200	Anti-BCMA VH-VL	QVQLVQSGAEVKKPGASVKVSCKASGYTFTNHIIHWVR QAPGQCLEWMGYINPYPGYHAYNEKFQGRATMTSDTS TSTVYMELSSLRSEDTAVYYCARDGYYRDTDVLDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYYTS RLHTGVPSRFSGSGSGTDFTFTISSLEPEDIATYYCQQGN TLPWTFGCGTKLEIK
201	Anti-BCMA Ic320 bispecific molecule HLE With cys-clamp	QVQLVQSGAEVKKPGASVKVSCKASGYTFTNHIIHWVR QAPGQCLEWMGYINPYPGYHAYNEKFQGRATMTSDTS TSTVYMELSSLRSEDTAVYYCARDGYYRDTDVLDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYYTS RLHTGVPSRFSGSGSGTDFTFTISSLEPEDIATYYCQQGN TLPWTFGCGTKLEIKSGGGGSEVQLVESGGGLVQPGGS LKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIRSK YNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLKTE DTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSGG GGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGSS TGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPAR FSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWVF GGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYK CKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPV LDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHN HYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSGGGG

		SGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMIS RTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKP CEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTC LVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL SPGK
202	Anti-BCMA IC20 bispecific molecule With cys-clamp	QVQLVQSGAEVKKPGASVKVSCKASGYTFTNHIIHWVR QAPGQCLEWMGYINPYPGYHAYNEKFQGRATMTSDTS TSTVYMELSSLRSEDTAVYYCARDGYYRDTDVLDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYYTS RLHTGVPSRFSGSGSGTDFTFTISSLEPEDIATYYCQQGN TLPWTFGCGTKLEIKSGGGGSEVQLVESGGGLVQPGGS LKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIRSK YNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLKTE DTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSGG GGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGSS TGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPAR FSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWVF GGGTKLTVLHHHHHH
	PSMA	
203	Anti-PSMA CDR-H1 PM76-B10.17	DYYMY
204	Anti-PSMA CDR-H2	IISDAGYYTYYSDIIKG
205	Anti-PSMA CDR-H3	GFPLLRHGAMDY
206	Anti-PSMA CDR-L1	KASQNVDANVA
207	Anti-PSMA CDR-L2	SASYVYW
208	Anti-PSMA CDR-L3	QQYDQQLIT
209	Anti-PSMA VH with cys-clamp PM76-B10.17	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDAGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSS
210	Anti-PSMA VL with cys-clamp PM76-B10.17	DIQMTQSPSSLSASVGDRVTITCKASQNVDANVAWYQQ KPGQAPKSLIYSASYVYWDVPSRFSGSASGTDFTLTISS VQSEDFATYYCQQYDQQLITFGCGTKLEIK
211	Anti-PSMA VH-VL with cys-clamp PM76-B10.17	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDAGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDANVAWYQQKPGQAPKSLIYSA SYVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIK
212	Anti-PSMA x CD3 bispecific molecule with cys-clamp PM76-B10.17	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDAGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDANVAWYQQKPGQAPKSLIYSA SYVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG

		GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVL
213	Anti-PSMA x CD3 - scFc bispecific molecule HLE PM76-B10.17	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDAGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDANVAWYQQKPGQAPKSLIYSA SYVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSGGG GSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLM ISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKT KPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSL TCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGS FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKS LSLSPGK
214	Anti-PSMA x CD3 - scFc –bispecific molecule HLE PM76-B10.17	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDAGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDANVAWYQQKPGQAPKSLIYSA SYVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY

		KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGGGGSGGGGSGGGGSGGGGSGGGGS GGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMIS RTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKP CEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTC LVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL SPGK
215	PM 76-B10.17 (cys clamp) x CD3 (Cys clamp 103/43) bispecific molecule	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDAGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDANVAWYQQKPGQAPKSLIYSA SYVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYCGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQCPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVL
216	PM 76-B10.17 (cys clamp) x CD3 (cys clamp 103/43)-scFc bispecific HLE molecule	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDAGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDANVAWYQQKPGQAPKSLIYSA SYVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYCGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQCPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSGGG GSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLM ISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKT KPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSL TCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGS

		FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKS LSLSPGK
217	PM 76-B10.17 (cys clamp) x CD3 (cys clamp 103/43)-scFc bispecific HLE molecule	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDAGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDANVAWYQQKPGQAPKSLIYSA SYVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYCGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQCPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGGGGSGGGGSGGGGSGGGGSGGGGS GGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMIS RTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKP CEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTC LVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL SPGK
PSMA		
218	Anti-PSMA CDR-H1 (PM76-B10.11)	DYYMY
219	Anti-PSMA CDR-H2	IISDGGYYTYYSDIIKG
220	Anti-PSMA CDR-H3	GFPLLRHGAMDY
221	Anti-PSMA CDR-L1	KASQNVDTNVA
222	Anti-PSMA CDR-L2	SASYVYW
223	Anti-PSMA CDR-L3	QQYDQQLIT
224	Anti-PSMA VH without cys-clamp PM76-B10.11	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKGLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSS
225	Anti-PSMA VH with cys-clamp PM76-B10.11	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSS
226	Anti-PSMA VL without cys-clamp PM76-B10.11	DIQMTQSPSSLSASVGDRVTITCKASQNVDTNVAWYQQ KPGQAPKSLIYSASYVYWDVPSRFSGSASGTDFTLTISS VQSEDFATYYCQQYDQQLITFGGGTKLEIK

227	Anti-PSMA VL with cys-clamp PM76-B10.11	DIQMTQSPSSLSASVGDRVTITCKASQNVDTNVAWYQQ KPGQAPKSLIYSASYVYWDVPSRFSGSASGTDFTLTISS VQSEDFATYYCQQYDQQLITFGCGTKLEIK
228	Anti-PSMA VH-VL without cys-clamp PM76-B10.11	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKGLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGGGTKLEIK
229	Anti-PSMA VH-VL with cys-clamp PM76-B10.11	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIK
230	Anti-PSMA x CD3 without cys-clamp Bispecific molecule PM76-B10.11	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKGLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGGGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVL
231	Anti-PSMA x CD3 with cys-clamp Bispecific molecule PM76-B10.11	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVL
232	Anti-PSMA x CD3 - scFc without cys-clamp Bispecific molecule HLE	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKGLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS

	PM76-B10.11	YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGGGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSGGG GSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLM ISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKT KPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSL TCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGS FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKS LSLSPGK
233	PM 76-B10.11 x CD3 - scFc_ bispecific HLE molecule (without cys clamp)	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKGLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGGGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGGGGSGGGGSGGGGSGGGGSGGGGS GGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMIS RTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKP CEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTC LVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL SPGK

234	PM 76-B10.11 x CD3 (cys clamp 103/43) bispecific molecule	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKGLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGGGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYCGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQCPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVL
235	PM 76-B10.11 x CD3 (cys clamp 103/43)-scFc bispecific HLE molecule	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKGLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGGGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYCGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQCPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSGGG GSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLM ISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKT KPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSL TCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGS FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKS LSLSPGK
236	PM 76-B10.11 x CD3 (cys clamp 103/43)-scFc_ bispecific HLE molecule	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKGLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGGGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK

		TEDTAVYYCVRHGNFGNSYISYWAYCGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQCPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGGGGSGGGGSGGGGSGGGGSGGGGS GGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMIS RTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKP CEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTC LVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL SPGK
237	Anti-PSMA x CD3 with cys-clamp, scFc Bispecific molecule HLE PM76-B10.11	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSGGG GSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLM ISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKT KPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSL TCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGS FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKS LSLSPGK
238	PM 76-B10.11 CD3 with cys-clamp, scFc_ bispecific HLE molecule	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS

		YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGGGGSGGGGSGGGGSGGGGSGGGGS GGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMIS RTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKP CEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTC LVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL SPGK
239	PM 76-B10.11 x CD3 scFc bispecific HLE molecule (with cys-clamp; second cys clamp at CD3 103/43)	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYCGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQCPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGGSGGG GSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLM ISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKT KPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSL TCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGS FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKS LSLSPGK

240	PM 76-B10.11 x CD3 - scFc_ bispecific HLE molecule (with cys-clamp; second cys clamp at CD3 103/43-)	QVQLVESGGGLVKPGESLRLSCAASGFTFSDYYMYWV RQAPGKCLEWVAIISDGGYYTYYSDIIKGRFTISRDNAK NSLYLQMNSLKAEDTAVYYCARGFPLLRHGAMDYWG QGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSAS VGDRVTITCKASQNVDTNVAWYQQKPGQAPKSLIYSAS YVYWDVPSRFSGSASGTDFTLTISSVQSEDFATYYCQQ YDQQLITFGCGTKLEIKSGGGGSEVQLVESGGGLVQPG GSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIR SKYNNYATYYADSVKDRFTISRDDSKNTAYLQMNNLK TEDTAVYYCVRHGNFGNSYISYWAYCGQGTLVTVSSG GGGSGGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGS STGAVTSGNYPNWVQQKPGQCPRGLIGGTKFLAPGTPA RFSGSLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWV FGGGTKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEM TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NHYTQKSLSLSPGGGGSGGGGSGGGGSGGGGSGGGGS GGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMIS RTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKP CEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTC LVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL SPGK
CD70		
241	Anti-CD70 CDR-H1	TYAMS
242	Anti-CD70 CDR-H2	AISGSGGRTFYAESVEG
243	Anti-CD70 CDR-H3	HDYSNYPYFDY
244	Anti-CD70 CDR-L1	RASQSVRSTYLA
245	Anti-CD70 CDR-L2	GASSRAT
246	Anti-CD70 CDR-L3	QQYGDLPFT
247	Anti-CD70 VH	EVQLLESGGGMVQPGGSLRLSCAASGFTFSTYAMSWV RQAPGKCLEWVSAISGSGGRTFYAESVEGRFTISRDNSK NTLYLQMNSLRAEDTAVYYCAKHDYSNYPYFDYWGQ GTLVTVSS
248	Anti-CD70 VL	EIVLTQSPGTLSLSPGERATLSCRASQSVRSTYLAWYQQ K PGQAPRLLIYGASSRATGIPDRFSGSGSGTDFTLTISRLE PEDFAVYSCQQYGDLPFTFGCGTKLEIK
249	Anti-CD70 scFv (cys clamp)	EVQLLESGGGMVQPGGSLRLSCAASGFTFSTYAMSWV RQAPGKCLEWVSAISGSGGRTFYAESVEGRFTISRDNSK NTLYLQMNSLRAEDTAVYYCAKHDYSNYPYFDYWGQ GTLVTVSSGGGGSGGGGSGGGGSEIVLTQSPGTLSLSPG ERATLSCRASQSVRSTYLAWYQQKPGQAPRLLIYGASS RATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYSCQQYGD LPFTFGCGTKLEIK

250	Anti-CD70 VH-VL scFc	EVQLLESGGGMVQPGGSLRLSCAASGFTFSTYAMSWV RQAPGKCLEWVSAISGSGGRTFYAESVEGRFTISRDNSK NTLYLQMNSLRAEDTAVYYCAKHDYSNYPYFDYWGQ GTLVTVSSGGGGSGGGGSGGGGSEIVLTQSPGTLSLSPG ERATLSCRASQSVRSTYLAWYQQKPGQAPRLLIYGASS RATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYSCQQYGD LPFTFGCGTKLEIKSGGGGSEVQLVESGGGLVQPGGSLK LSCAASGFTFNKYAMNWVRQAPGKGLEWVARIRSKYN NYATYYADSVKDRFTISRDDSKNTAYLQMNNLKTEDT AVYYCVRHGNFGNSYISYWAYWGQGTLVTVSSGGGGS GGGGSGGGGSQTVVTQEPSLTVSPGGTVTLTCGSSTGA VTSGNYPNWVQQKPGQAPRGLIGGTKFLAPGTPARFSG SLLGGKAALTLSGVQPEDEAEYYCVLWYSNRWVFGGG TKLTVLGGGGDKTHTCPPCPAPELLGGPSVFLFPPKPKD TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHN AKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQ VSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDS DGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYT QKSLSLSPGKGGGGSGGGGSGGGGSGGGGSGGGGSGG GGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTP EVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPCEE QYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKALPAP IEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSK LTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG K
CLDN18.2		
251	VH CDR-H1 CL-1 and CL-2	GYYMH
252	VH CDR-H2	WINPNSGGTKYAQKFQG
253	VH CDR-H3	DRITVAGTYYYYGMDV
254	VL CDR-L1	RASQGVNNWLA
255	VL CDR-L2	TASSLQS
256	VL CDR-L3	QQANSFPIT
257	VH CL-1	QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYYMHW VRQAPGQCLEWMGWINPNSGGTKYAQKFQGRVTMTR DTSISTAYMELSRLRSDDTAVYYCARDRITVAGTYYYY GMDVWGQGTTVTVSS
258	VL CL-1	DIQMTQSPSSVSASVGDRVTITCRASQGVNNWLAWYQ QKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTIRS LQPEDFATYYCQQANSFPITFGCGTRLEIK
259	scFv CL-1	QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYYMHW VRQAPGQCLEWMGWINPNSGGTKYAQKFQGRVTMTR DTSISTAYMELSRLRSDDTAVYYCARDRITVAGTYYYY GMDVWGQGTTVTVSSGGGGSGGGGSGGGGSDIQMTQ SPSSVSASVGDRVTITCRASQGVNNWLAWYQQKPGKA PKLLIYTASSLQSGVPSRFSGSGSGTDFTLTIRSLQPEDFA TYYCQQANSFPITFGCGTRLEIK

260	bispecific molecule CL-1 xI2C	QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYYMHW VRQAPGQCLEWMGWINPNSGGTKYAQKFQGRVTMTR DTSISTAYMELSRLRSDDTAVYYCARDRITVAGTYYYY GMDVWGQGTTVTVSSGGGGSGGGGSGGGGSDIQMTQ SPSSVSASVGDRVTITCRASQGVNNWLAWYQQKPGKA PKLLIYTASSLQSGVPSRFSGSGSGTDFTLTIRSLQPEDFA TYYCQQANSFPITFGCGTRLEIKSGGGGSEVQLVESGGG LVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLE WVARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYL QMNNLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGT LVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGT VTLTCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKF LAPGTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLW YSNRWVFGGGTKLTVL
261	Bispecific scFc molecule CL-1 xI2C-scFc	QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYYMHW VRQAPGQCLEWMGWINPNSGGTKYAQKFQGRVTMTR DTSISTAYMELSRLRSDDTAVYYCARDRITVAGTYYYY GMDVWGQGTTVTVSSGGGGSGGGGSGGGGSDIQMTQ SPSSVSASVGDRVTITCRASQGVNNWLAWYQQKPGKA PKLLIYTASSLQSGVPSRFSGSGSGTDFTLTIRSLQPEDFA TYYCQQANSFPITFGCGTRLEIKSGGGGSEVQLVESGGG LVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLE WVARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYL QMNNLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGT LVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGT VTLTCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKF LAPGTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLW YSNRWVFGGGTKLTVLGGGGDKTHTCPPCPAPELLGGP SVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWL NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMH EALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGG SGGGGSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPK DTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKN QVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLD SDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHY TQKSLSLSPGK
262	VH CL-2	QVQMVQSGAEVKKHGASVKVSCKASGYTFTGYYMHW VRQAPGQCLEWMGWINPNSGGTKYAQKFQGRVTMTR DTSISTAYMELSRLRSDDTAVYYCARDRITVAGTYYYY GMDVWGQGTTVTVSS
263	VL CL-2	DIQMTQSPSSVSASVGDRVTITCRASQGVNNWLAWYQ QKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTIRS LQPEDFATYYCQQANSFPITFGCGTRLEIK
264	scFv	QVQMVQSGAEVKKHGASVKVSCKASGYTFTGYYMHW VRQAPGQCLEWMGWINPNSGGTKYAQKFQGRVTMTR

	CL-2	DTSISTAYMELSRLRSDDTAVYYCARDRITVAGTYYYY GMDVWGQGTTVTVSSGGGGSGGGGSGGGGSDIQMTQ SPSSVSASVGDRVTITCRASQGVNNWLAWYQQKPGKA PKLLIYTASSLQSGVPSRFSGSGSGTDFTLTIRSLQPEDFA TYYCQQANSFPITFGCGTRLEIK
265	bispecific molecule CL-2xI2C	QVQMVQSGAEVKKHGASVKVSCKASGYTFTGYYMHW VRQAPGQCLEWMGWINPNSGGTKYAQKFQGRVTMTR DTSISTAYMELSRLRSDDTAVYYCARDRITVAGTYYYY GMDVWGQGTTVTVSSGGGGSGGGGSGGGGSDIQMTQ SPSSVSASVGDRVTITCRASQGVNNWLAWYQQKPGKA PKLLIYTASSLQSGVPSRFSGSGSGTDFTLTIRSLQPEDFA TYYCQQANSFPITFGCGTRLEIKSGGGGSEVQLVESGGG LVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLE WVARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYL QMNNLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGT LVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGT VTLTCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKF LAPGTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLW YSNRWVFGGGTKLTVL
266	Bispecific scFc molecule CL-2xI2C-scFc	QVQMVQSGAEVKKHGASVKVSCKASGYTFTGYYMHW VRQAPGQCLEWMGWINPNSGGTKYAQKFQGRVTMTR DTSISTAYMELSRLRSDDTAVYYCARDRITVAGTYYYY GMDVWGQGTTVTVSSGGGGSGGGGSGGGGSDIQMTQ SPSSVSASVGDRVTITCRASQGVNNWLAWYQQKPGKA PKLLIYTASSLQSGVPSRFSGSGSGTDFTLTIRSLQPEDFA TYYCQQANSFPITFGCGTRLEIKSGGGGSEVQLVESGGG LVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLE WVARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYL QMNNLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGT LVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGT VTLTCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKF LAPGTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLW YSNRWVFGGGTKLTVLGGGGDKTHTCPPCPAPELLGGP SVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWL NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMH EALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGG SGGGGSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPK DTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKN QVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLD SDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHY TQKSLSLSPGK
MUC17		
267	VH CDR1 MU-2-C2	NHGMH
268	VH CDR2 MU-2-C2	GIWSEGSNKYYADAVKG
269	VH CDR3 MU-2-C2	ATYTTGWSYFDY

270	VL CDR1 MU-2-C2	SGDKLGDKYAS
271	VL CDR2 MU-2-C2	QDAKRPS
272	VL CDR3 MU-2-C2	QAFHQSTWV
273	VH MU-2-C2	QVQLVESGGGVVQPGRSLRLSCAASGFTFSNHGMHWV RQAPGKCLEWVAGIWSEGSNKYYADAVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARATYTTGWSYFDY WGQGTLVTVSS
274	VL MU-2-C2	SYELTQPPSVSVSPGQTASITCSGDKLGDKYASWYQQK SGQSPVLVIYQDAKRPSGIPERFSGSNSGNTATLTISGTQ AMDEADYYCQAFHQSTWVFGCGTQLTVL
275	bispecific molecule MU-2-C2 x CD3 – scFc (MUC17 scFv underlined)	QVQLVESGGGVVQPGRSLRLSCAASGFTFSNHGMHWV RQAPGKCLEWVAGIWSEGSNKYYADAVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARATYTTGWSYFDY WGQGTLVTVSSGGGGSGGGGSGGGGSSYELTQPPSVSV SPGQTASITCSGDKLGDKYASWYQQKSGQSPVLVIYQD AKRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYCQA FHQSTWVFGCGTQLTVL SGGGGSEVQLVESGGGLVQPGGSLKLSCAASGFTFNKY AMNWVRQAPGKGLEWVARIRSKYNNYATYYADSVKD RFTISRDDSKNTAYLQMNNLKTEDTAVYYCVRHGNFG NSYISYWAYWGQGTLVTVSSGGGGSGGGGSGGGGSQT VVTQEPSLTVSPGGTVTLTCGSSTGAVTSGNYPNWVQQ KPGQAPRGLIGGTKFLAPGTPARFSGSLLGGKAALTLSG VQPEDEAEYYCVLWYSNRWVFGGGTKLTVL GGGGDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPC EEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKALP APIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL SPGKGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSDKT HTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVV VDVSHEDPEVKFNWYVDGVEVHNAKTKPCEEQYGSTY RCVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISK AKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDI AVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKS RWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK
276	VH CDR1 MU-32-G6	NHAMH
277	VH CDR2 MU-32-G6	GIWSEGSNKYYAESVKG
278	VH CDR3 MU-32-G6	ATYTTGWSYFDY
279	VL CDR1 MU-32-G6	SGDKLGDKYAS
280	VL CDR2 MU-32-G6	QDRKRPS
281	VL CDR3 MU-32-G6	QAYDASTWV

282	VH MU-32-G6	QVQLVESGGGVVQPGRSLRLSCAASGFTFSNHAMHWV RQAPGKCLEWVAGIWSEGSNKYYAESVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARATYTTGWSYFDYW GQGTLVTVSS
283	VL MU-32-G6	SYELTQPPSVSVSPGQTASITCSGDKLGDKYASWYQQK SGQSPVLVIYQDRKRPSGIPERFSGSNSGNTATLTISGTQ AMDEADYYCQAYDASTWVFGCGTQLTVL
284	bispecific molecule MU-32-G6 x CD3 – scFc (MUC17 scFv underlined)	QVQLVESGGGVVQPGRSLRLSCAASGFTFSNHAMHWV RQAPGKCLEWVAGIWSEGSNKYYAESVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCARATYTTGWSYFDYW GQGTLVTVSSGGGGSGGGGSGGGGSSYELTQPPSVSVS PGQTASITCSGDKLGDKYASWYQQKSGQSPVLVIYQDR KRPSGIPERFSGSNSGNTATLTISGTQAMDEADYYCQAY DASTWVFGCGTQLTVL SGGGGSEVQLVESGGGLVQPGGSLKLSCAASGFTFNKY AMNWVRQAPGKGLEWVARIRSKYNNYATYYADSVKD RFTISRDDSKNTAYLQMNNLKTEDTAVYYCVRHGNFG NSYISYWAYWGQGTLVTVSSGGGGSGGGGSGGGGSQT VVTQEPSLTVSPGGTVTLTCGSSTGAVTSGNYPNWVQQ KPGQAPRGLIGGTKFLAPGTPARFSGSLLGGKAALTLSG VQPEDEAEYYCVLWYSNRWVFGGGTKLTVLGGGGDK THTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPCEEQYGST YRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTIS KAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPS DIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVD KSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKGGG GSGGGGSGGGGSGGGGSGGGGSGGGGSDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHE DPEVKFNWYVDGVEVHNAKTKPCEEQYGSTYRCVSVL TVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPR EPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES NGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGN VFSCSVMHEALHNHYTQKSLSLSPGK
285	VH CDR1 MU 8-B7	GYYWS
286	VH CDR2 MU 8-B7	DIDASGSTKYNPSLKS
287	VH CDR3 MU 8-B7	KKYSTVWSYFDN
288	VL CDR1 MU 8-B7	SGDKLGDKYAS
289	VL CDR2 MU 8-B7	QDRKRPS
290	VL CDR3 MU 8-B7	QAWGSSTAV
291	VH MU 8-B7	QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWI RQPPGKCLEWIGDIDASGSTKYNPSLKSRVTISLDTSKN QFSLKLNSVTAADTAVYFCARKKYSTVWSYFDNWGQG TLVTVSS

292	VL MU 8-B7	SYELTQPSSVSVPPGQTASITCSGDKLGDKYASWYQQK PGQSPVLVIYQDRKRPSGVPERFSGSNSGNTATLTISGTQ AMDEADYYCQAWGSSTAVFGCGTKLTVL
293	bispecific molecule MU 8-B7 x CD3 – scFc (MUC17 scFv underlined)	QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWI RQPPGKCLEWIGDIDASGSTKYNPSLKSRVTISLDTSKN QFSLKLNSVTAADTAVYFCARKKYSTVWSYFDNWGQG TLVTVSSGGGGSGGGGSGGGGSSYELTQPSSVSVPPGQ TASITCSGDKLGDKYASWYQQKPGQSPVLVIYQDRKRP SGVPERFSGSNSGNTATLTISGTQAMDEADYYCQAWGS STAVFGCGTKLTVL SGGGGSEVQLVESGGGLVQPGGSLKLSCAASGFTFNKY AMNWVRQAPGKGLEWVARIRSKYNNYATYYADSVKD RFTISRDDSKNTAYLQMNNLKTEDTAVYYCVRHGNFG NSYISYWAYWGQGTLVTVSSGGGGSGGGGSGGGGSQT VVTQEPSLTVSPGGTVTLTCGSSTGAVTSGNYPNWVQQ KPGQAPRGLIGGTKFLAPGTPARFSGSLLGGKAALTLSG VQPEDEAEYYCVLWYSNRWVFGGGTKLTVLGGGGDK THTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPCEEQYGST YRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTIS KAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPS DIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVD KSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKGGG GSGGGGSGGGGSGGGGSGGGGSGGGGSDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHE DPEVKFNWYVDGVEVHNAKTKPCEEQYGSTYRCVSVL TVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPR EPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES NGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGN VFSCSVMHEALHNHYTQKSLSLSPGK
294	VH CDR1 MU 1-B6	GYYWS
295	VH CDR2 MU 1-B6	DIDYSGSTKYNPSLKS
296	VH CDR3 MU 1-B6	KKYSTVWSYFDY
297	VL CDR1 MU 1-B6	SGDKLGDKYAN
298	VL CDR2 MU 1-B6	HDNKRPS
299	VL CDR3 MU 1-B6	QAYGISSAV
300	VH MU 1-B6	QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWI RQPPGKCLEWIGDIDYSGSTKYNPSLKSRVTISLDTSKN QFSLKLNSVTAADTAVYFCARKKYSTVWSYFDYWGQG TLVTVSS
301	VL MU 1-B6	SYELTQPASASVSPGQTASITCSGDKLGDKYANWYQQK PGQSPILVIYHDNKRPSGIPERFSGSNSGNTATLTISGTQA MDEADYYCQAYGISSAVFGCGTKLTVL

302	bispecific molecule MU 1-B6 x CD3 – scFc (MUC17 scFv underlined)	QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWI RQPPGKCLEWIGDIDYSGSTKYNPSLKSRVTISLDTSKN QFSLKLNSVTAADTAVYFCARKKYSTVWSYFDYWGQG TLVTVSSGGGGSGGGGSGGGGSSYELTQPASASVSPGQ TASITCSGDKLGDKYANWYQQKPGQSPILVIYHDNKRP SGIPERFSGSNSGNTATLTISGTQAMDEADYYCQAYGIS SAVFGCGTKLTVL SGGGGSEVQLVESGGGLVQPGGSLKLSCAASGFTFNKY AMNWVRQAPGKGLEWVARIRSKYNNYATYYADSVKD RFTISRDDSKNTAYLQMNNLKTEDTAVYYCVRHGNFG NSYISYWAYWGQGTLVTVSSGGGGSGGGGSGGGGSQT VVTQEPSLTVSPGGTVTLTCGSSTGAVTSGNYPNWVQQ KPGQAPRGLIGGTKFLAPGTPARFSGSLLGGKAALTLSG VQPEDEAEYYCVLWYSNRWVFGGGTKLTVLGGGGDK THTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPCEEQYGST YRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTIS KAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPS DIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVD KSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKGGG GSGGGGSGGGGSGGGGSGGGGSGGGGSDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHE DPEVKFNWYVDGVEVHNAKTKPCEEQYGSTYRCVSVL TVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPR EPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES NGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGN VFSCSVMHEALHNHYTQKSLSLSPGK
CDH3		
303	VH CDR1 CDH3 G8A 6-B12	SYPIN
304	VH CDR2 CDH3 G8A 6-B12	VIWTGGGTNYASSVKG
305	VH CDR3 CDH3 G8A 6-B12	SRGVYDFDGRGAMDY
306	VL CDR1 CDH3 G8A 6-B12	KSSQSLLYSSNQKNYFA
307	VL CDR2 CDH3 G8A 6-B12	WASTRES
308	VL CDR3 CDH3 G8A 6-B12	QQYYSYPYT
309	VH CDH3 G8A 6-B12	EVQLLESGGGLVQPGGSLRLSCAASGFSFSSYPINWVRQ APGKGLEWVGVIWTGGGTNYASSVKGRFTISRDNSKNT VYLQMNSLRAEDTAVYYCAKSRGVYDFDGRGAMDY WGQGTLVTVSS
310	VL CDH3 G8A 6-B12	DIVMTQSPDSLAVSLGERATINCKSSQSLLYSSNQKNYF AWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDF TLTISSLQAEDVAVYYCQQYYSYPYTFGQGTKLEIK
311	CDH3 G8A 6-B12 scFv	EVQLLESGGGLVQPGGSLRLSCAASGFSFSSYPINWVRQ APGKGLEWVGVIWTGGGTNYASSVKGRFTISRDNSKNT VYLQMNSLRAEDTAVYYCAKSRGVYDFDGRGAMDY

		WGQGTLVTVSSGGGGSGGGGSGGGGSDIVMTQSPDSL AVSLGERATINCKSSQSLLYSSNQKNYFAWYQQKPGQP PKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV AVYYCQQYYSYPYTFGQGTKLEIK
312	CDH3 G8A 6-B12 x CD3 bispecific molecule	EVQLLESGGGLVQPGGSLRLSCAASGFSFSSYPINWVRQ APGKGLEWVGVIWTGGGTNYASSVKGRFTISRDNSKNT VYLQMNSLRAEDTAVYYCAKSRGVYDFDGRGAMDY WGQGTLVTVSSGGGGSGGGGSGGGGSDIVMTQSPDSL AVSLGERATINCKSSQSLLYSSNQKNYFAWYQQKPGQP PKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV AVYYCQQYYSYPYTFGQGTKLEIKSGGGGSEVQLVESG GGLVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGL EWVARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYL QMNNLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGT LVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGT VTLTCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKF LAPGTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLW YSNRWVFGGGTKLTVL
313	CDH3 G8A 6-B12 x I2C0 bispecific molecule HLE	EVQLLESGGGLVQPGGSLRLSCAASGFSFSSYPINWVRQ APGKGLEWVGVIWTGGGTNYASSVKGRFTISRDNSKNT VYLQMNSLRAEDTAVYYCAKSRGVYDFDGRGAMDY WGQGTLVTVSSGGGGSGGGGSGGGGSDIVMTQSPDSL AVSLGERATINCKSSQSLLYSSNQKNYFAWYQQKPGQP PKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV AVYYCQQYYSYPYTFGQGTKLEIKSGGGGSEVQLVESG GGLVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGL EWVARIRSKYNNYATYYADSVKDRFTISRDDSKNTAYL QMNNLKTEDTAVYYCVRHGNFGNSYISYWAYWGQGT LVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGT VTLTCGSSTGAVTSGNYPNWVQQKPGQAPRGLIGGTKF LAPGTPARFSGSLLGGKAALTLSGVQPEDEAEYYCVLW YSNRWVFGGGTKLTVLGGGGDKTHTCPPCPAPELLGGP SVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWL NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMH EALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSGGGG SGGGGSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPK DTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKN QVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLD SDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHY TQKSLSLSPGK
CD19		
314	CD19 VL CDR1	KASQSVDYDGDSYLN
315	CD19 VL CDR2	DASNLVS
316	CD19 VL CDR3	QQSTEDPWT
317	CD19 VH CDR1	SYWMN

318	CD19 VH CDR2	QIWPGDGDTNYNGKFKG
319	CD19 VH CDR3	RETTTVGRYYYAMDY
320	CD19 VL	DIQLTQSPASLAVSLGQRATISCKASQSVDYDGDSYLN WYQQIPGQPPKLLIYDASNLVSGIPPRFSGSGSGTDFTLN IHPVEKVDAATYHCQQSTEDPWTFGGGTKLEIK
321	CD19 VH	QVQLQQSGAELVRPGSSVKISCKASGYAFSSYWMNWV KQRPGQGLEWIGQIWPGDGDTNYNGKFKGKATLTADE SSSTAYMQLSSLASEDSAVYFCARRETTTVGRYYYAMD YWGQGTTVTVSS
322	CD19 scFv	DIQLTQSPASLAVSLGQRATISCKASQSVDYDGDSYLN WYQQIPGQPPKLLIYDASNLVSGIPPRFSGSGSGTDFTLN IHPVEKVDAATYHCQQSTEDPWTFGGGTKLEIKGGGGS GGGGSGGGGSQVQLQQSGAELVRPGSSVKISCKASGYA FSSYWMNWVKQRPGQGLEWIGQIWPGDGDTNYNGKF KGKATLTADESSSTAYMQLSSLASEDSAVYFCARRETT TVGRYYYAMDYWGQGTTVTVSS
323	CD3 VH CDR1	RYTMH
324	CD3 VH CDR2	YINPSRGYTNYNQKFKD
325	CD3 VH CDR3	YYDDHYCLDY
326	CD3 VL CDR1	RASSSVSYMN
327	CD3 VL CDR2	DTSKVAS
328	CD3 VL CDR3	QQWSSNPLT
329	CD3 VH	DIKLQQSGAELARPGASVKMSCKTSGYTFTRYTMHWV KQRPGQGLEWIGYINPSRGYTNYNQKFKDKATLTTDKS SSTAYMQLSSLTSEDSAVYYCARYYDDHYCLDYWGQG TTLTVSS
330	CD3 VL	VDDIQLTQSPAIMSASPGEKVTMTCRASSSVSYMNWYQ QKSGTSPKRWIYDTSKVASGVPYRFSGSGSGTSYSLTISS MEAEDAATYYCQQWSSNPLTFGAGTKLELK
331	CD3 scFv	DIKLQQSGAELARPGASVKMSCKTSGYTFTRYTMHWV KQRPGQGLEWIGYINPSRGYTNYNQKFKDKATLTTDKS SSTAYMQLSSLTSEDSAVYYCARYYDDHYCLDYWGQG TTLTVSSVEGGSGGSGGSGGSGGVDDIQLTQSPAIMSAS PGEKVTMTCRASSSVSYMNWYQQKSGTSPKRWIYDTS KVASGVPYRFSGSGSGTSYSLTISSMEAEDAATYYCQQ WSSNPLTFGAGTKLELK
332	CD19xCD3 scFv incl linker and his-tag	DIQLTQSPASLAVSLGQRATISCKASQSVDYDGDSYLN WYQQIPGQPPKLLIYDASNLVSGIPPRFSGSGSGTDFTLN IHPVEKVDAATYHCQQSTEDPWTFGGGTKLEIKGGGGS GGGGSGGGGSQVQLQQSGAELVRPGSSVKISCKASGYA FSSYWMNWVKQRPGQGLEWIGQIWPGDGDTNYNGKF KGKATLTADESSSTAYMQLSSLASEDSAVYFCARRETT TVGRYYYAMDYWGQGTTVTVSSGGGGSDIKLQQSGAE LARPGASVKMSCKTSGYTFTRYTMHWVKQRPGQGLE WIGYINPSRGYTNYNQKFKDKATLTTDKSSSTAYMQLS SLTSEDSAVYYCARYYDDHYCLDYWGQGTTLTVSSVE GGSGGSGGSGGSGGVDDIQLTQSPAIMSASPGEKVTMT CRASSSVSYMNWYQQKSGTSPKRWIYDTSKVASGVPY

		RFSGSGSGTSYSLTISSMEAEDAATYYCQQWSSNPLTFG AGTKLELKHHHHHH
333	Peptide linker	GGGG
334	Peptide linker	GGGGS
335	Peptide linker	GGGGQ
336	Peptide linker	PGGGGS
337	Peptide linker	PGGDGS
338	Peptide linker	SGGGGS
339	Peptide linker	GGGGSGGGS
340	Peptide linker	GGGGSGGGGS
341	Peptide linker	GGGGSGGGGSGGGGS
342	Peptide linker	(GGGGS)x, x= 1, 2, 3, or 4
343	Histidine tag	HHHHHH
344	scFc 1	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LMISRTPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PCEEQYGSTY RCVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSREEMTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTPPVLDS DGSFFLYSKL TVDKSRWQQG NVFSCSVMHE ALHNHYTQKS LSLSPGKGGG GSGGGGSGGG GSGGGGSGGG GSGGGGSDKT HTCPPCPAPE LLGGPSVFLF PPKPKDTLMI SRTPEVTCVV VDVSHEDPEV KFNWYVDGVE VHNAKTKPCE EQYGSTYRCV SVLTVLHQDW LNGKEYKCKV SNKALPAPIE KTISKAKGQP REPQVYTLPP SREEMTKNQV SLTCLVKGFY PSDIAVEWES NGQPENNYKT TPPVLDSDGS FFLYSKLTVD KSRWQQGNVF SCSVMHEALH NHYTQKSLSL SPGK
345	scFc 2	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LMISRTPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PCEEQYGSTY RCVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSREEMTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTPPVLDS DGSFFLYSKL TVDKSRWQQG NVFSCSVMHE ALHNHYTQKS LSLSPGGGGS GGGGSGGGGS GGGGSGGGGS GGGGSDKTHT CPPCPAPELL GGPSVFLFPP KPKDTLMISR TPEVTCVVVD VSHEDPEVKF NWYVDGVEVH NAKTKPCEEQ YGSTYRCVSV LTVLHQDWLN GKEYKCKVSN KALPAPIEKT ISKAKGQPRE PQVYTLPPSR EEMTKNQVSL TCLVKGFYPS DIAVEWESNG QPENNYKTTP PVLDSDGSFF LYSKLTVDKS RWQQGNVFSC SVMHEALHNH YTQKSLSLSP GK

Table 16. Exemplary sequences of anti-CCR8 antibodies of the present invention.

SEQ ID NO.	Description	Sequence

346	Antibody 1 IgG1 HCDR1	NARMG
347	Antibody 1 IgG1 HCDR2	RIKSKTEGGTRDYAAPVKG
348	Antibody 1 IgG1 HCDR3	YSGV
349	Antibody 1 IgG1 LCDR1	KSSQSVLYSSNNKNYLA
350	Antibody 1 IgG1 LCDR2	WASTRES
351	Antibody 1 IgG1 LCDR3	QQYYSIPIT
352	Antibody 1 IgG1 HCVR	EVQLVESGGGLVKPGGSLRLSCA ASGFTFSNARMGWVRQAPGKGL EWVGRIKSKTEGGTRDYAAPVKG RFTISRDDSKNTLYLQMNSLKTED TAVYYCTSYSGVWGQGTMVTVS S
353	Antibody 1 IgG1 LCVR	DIVMTQSPDSLAVSLGERATINCK SSQSVLYSSNNKNYLAWYHQKPG QSPKLLISWASTRESGVPDRFSGS GSGTDFTLTINSLQAEDVAVYYC QQYYSIPITFGGGTKVEIKR
354	Antibody 1 IgG1 HC	EVQLVESGGGLVKPGGSLRLSCA ASGFTFSNARMGWVRQAPGKGL EWVGRIKSKTEGGTRDYAAPVKG RFTISRDDSKNTLYLQMNSLKTED TAVYYCTSYSGVWGQGTMVTVS SASTKGPSVFPLAPSSKSTSGGTA ALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVT VPSSSLGTQTYICNVNHKPSNTKV DKKVEPKSCDKTHTCPPCPAPELL GGPSVFLFPPKPKDTLMISRTPEVT CVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPREEQYNSTYRVVSV LTVLHQDWLNGKEYKCKVSNKA LPAPIEKTISKAKGQPREPQVYTLP PSREEMTKNQVSLTCLVKGFYPS DIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGN VFSCSVMHEALHNHYTQKSLSLS PGK
355	Antibody 1 IgG1 LC	DIVMTQSPDSLAVSLGERATINCK SSQSVLYSSNNKNYLAWYHQKPG QSPKLLISWASTRESGVPDRFSGS GSGTDFTLTINSLQAEDVAVYYC QQYYSIPITFGGGTKVEIKRTVAA PSVFIFPPSDEQLKSGTASVVCLLN NFYPREAKVQWKVDNALQSGNS

		QESVTEQDSKDSTYSLSSTLTLSK ADYEKHKVYACEVTHQGLSSPVT KSFNRGEC
356	Antibody 1.1 IgG1 (LC:H45Q_S51P) HCDR1	NARMG
357	Antibody 1.1 IgG1 (LC:H45Q_S51P) HCDR2	RIKSKTEGGTRDYAAPVKG
358	Antibody 1.1 IgG1 (LC:H45Q_S51P) HCDR3	YSGV
359	Antibody 1.1 IgG1 (LC:H45Q_S51P) LCDR1	KSSQSVLYSSNNKNYLA
360	Antibody 1.1 IgG1 (LC:H45Q_S51P) LCDR2	WASTRES
361	Antibody 1.1 IgG1 (LC:H45Q_S51P) LCDR3	QQYYSIPIT
362	Antibody 1.1 IgG1 (LC:H45Q_S51P) HCVR	EVQLVESGGGLVKPGGSLRLSCA ASGFTFSNARMGWVRQAPGKGL EWVGRIKSKTEGGTRDYAAPVKG RFTISRDDSKNTLYLQMNSLKTED TAVYYCTSYSGVWGQGTMVTVS S
363	Antibody 1.1 IgG1 (LC:H45Q_S51P) LCVR	DIVMTQSPDSLAVSLGERATINCK SSQSVLYSSNNKNYLAWYQQKPG QPPKLLISWASTRESGVPDRFSGS GSGTDFTLTINSLQAEDVAVYYC QQYYSIPITFGGGTKVEIKR
364	Antibody 1.1 IgG1 (LC:H45Q_S51P) HC	EVQLVESGGGLVKPGGSLRLSCA ASGFTFSNARMGWVRQAPGKGL EWVGRIKSKTEGGTRDYAAPVKG RFTISRDDSKNTLYLQMNSLKTED TAVYYCTSYSGVWGQGTMVTVS SASTKGPSVFPLAPSSKSTSGGTA ALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVT VPSSSLGTQTYICNVNHKPSNTKV DKKVEPKSCDKTHTCPPCPAPELL GGPSVFLFPPKPKDTLMISRTPEVT CVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPREEQYNSTYRVVSV LTVLHQDWLNGKEYKCKVSNKA LPAPIEKTISKAKGQPREPQVYTLP PSREEMTKNQVSLTCLVKGFYPS DIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGN VFSCSVMHEALHNHYTQKSLSLS PGK
365	Antibody 1.1 IgG1 (LC:H45Q_S51P) LC	DIVMTQSPDSLAVSLGERATINCK SSQSVLYSSNNKNYLAWYQQKPG QPPKLLISWASTRESGVPDRFSGS GSGTDFTLTINSLQAEDVAVYYC

		QQYYSIPITFGGGTKVEIKRTVAA PSVFIFPPSDEQLKSGTASVVCLLN NFYPREAKVQWKVDNALQSGNS QESVTEQDSKDSTYSLSSTLTLSK ADYEKHKVYACEVTHQGLSSPVT KSFNRGEC
366	Antibody 2.1 IgG1 HCDR1 (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A _S26A,HC:A71I_D72R)	NYGMH
367	Antibody 2.1 IgG1 HCDR2 (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A _S26A,HC:A71I_D72R)	VISYDGSNKFYIRSVKG
368	Antibody 2.1 IgG1 HCDR3 (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A _S26A,HC:A71I_D72R)	AGGIGRFDY
369	Antibody 2.1 IgG1 LCDR1 (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A _S26A,HC:A71I_D72R)	KAAQSLLHSDGKTYLF
370	Antibody 2.1 IgG1 LCDR2 (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A _S26A,HC:A71I_D72R)	EVSNRFS
371	Antibody 2.1 IgG1 LCDR3 (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A _S26A,HC:A71I_D72R)	MQTLKLPLT
372	Antibody 2.1 IgG1 HCVR (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A _S26A,HC:A71I_D72R)	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSNYGMHWVRQAPGKGL EWVAVISYDGSNKFYIRSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARAGGIGRFDYWGQGTLV TVSS
373	Antibody 2.1 IgG1 LCVR (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A _S26A,HC:A71I_D72R)	DIVMTQTPLSLSVTPGQPASISCKA AQSLLHSDGKTYLFWYLQKPGQS PQLLIYEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ TLKLPLTFGGGTKVEIKR
374	Antibody 2.1 IgG1 HC (LC:F2I_P51S_H53Q_L103V_N148	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSNYGMHWVRQAPGKGL

	K,HC:K87N_S94N_V98A)(LC:Y25A _S26A,HC:A71I_D72R)	EWVAVISYDGSNKFYIRSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARAGGIGRFDYWGQGTLV TVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSG ALTSGVHTFPAVLQSSGLYSLSSV VTVPSSSLGTQTYICNVNHKPSNT KVDKKVEPKSCDKTHTCPPCPAP ELLGGPSVFLFPPKPKDTLMISRTP EVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRV VSVLTVLHQDWLNGKEYKCKVS NKALPAPIEKTISKAKGQPREPQV YTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLS LSPGK
375	Antibody 2.1 IgG1 LC (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A _S26A,HC:A71I_D72R)	DIVMTQTPLSLSVTPGQPASISCKA AQSLLHSDGKTYLFWYLQKPGQS PQLLIYEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ TLKLPLTFGGGTKVEIKRTVAAPS VFIFPPSDEQLKSGTASVVCLLNN FYPREAKVQWKVDNALQSGNSQ ESVTEQDSKDSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTK SFNRGEC
376	Antibody 2.2 IgG1 HCDR1 (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A ,HC:A71L_D72K)	NYGMH
377	Antibody 2.2 IgG1 HCDR2 (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A ,HC:A71L_D72K)	VISYDGSNKFYLKSVKG
378	Antibody 2.2 IgG1 HCDR3 (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A ,HC:A71L_D72K)	AGGIGRFDY
379	Antibody 2.2 IgG1 LCDR1 (LC:F2I_P51S_H53Q_L103V_N148 K,HC:K87N_S94N_V98A)(LC:Y25A ,HC:A71L_D72K)	KASQSLLHSDGKTYLF

380	Antibody 2.2 IgG1 LCDR2 (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A,HC:A71L_D72K)	EVSNRFS
381	Antibody 2.2 IgG1 LCDR3 (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A,HC:A71L_D72K)	MQTLKLPLT
382	Antibody 2.2 IgG1 HCVR (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A,HC:A71L_D72K)	QVQLVESGGGVVQPGRSLRLSCAASGFTFSNYGMHWVRQAPGKGLEWVAVISYDGSNKFYLKSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARAGGIGRFDYWGQGTLVTVSS
383	Antibody 2.2 IgG1 LCVR (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A,HC:A71L_D72K)	DIVMTQTPLSLSVTPGQPASISCKASQSLLHSDGKTYLFWYLQKPGQSPQLLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVGVYYCMQTLKLPLTFGGGTKVEIKR
384	Antibody 2.2 IgG1 HC (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A,HC:A71L_D72K)	QVQLVESGGGVVQPGRSLRLSCAASGFTFSNYGMHWVRQAPGKGLEWVAVISYDGSNKFYLKSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARAGGIGRFDYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK
385	Antibody 2.2 IgG1 LC (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A,HC:A71L_D72K)	DIVMTQTPLSLSVTPGQPASISCKASQSLLHSDGKTYLFWYLQKPGQSPQLLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVGVYYCMQ

		TLKLPLTFGGGTKVEIKRTVAAPS VFIFPPSDEQLKSGTASVVCLLNN FYPREAKVQWKVDNALQSGNSQ ESVTEQDSKDSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTK SFNRGEC
386	Antibody 3.0 IgG1 HCDR1	NAWMS
387	Antibody 3.0 IgG1 HCDR2	RIKRRTDGGTTDYAAPVKD
388	Antibody 3.0 IgG1 HCDR3	VTMVRGVIADY
389	Antibody 3.0 IgG1 LCDR1	RASQSVSSGSLA
390	Antibody 3.0 IgG1 LCDR2	GASSRAT
391	Antibody 3.0 IgG1 LCDR3	QQYGSSRT
392	Antibody 3.0 IgG1 HCVR	EVQLVESGGGLVKPGGSLRLSCA ASGFIFSNAWMSWVRQAPGKGLE WVARIKRRTDGGTTDYAAPVKD RFTISRDDSKNTLFLQMNSLKTED TAVYYCTTVTMVRGVIADYWGQ GTLVTVSS
393	Antibody 3.0 IgG1 LCVR	EIVLTQSPGTLSLSPGERATLSCRA SQSVSSGSLAWYQQKLGQAPRLLI YGASSRATGIPDRFSGSGSGTDFT LTISSLEPEDFAVYYCQQYGSSRT FGQGTKVELKR
394	Antibody 3.0 IgG1 HC	EVQLVESGGGLVKPGGSLRLSCA ASGFIFSNAWMSWVRQAPGKGLE WVARIKRRTDGGTTDYAAPVKD RFTISRDDSKNTLFLQMNSLKTED TAVYYCTTVTMVRGVIADYWGQ GTLVTVSSASTKGPSVFPLAPSSKS TSGGTAALGCLVKDYFPEPVTVS WNSGALTSGVHTFPAVLQSSGLY SLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTL MISRTPEVTCVVVDVSHEDPEVKF NWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQP REPQVYTLPPSREEMTKNQVSLTC LVKGFYPSDIAVEWESNGQPENN YKTTPPVLDSDGSFFLYSKLTVDK SRWQQGNVFSCSVMHEALHNHY TQKSLSLSPGK

395	Antibody 3.0 IgG1 LC	EIVLTQSPGTLSLSPGERATLSCRA SQSVSSGSLAWYQQKLGQAPRLLI YGASSRATGIPDRFSGSGSGTDFT LTISSLEPEDFAVYYCQQYGSSRT FGQGTKVELKRTVAAPSVFIFPPS DEQLKSGTASVVCLLNNFYPREA KVQWKVDNALQSGNSQESVTEQ DSKDSTYSLSSTLTLSKADYEKHK VYACEVTHQGLSSPVTKSFNRGE C
396	Antibody 4.0 IgG1 HCDR1	NAWMS
397	Antibody 4.0 IgG1 HCDR2	RIKRKTDGGTTDYAAPVKG
398	Antibody 4.0 IgG1 HCDR3	VTLVRGIIFDY
399	Antibody 4.0 IgG1 LCDR1	RVSQSVSSSQLA
400	Antibody 4.0 IgG1 LCDR2	GASSRAT
401	Antibody 4.0 IgG1 LCDR3	QQYGNSRT
402	Antibody 4.0 IgG1 HCVR	EVQLVESGGGLVKPGGSLRLSCA ASGFIFSNAWMSWVRQAPGKGLE WVGRIKRKTDGGTTDYAAPVKG RFTISRDDSKNTLYLLMNSLKIED TAVYYCTVVTLVRGIIFDYWGQG TLVTVSS
403	Antibody 4.0 IgG1 LCVR	EIVLTQSPGTLSLSPGESATLSCRV SQSVSSSQLAWYQQKPGQAPRLLI YGASSRATGIPDRFSGSGSGTDFT LTISRLEPEDFAVYYCQQYGNSRT FGQGTKVEIKR
404	Antibody 4.0 IgG1 HC	EVQLVESGGGLVKPGGSLRLSCA ASGFIFSNAWMSWVRQAPGKGLE WVGRIKRKTDGGTTDYAAPVKG RFTISRDDSKNTLYLLMNSLKIED TAVYYCTVVTLVRGIIFDYWGQG TLVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSW NSGALTSGVHTFPAVLQSSGLYSL SSVVTVPSSSLGTQTYICNVNHKP SNTKVDKKVEPKSCDKTHTCPPC PAPELLGGPSVFLFPPKPKDTLMIS RTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPREEQYNSTY RVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREP QVYTLPPSREEMTKNQVSLTCLV KGFYPSDIAVEWESNGQPENNYK

		TTPPVLDSDGSFFLYSKLTVDKSR WQQGNVFSCSVMHEALHNHYTQ KSLSLSPGK
405	Antibody 4.0 IgG1 LC	EIVLTQSPGTLSLSPGESATLSCRV SQSVSSSQLAWYQQKPGQAPRLLI YGASSRATGIPDRFSGSGSGTDFT LTISRLEPEDFAVYYCQQYGNSRT FGQGTKVEIKRTVAAPSVFIFPPSD EQLKSGTASVVCLLNNFYPREAK VQWKVDNALQSGNSQESVTEQD SKDSTYSLSSTLTLSKADYEKHKV YACEVTHQGLSSPVTKSFNRGEC
406	Antibody 4.1 IgG1 HCDR1 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L)	NAWLQ
407	Antibody 4.1 IgG1 HCDR2 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L)	RIKRKTDQLTTDYAAPVKG
408	Antibody 4.1 IgG1 HCDR3 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L)	VTRSRGIIFDY
409	Antibody 4.1 IgG1 LCDR1 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L)	RVSQSVSSSQLA
410	Antibody 4.1 IgG1 LCDR2 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L)	GASSRAT
411	Antibody 4.1 IgG1 LCDR3 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L)	QQYGNPRT
412	Antibody 4.1 IgG1 HCVR (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L)	EVQLVESGGGLVKPGGSLRLSCA ASGFIFSNAWLQWVRQAPGKGLE WVGRIKRKTDQLTTDYAAPVKGR FTISRDDSKNTLYLLMNSLKIEDT AVYYCTVVTRSRGIIFDYWGQGT LVTVSS
413	Antibody 4.1 IgG1 LCVR (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L)	EIVLTQSPGTLSLSPGESATLSCRV SQSVSSSQLAWYQQKPGQAPRLLI YGASSRATGIPDRFSGSGSGTDFT LTISRLEPEDFAVYYCQQYGNPRT FGQGTKVEIKR

414	Antibody 4.1 IgG1 HC (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L)	EVQLVESGGGLVKPGGSLRLSCA ASGFIFSNAWLQWVRQAPGKGLE WVGRIKRKTDQLTTDYAAPVKGR FTISRDDSKNTLYLLMNSLKIEDT AVYYCTVVTRSRGIIFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
415	Antibody 4.1 IgG1 LC (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L)	EIVLTQSPGTLSLSPGESATLSCRV SQSVSSSQLAWYQQKPGQAPRLLI YGASSRATGIPDRFSGSGSGTDFT LTISRLEPEDFAVYYCQQYGNPRT FGQGTKVEIKRTVAAPSVFIFPPSD EQLKSGTASVVCLLNNFYPREAK VQWKVDNALQSGNSQESVTEQD SKDSTYSLSSTLTLSKADYEKHKV YACEVTHQGLSSPVTKSFNRGEC
416	Antibody 4.2 IgG1 HCDR1 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S)	NAWLQ
417	Antibody 4.2 IgG1 HCDR2 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S)	RIKRKTDASTTDYAAPVKG
418	Antibody 4.2 IgG1 HCDR3 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S)	VTRSRGIIFDY
419	Antibody 4.2 IgG1 LCDR1 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S)	RVSQSVSSSQLA

420	Antibody 4.2 IgG1 LCDR2 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S)	GASSRAT
421	Antibody 4.2 IgG1 LCDR3 (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S)	QQYGNPRT
422	Antibody 4.2 IgG1 HCVR (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S)	EVQLVESGGGLVKPGGSLRLSCA ASGFIFSNAWLQWVRQAPGKGLE WVGRIKRKTDASTTDYAAPVKGR FTISRDDSKNTLYLLMNSLKIEDT AVYYCTVVTRSRGIIFDYWGQGT LVTVSS
423	Antibody 4.2 IgG1 LCVR (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S)	EIVLTQSPGTLSLSPGESATLSCRV SQSVSSSQLAWYQQKPGQAPRLLI YGASSRATGIPDRFSGSGSGTDFT LTISRLEPEDFAVYYCQQYGNPRT FGQGTKVEIKR
424	Antibody 4.2 IgG1 HC (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S)	EVQLVESGGGLVKPGGSLRLSCA ASGFIFSNAWLQWVRQAPGKGLE WVGRIKRKTDASTTDYAAPVKGR FTISRDDSKNTLYLLMNSLKIEDT AVYYCTVVTRSRGIIFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
425	Antibody 4.2 IgG1 LC (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S)	EIVLTQSPGTLSLSPGESATLSCRV SQSVSSSQLAWYQQKPGQAPRLLI YGASSRATGIPDRFSGSGSGTDFT LTISRLEPEDFAVYYCQQYGNPRT FGQGTKVEIKRTVAAPSVFIFPPSD EQLKSGTASVVCLLNNFYPREAK VQWKVDNALQSGNSQESVTEQD

		SKDSTYSLSSTLTLSKADYEKHKV YACEVTHQGLSSPVTKSFNRGEC
426	Antibody 5.0 IgG1 HCDR1	SYGMH
427	Antibody 5.0 IgG1 HCDR2	VISYDGSNKYYADSVKG
428	Antibody 5.0 IgG1 HCDR3	GRYFDWFLFDY
429	Antibody 5.0 IgG1 LCDR1	KSSQSLLHSDGKTYLF
430	Antibody 5.0 IgG1 LCDR2	EVSNRFS
431	Antibody 5.0 IgG1 LCDR3	MQSLRLPLT
432	Antibody 5.0 IgG1 HCVR	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYGMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSS
433	Antibody 5.0 IgG1 LCVR	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDGKTYLFWYLQKPGQ PPQLLISEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGFYYCMQ SLRLPLTFGGGTKVEIKR
434	Antibody 5.0 IgG1 HC	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYGMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW

		QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
435	Antibody 5.0 IgG1 LC	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDGKTYLFWYLQKPGQ PPQLLISEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGFYYCMQ SLRLPLTFGGGTKVEIKRTVAAPS VFIFPPSDEQLKSGTASVVCLLNN FYPREAKVQWKVDNALQSGNSQ ESVTEQDSKDSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTK SFNRGEC
436	Antibody 5.1 IgG1 HCDR1 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb	SYGMH
437	Antibody 5.1 IgG1 HCDR2 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb	VISYDGSNKYYADSVKG
438	Antibody 5.1 IgG1 HCDR3 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb	GRYFDWTLFDY
439	Antibody 5.1 IgG1 LCDR1 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb	KSSQSLLHRDGKTYLF
440	Antibody 5.1 IgG1 LCDR2 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb	EVSNRFS
441	Antibody 5.1 IgG1 LCDR3 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb	MQSLRLPLT
442	Antibody 5.1 IgG1 HCVR (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYGMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWTLFDYWGQGT LVTVSS
443	Antibody 5.1 IgG1 LCVR (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHRDGKTYLFWYLQKPGQ PPQLLIYEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ SLRLPLTFGGGTKVEIKR
444	Antibody 5.1 IgG1 HC (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYGMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT

		ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWTLFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
445	Antibody 5.1 IgG1 LC (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHRDGKTYLFWYLQKPGQ PPQLLIYEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ SLRLPLTFGGGTKVEIKRTVAAPS VFIFPPSDEQLKSGTASVVCLLNN FYPREAKVQWKVDNALQSGNSQ ESVTEQDSKDSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTK SFNRGEC
446	Antibody 5.2 IgG1 HCDR1 (VH:G40P_F134T,VL:S57Y_E58L_V 67R_F103V)_huIgG1z mAb	SYPMH
447	Antibody 5.2 IgG1 HCDR2 (VH:G40P_F134T,VL:S57Y_E58L_V 67R_F103V)_huIgG1z mAb	VISYDGSNKYYADSVKG
448	Antibody 5.2 IgG1 HCDR3 (VH:G40P_F134T,VL:S57Y_E58L_V 67R_F103V)_huIgG1z mAb	GRYFDWTLFDY
449	Antibody 5.2 IgG1 LCDR1 (VH:G40P_F134T,VL:S57Y_E58L_V 67R_F103V)_huIgG1z mAb	KSSQSLLHSDGKTYLF
450	Antibody 5.2 IgG1 LCDR2 (VH:G40P_F134T,VL:S57Y_E58L_V 67R_F103V)_huIgG1z mAb	LRSNRFS
451	Antibody 5.2 IgG1 LCDR3 (VH:G40P_F134T,VL:S57Y_E58L_V 67R_F103V)_huIgG1z mAb	MQSLRLPLT

452	Antibody 5.2 IgG1 HCVR (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYPMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWTLFDYWGQGT LVTVSS
453	Antibody 5.2 IgG1 LCVR (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDGKTYLFWYLQKPGQ PPQLLIYLRSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ SLRLPLTFGGGTKVEIKR
454	Antibody 5.2 IgG1 HC (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYPMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWTLFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
455	Antibody 5.2 IgG1 LC (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDGKTYLFWYLQKPGQ PPQLLIYLRSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ SLRLPLTFGGGTKVEIKRTVAAPS VFIFPPSDEQLKSGTASVVCLLNN FYPREAKVQWKVDNALQSGNSQ ESVTEQDSKDSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTK SFNRGEC
456	Antibody 5.3 IgG1 HCDR1 (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb	SYGMH

457	Antibody 5.3 IgG1 HCDR2 (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb	VISYDGSNKYYSRSVKG
458	Antibody 5.3 IgG1 HCDR3 (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb	GRYFDWFLFDY
459	Antibody 5.3 IgG1 LCDR1 (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb	KSSQSLLHSDGKTYLF
460	Antibody 5.3 IgG1 LCDR2 (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb	LSSNRFS
461	Antibody 5.3 IgG1 LCDR3 (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb	MQSLRLPLT
462	Antibody 5.3 IgG1 HCVR (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYGMHWVRQAPGKGLE WVAVISYDGSNKYYSRSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSS
463	Antibody 5.3 IgG1 LCVR (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDGKTYLFWYLQKPGQ PPQLLIYLSSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ SLRLPLTFGGGTKVEIKR
464	Antibody 5.3 IgG1 HC (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYGMHWVRQAPGKGLE WVAVISYDGSNKYYSRSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK

		GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
465	Antibody 5.3 IgG1 LC (VH:A71S_D72R,VL:S57Y_E58L_V 67S_F103V)_huIgG1z mAb	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDGKTYLFWYLQKPGQ PPQLLIYLSSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ SLRLPLTFGGGTKVEIKRTVAAPS VFIFPPSDEQLKSGTASVVCLLNN FYPREAKVQWKVDNALQSGNSQ ESVTEQDSKDSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTK SFNRGEC
466	Antibody 5.4 IgG1 HCDR1 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb	SYAMH
467	Antibody 5.4 IgG1 HCDR2 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb	VISYDGSNKYYADSVKG
468	Antibody 5.4 IgG1 HCDR3 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb	GRYFDWFLFDY
469	Antibody 5.4 IgG1 LCDR1 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb	KSSQSLLHSDGKTYLF
470	Antibody 5.4 IgG1 LCDR2 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb	LTSNRFS
471	Antibody 5.4 IgG1 LCDR3 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb	MQSLRLPLT
472	Antibody 5.4 IgG1 HCVR (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYAMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSS
473	Antibody 5.4 IgG1 LCVR (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDGKTYLFWYLQKPGQ PPQLLIYLTSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ SLRLPLTFGGGTKVEIKR

474	Antibody 5.4 IgG1 HC (VH:G40A,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYAMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
475	Antibody 5.4 IgG1 LC (VH:G40A,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDGKTYLFWYLQKPGQ PPQLLIYLTSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ SLRLPLTFGGGTKVEIKRTVAAPS VFIFPPSDEQLKSGTASVVCLLNN FYPREAKVQWKVDNALQSGNSQ ESVTEQDSKDSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTK SFNRGEC
476	Antibody 5.5 IgG1 HCDR1 (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	SYPVH
477	Antibody 5.5 IgG1 HCDR2 (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	VISYDGSNKYYADSVKG
478	Antibody 5.5 IgG1 HCDR3 (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	GRYFDWFLFDY
479	Antibody 5.5 IgG1 LCDR1 (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	KSSQSLLHSDGKTYLF
480	Antibody 5.5 IgG1 LCDR2 (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	LTSNRFS

481	Antibody 5.5 IgG1 LCDR3 (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	MQSLRLPLT
482	Antibody 5.5 IgG1 HCVR (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYPVHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSS
483	Antibody 5.5 IgG1 LCVR (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDGKTYLFWYLQKPGQ PPQLLIYLTSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ SLRLPLTFGGGTKVEIKR
484	Antibody 5.5 IgG1 HC (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYPVHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
485	Antibody 5.5 IgG1 LC (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDGKTYLFWYLQKPGQ PPQLLIYLTSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCMQ SLRLPLTFGGGTKVEIKRTVAAPS VFIFPPSDEQLKSGTASVVCLLNN FYPREAKVQWKVDNALQSGNSQ ESVTEQDSKDSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTK SFNRGEC
486	Antibody 5.6 IgG1 HCDR1 (VH:F134T,VL:S34R_S57Y_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	SYGMH

487	Antibody 5.6 IgG1 HCDR2 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L)	VISYDGSNKYYADSVKG
488	Antibody 5.6 IgG1 HCDR3 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L)	GRYFDWTLFDY
489	Antibody 5.6 IgG1 LCDR1 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L)	KSSQSLLHRDARTYLF
490	Antibody 5.6 IgG1 LCDR2 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L)	EVSNRFS
491	Antibody 5.6 IgG1 LCDR3 (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L)	LQSLRLPLT
492	Antibody 5.6 IgG1 HCVR (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L)	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYGMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWTLFDYWGQGT LVTVSS
493	Antibody 5.6 IgG1 LCVR (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L)	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHRDARTYLFWYLQKPGQ PPQLLIYEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCLQS LRLPLTFGGGTKVEIKR
494	Antibody 5.6 IgG1 HC (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L)	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYGMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWTLFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP

		APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
495	Antibody 5.6 IgG1 LC (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L)	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHRDARTYLFWYLQKPGQ PPQLLIYEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCLQS LRLPLTFGGGTKVEIKRTVAAPSV FIFPPSDEQLKSGTASVVCLLNNF YPREAKVQWKVDNALQSGNSQE SVTEQDSKDSTYSLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKS FNRGEC
496	Antibody 5.7 IgG1 HCDR1 (VH:A71S_D72R,VL:S57Y_E58L_V 67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	SYGMH
497	Antibody 5.7 IgG1 HCDR2 (VH:A71S_D72R,VL:S57Y_E58L_V 67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	VISYDGSNKYYSRSVKG
498	Antibody 5.7 IgG1 HCDR3 (VH:A71S_D72R,VL:S57Y_E58L_V 67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	GRYFDWFLFDY
499	Antibody 5.7 IgG1 LCDR1 (VH:A71S_D72R,VL:S57Y_E58L_V 67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	KSSQSLLHSDARTYLF
500	Antibody 5.7 IgG1 LCDR2 (VH:A71S_D72R,VL:S57Y_E58L_V 67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	LSSNRFS
501	Antibody 5.7 IgG1 LCDR3 (VH:A71S_D72R,VL:S57Y_E58L_V 67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	LQSLRLPLT

502	Antibody 5.7 IgG1 HCVR (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYGMHWVRQAPGKGLE WVAVISYDGSNKYYSRSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSS
503	Antibody 5.7 IgG1 LCVR (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDARTYLFWYLQKPGQ PPQLLIYLSSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCLQS LRLPLTFGGGTKVEIKR
504	Antibody 5.7 IgG1 HC (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYGMHWVRQAPGKGLE WVAVISYDGSNKYYSRSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
505	Antibody 5.7 IgG1 LC (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDARTYLFWYLQKPGQ PPQLLIYLSSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCLQS LRLPLTFGGGTKVEIKRTVAAPSV FIFPPSDEQLKSGTASVVCLLNNF YPREAKVQWKVDNALQSGNSQE SVTEQDSKDSTYSLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKS FNRGEC
506	Antibody 5.8 IgG1 HCDR1 (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	SYPMH

507	Antibody 5.8 IgG1 HCDR2 (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	VISYDGSNKYYADSVKG
508	Antibody 5.8 IgG1 HCDR3 (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	GRYFDWTLFDY
509	Antibody 5.8 IgG1 LCDR1 (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	KSSQSLLHSDARTYLF
510	Antibody 5.8 IgG1 LCDR2 (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	LRSNRFS
511	Antibody 5.8 IgG1 LCDR3 (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	LQSLRLPLT
512	Antibody 5.8 IgG1 HCVR (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYPMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWTLFDYWGQGT LVTVSS
513	Antibody 5.8 IgG1 LCVR (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDARTYLFWYLQKPGQ PPQLLIYLRSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCLQS LRLPLTFGGGTKVEIKR
514	Antibody 5.8 IgG1 HC (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYPMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWTLFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV

		SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
515	Antibody 5.8 IgG1 LC (VH:G40P_F134T,VL:S57Y_E58L_V 67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDARTYLFWYLQKPGQ PPQLLIYLRSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCLQS LRLPLTFGGGTKVEIKRTVAAPSV FIFPPSDEQLKSGTASVVCLLNNF YPREAKVQWKVDNALQSGNSQE SVTEQDSKDSTYSLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKS FNRGEC
516	Antibody 5.9 IgG1 HCDR1 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	SYAMH
517	Antibody 5.9 IgG1 HCDR2 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	VISYDGSNKYYADSVKG
518	Antibody 5.9 IgG1 HCDR3 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	GRYFDWFLFDY
519	Antibody 5.9 IgG1 LCDR1 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	KSSQSLLHSDARTYLF
520	Antibody 5.9 IgG1 LCDR2 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	LTSNRFS
521	Antibody 5.9 IgG1 LCDR3 (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	LQSLRLPLT
522	Antibody 5.9 IgG1 HCVR (VH:G40A,VL:S57Y_E58L_V67T_F	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYAMHWVRQAPGKGLE

	103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSS
523	Antibody 5.9 IgG1 LCVR (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDARTYLFWYLQKPGQ PPQLLIYLTSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCLQS LRLPLTFGGGTKVEIKR
524	Antibody 5.9 IgG1 HC (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	QVQLVESGGGVVQPGRSLRLSCA ASGFTFSSYAMHWVRQAPGKGLE WVAVISYDGSNKYYADSVKGRFT ISRDNSKNTLYLQMNSLRAEDTA VYYCARGRYFDWFLFDYWGQGT LVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLS SVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYR VVSVLTVLHQDWLNGKEYKCKV SNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVK GFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMHEALHNHYTQK SLSLSPGK
525	Antibody 5.9 IgG1 LC (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	DTVMTQTPLSLSVTPGQPASISCK SSQSLLHSDARTYLFWYLQKPGQ PPQLLIYLTSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGVYYCLQS LRLPLTFGGGTKVEIKRTVAAPSV FIFPPSDEQLKSGTASVVCLLNNF YPREAKVQWKVDNALQSGNSQE SVTEQDSKDSTYSLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKS FNRGEC
526	Antibody 6.0 IgG1 HCDR1	SYVMH
527	Antibody 6.0 IgG1 HCDR2	VISYDGSSQYYTDSVKG
528	Antibody 6.0 IgG1 HCDR2	GRLATAILFDY
529	Antibody 6.0 IgG1 LCDR1	KSSQSLLYSDGKTYLF
530	Antibody 6.0 IgG1 LCDR2	EVSNRFS

531	Antibody 6.0 IgG1 LCDR3	MQSIKLPLT
532	Antibody 6.0 IgG1 HCVR	QVQLVESGGGVVQPGRSLRLSCE ASGFTFSSYVMHWVRQAPGKGLE WVSVISYDGSSQYYTDSVKGRFTI SRDNSKNTLNLQMNSLRAEDTAV YYCVRGRLATAILFDYWGQGTLV TVSS
533	Antibody 6.0 IgG1 LCVR	DILMTQTPLSLSVTPGQPASISCKS SQSLLYSDGKTYLFWYLQRPGQP PQLLIYEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGIYYCMQS IKLPLTFGGGTKVEIKR
534	Antibody 6.0 IgG1 HC	QVQLVESGGGVVQPGRSLRLSCE ASGFTFSSYVMHWVRQAPGKGLE WVSVISYDGSSQYYTDSVKGRFTI SRDNSKNTLNLQMNSLRAEDTAV YYCVRGRLATAILFDYWGQGTLV TVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSG ALTSGVHTFPAVLQSSGLYSLSSV VTVPSSSLGTQTYICNVNHKPSNT KVDKKVEPKSCDKTHTCPPCPAP ELLGGPSVFLFPPKPKDTLMISRTP EVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRV VSVLTVLHQDWLNGKEYKCKVS NKALPAPIEKTISKAKGQPREPQV YTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLS LSPGK
535	Antibody 6.0 IgG1 LC	DILMTQTPLSLSVTPGQPASISCKS SQSLLYSDGKTYLFWYLQRPGQP PQLLIYEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGIYYCMQS IKLPLTFGGGTKVEIKRTVAAPSV FIFPPSDEQLKSGTASVVCLLNNF YPREAKVQWKVDNALQSGNSQE SVTEQDSKDSTYSLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKS FNRGEC
536	Antibody 6.1 IgG1 HCDR1 (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb	SYVMH
537	Antibody 6.1 IgG1 HCDR2 (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb	VISYDGSRQYYTDSVKG

538	Antibody 6.1 IgG1 HCDR3 (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb	GRLATSPLFDY
539	Antibody 6.1 IgG1 LCDR1 (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb	KSSQSLLYSDGKTYLF
540	Antibody 6.1 IgG1 LCDR2 (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb	EVSNRLS
541	Antibody 6.1 IgG1 LCDR3 (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb	MQSIKLPLT
542	Antibody 6.1 IgG1 HCVR (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCE ASGFTFSSYVMHWVRQAPGKGLE WVSVISYDGSRQYYTDSVKGRFTI SRDNSKNTLNLQMNSLRAEDTAV YYCVRGRLATSPLFDYWGQGTLV TVSS
543	Antibody 6.1 IgG1 LCVR (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb	DILMTQTPLSLSVTPGQPASISCKS SQSLLYSDGKTYLFWYLQRPGQP PQLLIYEVSNRLSGVPDRFSGSGS GTDFTLKISRVEAEDVGIYYCMQS IKLPLTFGGGTKVEIKR
544	Antibody 6.1 IgG1 HC (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCE ASGFTFSSYVMHWVRQAPGKGLE WVSVISYDGSRQYYTDSVKGRFTI SRDNSKNTLNLQMNSLRAEDTAV YYCVRGRLATSPLFDYWGQGTLV TVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSG ALTSGVHTFPAVLQSSGLYSLSSV VTVPSSSLGTQTYICNVNHKPSNT KVDKKVEPKSCDKTHTCPPCPAP ELLGGPSVFLFPPKPKDTLMISRTP EVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRV VSVLTVLHQDWLNGKEYKCKVS NKALPAPIEKTISKAKGQPREPQV YTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLS LSPGK
545	Antibody 6.1 IgG1 LC (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb	DILMTQTPLSLSVTPGQPASISCKS SQSLLYSDGKTYLFWYLQRPGQP PQLLIYEVSNRLSGVPDRFSGSGS GTDFTLKISRVEAEDVGIYYCMQS IKLPLTFGGGTKVEIKRTVAAPSV FIFPPSDEQLKSGTASVVCLLNNF YPREAKVQWKVDNALQSGNSQE

		SVTEQDSKDSTYSLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKS FNRGEC
546	Antibody 6.2 IgG1 HCDR1 (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb	SYVMH
547	Antibody 6.2 IgG1 HCDR2 (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb	VISYDGSRAYYTDSVKG
548	Antibody 6.2 IgG1 HCDR3 (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb	GRLATAIKLDY
549	Antibody 6.2 IgG1 LCDR1 (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb	KSSQSLLYSDGKTYLF
550	Antibody 6.2 IgG1 LCDR2 (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb	EVSNRFS
551	Antibody 6.2 IgG1 LCDR3 (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb	MQTLKLPLT
552	Antibody 6.2 IgG1 HCVR (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCE ASGFTFSSYVMHWVRQAPGKGLE WVSVISYDGSRAYYTDSVKGRFTI SRDNSKNTLNLQMNSLRAEDTAV YYCVRGRLATAIKLDYWGQGTL VTVSS
553	Antibody 6.2 IgG1 LCVR (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb	DILMTQTPLSLSVTPGQPASISCKS SQSLLYSDGKTYLFWYLQRPGQP PQLLIYEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGIYYCMQT LKLPLTFGGGTKVEIKR
554	Antibody 6.2 IgG1 HC (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCE ASGFTFSSYVMHWVRQAPGKGLE WVSVISYDGSRAYYTDSVKGRFTI SRDNSKNTLNLQMNSLRAEDTAV YYCVRGRLATAIKLDYWGQGTL VTVSSASTKGPSVFPLAPSSKSTSG GTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSS VVTVPSSSLGTQTYICNVNHKPSN TKVDKKVEPKSCDKTHTCPPCPA PELLGGPSVFLFPPKPKDTLMISRT PEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRV VSVLTVLHQDWLNGKEYKCKVS NKALPAPIEKTISKAKGQPREPQV

		YTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPP VLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLS LSPGK
555	Antibody 6.2 IgG1 LC (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb	DILMTQTPLSLSVTPGQPASISCKS SQSLLYSDGKTYLFWYLQRPGQP PQLLIYEVSNRFSGVPDRFSGSGS GTDFTLKISRVEAEDVGIYYCMQT LKLPLTFGGGTKVEIKRTVAAPSV FIFPPSDEQLKSGTASVVCLLNNF YPREAKVQWKVDNALQSGNSQE SVTEQDSKDSTYSLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKS FNRGEC

Cynomolgus monkey Mauritian origin T4R CCR8 (SEQ ID NO: 556)
MDYRLDPSMTTMTDYYYPDSLSSPCDGELIQRNDKLLLAVFYCLLFVFSLLGNSLVIL
VLVVCKKLRNITDIYLLNLALSDLLFVFSFPFQTYYQLDQWVFGTVMCKVVSGFYYI
GFYSSMFFITLMSVDRYLAVVHAVYAIKVRTIRMGTTLSLVVWLTAIMATIPLLVFY
QVASEDGVLQCYSFYNQQTLKWKIFTNFEMNILGLLIPFTIFMFCYIKILHQLKRCQN
HNKTKAIRLVLIVVIASLLFWVPFNVVLFLTSLHSMHILDGCSISQQLNYATHVTEIISF
THCCVNPVIYAFVGEKFKKHLSEIFQKSCSHIFIYLGRQMPRESCEKSSSCQQHSFRSS
SIDYIL

Leader sequence (SEQ ID NO: 557)
MDMRVPAQLLGLLLLWLRGARC

DNA encoding leader sequence of SEQ ID NO: 557 (SEQ ID NO: 558)
atggacatgagagtgcctgcacagctgctgggcctgctgctgctgtggctgagaggcgccagatgc

Leader sequence (SEQ ID NO: 559)
MAWALLLLTLLTQGTGSWA

DNA encoding leader sequence of SEQ ID NO: 559 (SEQ ID NO: 560)
atggcctgggctctgctgctcctcaccctcctcactcagggcacagggtcctgggcc

TCE1 CCR8 HCDR1 (SEQ ID NO: 561)
NARMG

TCE1 CCR8 HCDR2 (SEQ ID NO: 562)
RIKSKTEGGTRDYAAPVKG

TCE1 CCR8 HCDR3 (SEQ ID NO: 563)
YSGV

TCE1 CCR8 LCDR1 (SEQ ID NO: 564)
KSSQSVLYSSNNKNYLA

TCE1 CCR8 LCDR2 (SEQ ID NO: 565)
WASTRES

TCE1 CCR8 LCDR3 (SEQ ID NO: 566)
QQYYSIPIT

TCE2 CCR8 HCDR1 (SEQ ID NO: 567)

NYGMH

TCE2 CCR8 HCDR2 (SEQ ID NO: 568)

VISYDGSNKFYADSVKG

TCE2 CCR8 HCDR3 (SEQ ID NO: 569)

AGGIGRFDY

TCE2 CCR8 LCDR1 (SEQ ID NO: 570)

KYSQSLLHSDGKTYLF

TCE2 CCR8 LCDR2 (SEQ ID NO: 571)

EVSNRFS

TCE2 CCR8 LCDR3 (SEQ ID NO: 572)

MQTLKLPLT

Table 17. Exemplary sequences of HCs without the C-terminal lysine of antibodies of the present invention.

SEQ ID NO:	Designation	Sequence
573	Antibody 1 IgG1 HC	EVQLVESGGGLVKPGGSLRLSCAASGFTFSNAR MGWVRQAPGKGLEWVGRIKSKTEGGTRDYAA PVKGRFTISRDDSKNTLYLQMNSLKTEDTAVYY CTSYSGVWGQGTMVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYI CNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAP ELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNS TYRVVSVLTVLHQDWLNGKEYKCKVSNKALPA PIEKTISKAKGQPREPQVYTLPPSREEMTKNQVS LTCLVKGFYPSDIAVEWESNGQPENNYKTTPPV LDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHE ALHNHYTQKSLSLSPG

574	Antibody 1.1 IgG1 (LC:H45Q_S51P) HC	EVQLVESGGGLVKPGGSLRLSCAASGFTFSNAR MGWVRQAPGKGLEWVGRIKSKTEGGTRDYAA PVKGRFTISRDDSKNTLYLQMNSLKTEDTAVYY CTSYSGVWGQGTMVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYI CNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAP ELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNS TYRVVSVLTVLHQDWLNGKEYKCKVSNKALPA PIEKTISKAKGQPREPQVYTLPPSREEMTKNQVS LTCLVKGFYPSDIAVEWESNGQPENNYKTTPPV LDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHE ALHNHYTQKSLSLSPG
575	Antibody 2.1 IgG1 HC (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A_S26A,HC:A71I_D72R)	QVQLVESGGGVVQPGRSLRLSCAASGFTFSNYG MHWVRQAPGKGLEWVAVISYDGSNKFYIRSVK GRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR AGGIGRFDYWGQGTLVTVSSASTKGPSVFPLAP SSKSTSGGTAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQT YICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISRTPEVTCVVV DVSHEDPEVKFNWYVDGVEVHNAKTKPREEQY NSTYRVVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQ VSLTCLVKGFYPSDIAVEWESNGQPENNYKTTP PVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVM HEALHNHYTQKSLSLSPG
576	Antibody 2.2 IgG1 HC (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A,HC:A71L_D72K)	QVQLVESGGGVVQPGRSLRLSCAASGFTFSNYG MHWVRQAPGKGLEWVAVISYDGSNKFYLKSV KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RAGGIGRFDYWGQGTLVTVSSASTKGPSVFPLA PSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGA LTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQ TYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPC PAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVV VDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQ YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKA LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKN QVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV MHEALHNHYTQKSLSLSPG
577	Antibody 3.0 IgG1 HC	EVQLVESGGGLVKPGGSLRLSCAASGFIFSNAW MSWVRQAPGKGLEWVARIKRRTDGGTTDYAAP VKDRFTISRDDSKNTLFLQMNSLKTEDTAVYYC TTVTMVRGVIADYWGQGTLVTVSSASTKGPSVF PLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWN SGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL GTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTC PPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTC

		VVVDVSHEDPEVKFNWYVDGVEVHNAKTKPRE EQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSN KALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYK TTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG
578	Antibody 4.0 IgG1 HC	EVQLVESGGGLVKPGGSLRLSCAASGFIFSNAW MSWVRQAPGKGLEWVGRIKRKTDGGTTDYAA PVKGRFTISRDDSKNTLYLLMNSLKIEDTAVYYC TVVTLVRGIIFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
579	Antibody 4.1 IgG1 HC (VH:M41L_S42Q_L11 1R_V112S,VL:S18R_S 136P)_huIgG1z mAb(LC:R18S,HC:G6 5Q_G66L)	EVQLVESGGGLVKPGGSLRLSCAASGFIFSNAW LQWVRQAPGKGLEWVGRIKRKTDQLTTDYAAP VKGRFTISRDDSKNTLYLLMNSLKIEDTAVYYC TVVTRSRGIIFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
580	Antibody 4.2 IgG1 HC (VH:M41L_S42Q_L11 1R_V112S,VL:S18R_S 136P)_huIgG1z mAb(LC:R18S,HC:G6 5A_G66S)	EVQLVESGGGLVKPGGSLRLSCAASGFIFSNAW LQWVRQAPGKGLEWVGRIKRKTDASTTDYAAP VKGRFTISRDDSKNTLYLLMNSLKIEDTAVYYC TVVTRSRGIIFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
581	Antibody 5.0 IgG1 HC	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYG MHWVRQAPGKGLEWVAVISYDGSNKYYADSV

		KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RGRYFDWFLFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
582	Antibody 5.1 IgG1 HC (VH:F134T,VL:S34R_S57Y_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYG MHWVRQAPGKGLEWVAVISYDGSNKYYADSV KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RGRYFDWTLFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
583	Antibody 5.2 IgG1 HC (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYP MHWVRQAPGKGLEWVAVISYDGSNKYYADSV KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RGRYFDWTLFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
584	Antibody 5.3 IgG1 HC (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYG MHWVRQAPGKGLEWVAVISYDGSNKYYSRSV KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RGRYFDWFLFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK

		ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
585	Antibody 5.4 IgG1 HC (VH:G40A,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYA MHWVRQAPGKGLEWVAVISYDGSNKYYADSV KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RGRYFDWFLFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
586	Antibody 5.5 IgG1 HC (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYP VHWVRQAPGKGLEWVAVISYDGSNKYYADSV KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RGRYFDWFLFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
587	Antibody 5.6 IgG1 HC (VH:F134T,VL:S34R_S57Y_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYG MHWVRQAPGKGLEWVAVISYDGSNKYYADSV KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RGRYFDWTLFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
588	Antibody 5.7 IgG1 HC (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYG MHWVRQAPGKGLEWVAVISYDGSNKYYSRSV KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RGRYFDWFLFDYWGQGTLVTVSSASTKGPSVFP

	mAb(LC:G37A_K38R_M107L)	LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
589	Antibody 5.8 IgG1 HC (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYP MHWVRQAPGKGLEWVAVISYDGSNKYYADSV KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RGRYFDWTLFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
590	Antibody 5.9 IgG1 HC (VH:G40A,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L)	QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYA MHWVRQAPGKGLEWVAVISYDGSNKYYADSV KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCA RGRYFDWFLFDYWGQGTLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS GALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREE QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS VMHEALHNHYTQKSLSLSPG
591	Antibody 6.0 IgG1 HC	QVQLVESGGGVVQPGRSLRLSCEASGFTFSSYV MHWVRQAPGKGLEWVSVISYDGSSQYYTDSVK GRFTISRDNSKNTLNLQMNSLRAEDTAVYYCVR GRLATAILFDYWGQGTLVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSG ALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPP CPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVV VDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQ

		YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKA LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKN QVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV MHEALHNHYTQKSLSLSPG
592	Antibody 6.1 IgG1 HC (VH:S67R_A114S_I134P,VL:F71L)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCEASGFTFSSYV MHWVRQAPGKGLEWVSVISYDGSRQYYTDSVK GRFTISRDNSKNTLNLQMNSLRAEDTAVYYCVR GRLATSPLFDYWGQGTLVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSG ALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPP CPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVV VDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQ YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKA LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKN QVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV MHEALHNHYTQKSLSLSPG
593	Antibody 6.2 IgG1 HC (VH:S67R_Q68A_L135K_F136L,VL:S109T_I110L)_huIgG1z mAb	QVQLVESGGGVVQPGRSLRLSCEASGFTFSSYV MHWVRQAPGKGLEWVSVISYDGSRAYYTDSVK GRFTISRDNSKNTLNLQMNSLRAEDTAVYYCVR GRLATAIKLDYWGQGTLVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSG ALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPP CPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVV VDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQ YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKA LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKN QVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV MHEALHNHYTQKSLSLSPG

Table 18. Exemplary nucleic acid sequences that encode antibodies of the present invention.

SEQ ID NO:	**Designation**	**Sequence**
594	Antibody 1 IgG1 HC DNA	GAGGTGCAGCTGGTGGAGTCTG GGGGAGGCTTGGTAAAGCCTGG GGGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTTACTTTCAGT AACGCCCGGATGGGCTGGGTCC GCCAGGCTCCAGGGAAGGGGCT GGAGTGGGTTGGCCGTATTAAA AGCAAAACTGAAGGTGGGACAA GAGACTACGCTGCACCCGTGAA AGGCAGATTCACCATCTCAAGA GATGATTCAAAAAACACGCTGT ATCTGCAAATGAACAGCCTGAA

		AACCGAGGACACAGCCGTGTAT TATTGTACCTCGTATAGTGGGGT CTGGGGCCAAGGGACAATGGTC ACCGTCTCTTCAGCCTCCACCAA GGGCCCATCGGTCTTCCCCCTGG CACCCTCCTCCAAGAGCACCTCT GGGGGCACAGCGGCCCTGGGCT GCCTGGTCAAGGACTACTTCCCC GAACCGGTGACGGTGTCGTGGA ACTCAGGCGCCCTGACCAGCGG CGTGCACACCTTCCCGGCTGTCC TACAGTCCTCAGGACTCTACTCC CTCAGCAGCGTGGTGACCGTGC CCTCCAGCAGCTTGGGCACCCA GACCTACATCTGCAACGTGAATC ACAAGCCCAGCAACACCAAGGT GGACAAGAAAGTTGAGCCCAAA TCTTGTGACAAAACTCACACATG CCCACCGTGCCCAGCACCTGAA CTCCTGGGGGGACCGTCAGTCTT CCTCTTCCCCCCAAAACCCAAGG ACACCCTCATGATCTCCCGGACC CCTGAGGTCACATGCGTGGTGGT GGACGTGAGCCACGAAGACCCT GAGGTCAAGTTCAACTGGTACG TGGACGGCGTGGAGGTGCATAA TGCCAAGACAAAGCCGCGGGAG GAGCAGTACAACAGCACGTACC GTGTGGTCAGCGTCCTCACCGTC CTGCACCAGGACTGGCTGAATG GCAAGGAGTACAAGTGCAAGGT GTCCAACAAAGCCCTCCCAGCC CCCATCGAGAAAACCATCTCCA AAGCCAAAGGGCAGCCCCGAGA ACCACAGGTGTACACCCTGCCCC CATCCCGGGAGGAGATGACCAA GAACCAGGTCAGCCTGACCTGC CTGGTCAAAGGCTTCTATCCCAG CGACATCGCCGTGGAGTGGGAG AGCAATGGGCAGCCGGAGAACA ACTACAAGACCACGCCTCCCGT GCTGGACTCCGACGGCTCCTTCT TCCTCTATAGCAAGCTCACCGTG GACAAGAGCAGGTGGCAGCAGG GGAACGTCTTCTCATGCTCCGTG ATGCATGAGGCTCTGCACAACC ACTACACGCAGAAGAGCCTCTC CCTGTCTCCGGGCAAATAG
595	Antibody 1 IgG1 LC DNA	GACATCGTGATGACCCAGTCTCC AGACTCCCTGGCTGTGTCTCTGG

		GCGAGAGGGCCACCATCAACTG CAAGTCCAGCCAGAGTGTTTTAT ACAGTTCCAACAATAAGAACTA CTTAGCTTGGTACCATCAGAAAC CAGGACAGTCTCCTAAGCTGCTC ATTTCCTGGGCATCTACCCGGGA ATCCGGGGTCCCTGACCGATTCA GTGGCAGCGGGTCTGGGACAGA TTTCACTCTCACCATCAACAGCC TGCAGGCTGAAGATGTGGCAGT TTATTACTGTCAACAATATTATA GTATTCCGATCACTTTCGGCGGA GGGACCAAGGTGGAGATCAAAC GAACGGTGGCTGCACCATCTGTC TTCATCTTCCCGCCATCTGATGA GCAGTTGAAATCTGGAACTGCCT CTGTTGTGTGCCTGCTGAATAAC TTCTATCCCAGAGAGGCCAAAG TACAGTGGAAGGTGGATAACGC CCTCCAATCGGGTAACTCCCAGG AGAGTGTCACAGAGCAGGACAG CAAGGACAGCACCTACAGCCTC AGCAGCACCCTGACGCTGAGCA AAGCAGACTACGAGAAACACAA AGTCTACGCCTGCGAAGTCACCC ATCAGGGCCTGAGCTCGCCCGTC ACAAAGAGCTTCAACAGGGGAG AGTGTTAG
596	Antibody 1.1 IgG1 (LC:H45Q_S51P) HC DNA	GAGGTGCAGCTGGTGGAGTCTG GGGGAGGCTTGGTAAAGCCTGG GGGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTTACTTTCAGT AACGCCCGGATGGGCTGGGTCC GCCAGGCTCCAGGGAAGGGGCT GGAGTGGGTTGGCCGTATTAAA AGCAAAACTGAAGGTGGGACAA GAGACTACGCTGCACCCGTGAA AGGCAGATTCACCATCTCAAGA GATGATTCAAAAAACACGCTGT ATCTGCAAATGAACAGCCTGAA AACCGAGGACACAGCCGTGTAT TATTGTACCTCGTATAGTGGGGT CTGGGGCCAAGGGACAATGGTC ACCGTCTCTTCAGCCTCCACCAA GGGCCCATCGGTCTTCCCCCTGG CACCCTCCTCCAAGAGCACCTCT GGGGGCACAGCGGCCCTGGGCT GCCTGGTCAAGGACTACTTCCCC GAACCGGTGACGGTGTCGTGGA ACTCAGGCGCCCTGACCAGCGG

		CGTGCACACCTTCCCGGCTGTCC TACAGTCCTCAGGACTCTACTCC CTCAGCAGCGTGGTGACCGTGC CCTCCAGCAGCTTGGGCACCCA GACCTACATCTGCAACGTGAATC ACAAGCCCAGCAACACCAAGGT GGACAAGAAAGTTGAGCCCAAA TCTTGTGACAAAACTCACACATG CCCACCGTGCCCAGCACCTGAA CTCCTGGGGGGACCGTCAGTCTT CCTCTTCCCCCCAAAACCCAAGG ACACCCTCATGATCTCCCGGACC CCTGAGGTCACATGCGTGGTGGT GGACGTGAGCCACGAAGACCCT GAGGTCAAGTTCAACTGGTACG TGGACGGCGTGGAGGTGCATAA TGCCAAGACAAAGCCGCGGGAG GAGCAGTACAACAGCACGTACC GTGTGGTCAGCGTCCTCACCGTC CTGCACCAGGACTGGCTGAATG GCAAGGAGTACAAGTGCAAGGT GTCCAACAAAGCCCTCCCAGCC CCCATCGAGAAAACCATCTCCA AAGCCAAAGGGCAGCCCCGAGA ACCACAGGTGTACACCCTGCCCC CATCCCGGGAGGAGATGACCAA GAACCAGGTCAGCCTGACCTGC CTGGTCAAAGGCTTCTATCCCAG CGACATCGCCGTGGAGTGGGAG AGCAATGGGCAGCCGGAGAACA ACTACAAGACCACGCCTCCCGT GCTGGACTCCGACGGCTCCTTCT TCCTCTATAGCAAGCTCACCGTG GACAAGAGCAGGTGGCAGCAGG GGAACGTCTTCTCATGCTCCGTG ATGCATGAGGCTCTGCACAACC ACTACACGCAGAAGAGCCTCTC CCTGTCTCCGGGCAAATAG
597	Antibody 1.1 IgG1 (LC:H45Q_S51P) LC DNA	GACATCGTGATGACCCAGTCTCC AGACTCCCTGGCTGTGTCTCTGG GCGAGAGGGCCACCATCAACTG CAAGTCCAGCCAGAGTGTTTTAT ACAGTTCCAACAATAAGAACTA CTTAGCTTGGTACCAGCAGAAA CCAGGACAGCCCCCTAAGCTGC TCATTTCCTGGGCATCTACCCGG GAATCCGGGGTCCCTGACCGATT CAGTGGCAGCGGGTCTGGGACA GATTTCACTCTCACCATCAACAG CCTGCAGGCTGAAGATGTGGCA

		GTTTATTACTGTCAACAATATTA TAGTATTCCGATCACTTTCGGCG GAGGGACCAAGGTGGAGATCAA ACGAACGGTGGCTGCACCATCT GTCTTCATCTTCCCGCCATCTGA TGAGCAGTTGAAATCTGGAACT GCCTCTGTTGTGTGCCTGCTGAA TAACTTCTATCCCAGAGAGGCCA AAGTACAGTGGAAGGTGGATAA CGCCCTCCAATCGGGTAACTCCC AGGAGAGTGTCACAGAGCAGGA CAGCAAGGACAGCACCTACAGC CTCAGCAGCACCCTGACGCTGA GCAAAGCAGACTACGAGAAACA CAAAGTCTACGCCTGCGAAGTC ACCCATCAGGGCCTGAGCTCGC CCGTCACAAAGAGCTTCAACAG GGGAGAGTGTTAG
598	Antibody 2.1 IgG1 HC (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A_S26A,HC:A71I_D72R) DNA	CAGGTGCAGTTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AACTATGGCATGCACTGGGTCC GCCAGGCTCCAGGCAAGGGGCT GGAGTGGGTGGCAGTCATATCA TATGATGGAAGTAATAAATTCTA TATCAGATCCGTGAAGGGCCGA TTCACCATCTCCAGAGACAATTC CAAGAACACTCTGTATCTTCAAA TGAACAGCCTGAGAGCCGAGGA CACGGCTGTATATTATTGTGCGA GAGCCGGGGGTATAGGGCGTTT TGACTACTGGGGCCAGGGAACC CTGGTCACCGTCTCCTCAGCCTC CACCAAGGGCCCATCGGTCTTCC CCCTGGCACCCTCCTCCAAGAGC ACCTCTGGGGGCACAGCGGCCC TGGGCTGCCTGGTCAAGGACTA CTTCCCCGAACCGGTGACGGTGT CGTGGAACTCAGGCGCCCTGAC CAGCGGCGTGCACACCTTCCCG GCTGTCCTACAGTCCTCAGGACT CTACTCCCTCAGCAGCGTGGTGA CCGTGCCCTCCAGCAGCTTGGGC ACCCAGACCTACATCTGCAACGT GAATCACAAGCCCAGCAACACC AAGGTGGACAAGAAAGTTGAGC CCAAATCTTGTGACAAAACTCAC ACATGCCCACCGTGCCCAGCAC CTGAACTCCTGGGGGGACCGTC

		AGTCTTCCTCTTCCCCCCAAAAC CCAAGGACACCCTCATGATCTCC CGGACCCCTGAGGTCACATGCG TGGTGGTGGACGTGAGCCACGA AGACCCTGAGGTCAAGTTCAAC TGGTACGTGGACGGCGTGGAGG TGCATAATGCCAAGACAAAGCC GCGGGAGGAGCAGTACAACAGC ACGTACCGTGTGGTCAGCGTCCT CACCGTCCTGCACCAGGACTGG CTGAATGGCAAGGAGTACAAGT GCAAGGTGTCCAACAAAGCCCT CCCAGCCCCCATCGAGAAAACC ATCTCCAAAGCCAAAGGGCAGC CCCGAGAACCACAGGTGTACAC CCTGCCCCCATCCCGGGAGGAG ATGACCAAGAACCAGGTCAGCC TGACCTGCCTGGTCAAAGGCTTC TATCCCAGCGACATCGCCGTGG AGTGGGAGAGCAATGGGCAGCC GGAGAACAACTACAAGACCACG CCTCCCGTGCTGGACTCCGACGG CTCCTTCTTCCTCTATAGCAAGC TCACCGTGGACAAGAGCAGGTG GCAGCAGGGGAACGTCTTCTCA TGCTCCGTGATGCATGAGGCTCT GCACAACCACTACACGCAGAAG AGCCTCTCCCTGTCTCCGGGCAA ATAG
599	Antibody 2.1 IgG1 LC (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A_S26A,HC:A71I_D72R) DNA	GATATCGTAATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGGCCGCCCAGAGCCTCCTGC ACAGTGATGGAAAGACCTATTT GTTTTGGTACCTGCAGAAGCCAG GCCAGAGCCCACAGCTCCTGAT CTATGAAGTTTCCAACCGGTTCT CTGGAGTGCCAGATAGGTTCAG TGGCAGCGGGTCAGGGACAGAT TTCACACTGAAGATCAGCCGGG TGGAGGCTGAGGATGTTGGGGT GTATTACTGCATGCAAACTTTAA AGCTTCCGCTCACTTTCGGCGGA GGGACCAAGGTGGAGATCAAGC GAACGGTGGCTGCACCATCTGTC TTCATCTTCCCGCCATCTGATGA GCAGTTGAAATCTGGAACTGCCT CTGTTGTGTGCCTGCTGAATAAC TTCTATCCCAGAGAGGCCAAAG TACAGTGGAAGGTGGATAACGC

		CCTCCAATCGGGTAACTCCCAGG AGAGTGTCACAGAGCAGGACAG CAAGGACAGCACCTACAGCCTC AGCAGCACCCTGACGCTGAGCA AAGCAGACTACGAGAAACACAA AGTCTACGCCTGCGAAGTCACCC ATCAGGGCCTGAGCTCGCCCGTC ACAAAGAGCTTCAACAGGGGAG AGTGTTAG
600	Antibody 2.2 IgG1 HC (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A,HC:A71L_D72K) DNA	CAGGTGCAGTTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AACTATGGCATGCACTGGGTCC GCCAGGCTCCAGGCAAGGGGCT GGAGTGGGTGGCAGTCATATCA TATGATGGAAGTAATAAATTCTA TCTGAAGTCCGTGAAGGGCCGA TTCACCATCTCCAGAGACAATTC CAAGAACACTCTGTATCTTCAAA TGAACAGCCTGAGAGCCGAGGA CACGGCTGTATATTATTGTGCGA GAGCCGGGGGTATAGGGCGTTT TGACTACTGGGGCCAGGGAACC CTGGTCACCGTCTCCTCAGCCTC CACCAAGGGCCCATCGGTCTTCC CCCTGGCACCCTCCTCCAAGAGC ACCTCTGGGGGCACAGCGGCCC TGGGCTGCCTGGTCAAGGACTA CTTCCCCGAACCGGTGACGGTGT CGTGGAACTCAGGCGCCCTGAC CAGCGGCGTGCACACCTTCCCG GCTGTCCTACAGTCCTCAGGACT CTACTCCCTCAGCAGCGTGGTGA CCGTGCCCTCCAGCAGCTTGGGC ACCCAGACCTACATCTGCAACGT GAATCACAAGCCCAGCAACACC AAGGTGGACAAGAAAGTTGAGC CCAAATCTTGTGACAAAACTCAC ACATGCCCACCGTGCCCAGCAC CTGAACTCCTGGGGGGACCGTC AGTCTTCCTCTTCCCCCCAAAAC CCAAGGACACCCTCATGATCTCC CGGACCCCTGAGGTCACATGCG TGGTGGTGGACGTGAGCCACGA AGACCCTGAGGTCAAGTTCAAC TGGTACGTGGACGGCGTGGAGG TGCATAATGCCAAGACAAAGCC GCGGGAGGAGCAGTACAACAGC ACGTACCGTGTGGTCAGCGTCCT

		CACCGTCCTGCACCAGGACTGG CTGAATGGCAAGGAGTACAAGT GCAAGGTGTCCAACAAAGCCCT CCCAGCCCCCATCGAGAAAACC ATCTCCAAAGCCAAAGGGCAGC CCCGAGAACCACAGGTGTACAC CCTGCCCCCATCCCGGGAGGAG ATGACCAAGAACCAGGTCAGCC TGACCTGCCTGGTCAAAGGCTTC TATCCCAGCGACATCGCCGTGG AGTGGGAGAGCAATGGGCAGCC GGAGAACAACTACAAGACCACG CCTCCCGTGCTGGACTCCGACGG CTCCTTCTTCCTCTATAGCAAGC TCACCGTGGACAAGAGCAGGTG GCAGCAGGGGAACGTCTTCTCA TGCTCCGTGATGCATGAGGCTCT GCACAACCACTACACGCAGAAG AGCCTCTCCCTGTCTCCGGGCAA ATAG
601	Antibody 2.2 IgG1 LC (LC:F2I_P51S_H53Q_L103V_N148K,HC:K87N_S94N_V98A)(LC:Y25A,HC:A71L_D72K) DNA	GATATCGTAATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGGCCAGTCAGAGCCTCCTGC ACAGTGATGGAAAGACCTATTT GTTTTGGTACCTGCAGAAGCCAG GCCAGAGCCCACAGCTCCTGAT CTATGAAGTTTCCAACCGGTTCT CTGGAGTGCCAGATAGGTTCAG TGGCAGCGGGTCAGGGACAGAT TTCACACTGAAGATCAGCCGGG TGGAGGCTGAGGATGTTGGGGT GTATTACTGCATGCAAACTTTAA AGCTTCCGCTCACTTTCGGCGGA GGGACCAAGGTGGAGATCAAGC GAACGGTGGCTGCACCATCTGTC TTCATCTTCCCGCCATCTGATGA GCAGTTGAAATCTGGAACTGCCT CTGTTGTGTGCCTGCTGAATAAC TTCTATCCCAGAGAGGCCAAAG TACAGTGGAAGGTGGATAACGC CCTCCAATCGGGTAACTCCCAGG AGAGTGTCACAGAGCAGGACAG CAAGGACAGCACCTACAGCCTC AGCAGCACCCTGACGCTGAGCA AAGCAGACTACGAGAAACACAA AGTCTACGCCTGCGAAGTCACCC ATCAGGGCCTGAGCTCGCCCGTC ACAAAGAGCTTCAACAGGGGAG AGTGTTAG

602	Antibody 3.0 IgG1 HC DNA	GAGGTGCAGCTGGTGGAGTCTG GGGGAGGCTTGGTAAAGCCTGG GGGGTCCCTTAGACTCTCCTGTG CAGCCTCTGGATTCATTTTTAGT AATGCCTGGATGAGCTGGGTCC GCCAGGCTCCAGGGAAGGGGCT GGAGTGGGTTGCCCGTATTAAA AGGAGAACTGATGGTGGGACAA CTGACTACGCTGCACCCGTGAA AGACAGATTCACCATCTCAAGA GATGATTCAAAAAACACGCTGT TTCTGCAAATGAACAGCCTGAA AACCGAGGACACAGCCGTGTAT TACTGTACCACAGTTACTATGGT TCGGGGAGTTATTGCTGATTACT GGGGCCAGGGAACCCTGGTCAC CGTCTCCTCAGCCTCCACCAAGG GCCCATCGGTCTTCCCCCTGGCA CCCTCCTCCAAGAGCACCTCTGG GGGCACAGCGGCCCTGGGCTGC CTGGTCAAGGACTACTTCCCCGA ACCGGTGACGGTGTCGTGGAAC TCAGGCGCCCTGACCAGCGGCG TGCACACCTTCCCGGCTGTCCTA CAGTCCTCAGGACTCTACTCCCT CAGCAGCGTGGTGACCGTGCCC TCCAGCAGCTTGGGCACCCAGA CCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGG ACAAGAAAGTTGAGCCCAAATC TTGTGACAAAACTCACACATGCC CACCGTGCCCAGCACCTGAACTC CTGGGGGGACCGTCAGTCTTCCT CTTCCCCCCAAAACCCAAGGAC ACCCTCATGATCTCCCGGACCCC TGAGGTCACATGCGTGGTGGTG GACGTGAGCCACGAAGACCCTG AGGTCAAGTTCAACTGGTACGT GGACGGCGTGGAGGTGCATAAT GCCAAGACAAAGCCGCGGGAGG AGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCC TGCACCAGGACTGGCTGAATGG CAAGGAGTACAAGTGCAAGGTG TCCAACAAAGCCCTCCCAGCCCC CATCGAGAAAACCATCTCCAAA GCCAAAGGGCAGCCCCGAGAAC CACAGGTGTACACCCTGCCCCCA TCCCGGGAGGAGATGACCAAGA ACCAGGTCAGCCTGACCTGCCTG

		GTCAAAGGCTTCTATCCCAGCGA CATCGCCGTGGAGTGGGAGAGC AATGGGCAGCCGGAGAACAACT ACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGAC AAGAGCAGGTGGCAGCAGGGGA ACGTCTTCTCATGCTCCGTGATG CATGAGGCTCTGCACAACCACT ACACGCAGAAGAGCCTCTCCCT GTCTCCGGGCAAATAG
603	Antibody 3.0 IgG1 LC DNA	GAAATTGTGTTGACGCAGTCTCC AGGCACCCTGTCTTTGTCTCCAG GGGAAAGAGCCACCCTCTCCTG CAGGGCCAGTCAGAGTGTTAGC AGCGGCTCCTTAGCCTGGTACCA GCAGAAACTTGGCCAGGCTCCC AGGCTCCTCATCTATGGTGCATC CAGCAGGGCCACTGGCATCCCA GACAGGTTCAGTGGCAGTGGGT CTGGGACAGACTTCACTCTCACC ATCAGCAGCCTGGAGCCTGAAG ATTTTGCAGTGTATTACTGTCAA CAGTATGGTAGCTCACGGACGTT CGGCCAAGGGACCAAGGTGGAG CTCAAACGAACGGTGGCTGCAC CATCTGTCTTCATCTTCCCGCCA TCTGATGAGCAGTTGAAATCTGG AACTGCCTCTGTTGTGTGCCTGC TGAATAACTTCTATCCCAGAGAG GCCAAAGTACAGTGGAAGGTGG ATAACGCCCTCCAATCGGGTAA CTCCCAGGAGAGTGTCACAGAG CAGGACAGCAAGGACAGCACCT ACAGCCTCAGCAGCACCCTGAC GCTGAGCAAAGCAGACTACGAG AAACACAAAGTCTACGCCTGCG AAGTCACCCATCAGGGCCTGAG CTCGCCCGTCACAAAGAGCTTCA ACAGGGGAGAGTGTTAG
604	Antibody 4.0 IgG1 HC DNA	GAGGTGCAGCTGGTGGAGTCTG GGGGAGGCTTGGTAAAGCCTGG GGGGTCCCTTAGACTCTCCTGTG CAGCCTCTGGATTCATTTTCAGT AACGCCTGGATGAGCTGGGTCC GCCAGGCTCCAGGGAAGGGGCT GGAGTGGGTTGGCCGTATAAAA AGGAAAACTGATGGTGGTACAA CAGACTACGCTGCACCCGTGAA AGGCAGATTCACCATCTCAAGA

		GATGATTCAAAAAACACGTTGT ATCTGCTAATGAACAGCCTGAA AATCGAGGACACAGCCGTGTAT TATTGTACCGTCGTAACTTTGGT TCGGGGAATTATCTTTGACTACT GGGGCCAGGGAACCCTGGTCAC CGTCTCCTCAGCCTCCACCAAGG GCCCATCGGTCTTCCCCCTGGCA CCCTCCTCCAAGAGCACCTCTGG GGGCACAGCGGCCCTGGGCTGC CTGGTCAAGGACTACTTCCCCGA ACCGGTGACGGTGTCGTGGAAC TCAGGCGCCCTGACCAGCGGCG TGCACACCTTCCCGGCTGTCCTA CAGTCCTCAGGACTCTACTCCCT CAGCAGCGTGGTGACCGTGCCC TCCAGCAGCTTGGGCACCCAGA CCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGG ACAAGAAAGTTGAGCCCAAATC TTGTGACAAAACTCACACATGCC CACCGTGCCCAGCACCTGAACTC CTGGGGGGACCGTCAGTCTTCCT CTTCCCCCCAAAACCCAAGGAC ACCCTCATGATCTCCCGGACCCC TGAGGTCACATGCGTGGTGGTG GACGTGAGCCACGAAGACCCTG AGGTCAAGTTCAACTGGTACGT GGACGGCGTGGAGGTGCATAAT GCCAAGACAAAGCCGCGGGAGG AGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCC TGCACCAGGACTGGCTGAATGG CAAGGAGTACAAGTGCAAGGTG TCCAACAAAGCCCTCCCAGCCCC CATCGAGAAAACCATCTCCAAA GCCAAAGGGCAGCCCCGAGAAC CACAGGTGTACACCCTGCCCCCA TCCCGGGAGGAGATGACCAAGA ACCAGGTCAGCCTGACCTGCCTG GTCAAAGGCTTCTATCCCAGCGA CATCGCCGTGGAGTGGGAGAGC AATGGGCAGCCGGAGAACAACT ACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGAC AAGAGCAGGTGGCAGCAGGGGA ACGTCTTCTCATGCTCCGTGATG CATGAGGCTCTGCACAACCACT

		ACACGCAGAAGAGCCTCTCCCT GTCTCCGGGCAAATAG
605	Antibody 4.0 IgG1 LC DNA	GAAATTGTGTTGACGCAGTCTCC GGGCACCCTGTCTTTGTCTCCAG GGGAAAGCGCCACCCTCTCCTGT AGGGTCAGTCAGAGTGTCAGCA GCAGCCAGTTAGCCTGGTACCA GCAGAAACCTGGCCAGGCTCCC AGGCTCCTCATCTATGGTGCATC CAGCAGGGCCACTGGCATCCCA GACAGGTTCAGTGGCAGTGGGT CTGGGACAGACTTCACTCTCACC ATCAGCAGACTGGAGCCTGAAG ATTTTGCAGTGTATTACTGTCAG CAGTATGGTAACTCACGGACGTT CGGCCAAGGGACCAAGGTGGAA ATCAAACGAACGGTGGCTGCAC CATCTGTCTTCATCTTCCCGCCA TCTGATGAGCAGTTGAAATCTGG AACTGCCTCTGTTGTGTGCCTGC TGAATAACTTCTATCCCAGAGAG GCCAAAGTACAGTGGAAGGTGG ATAACGCCCTCCAATCGGGTAA CTCCCAGGAGAGTGTCACAGAG CAGGACAGCAAGGACAGCACCT ACAGCCTCAGCAGCACCCTGAC GCTGAGCAAAGCAGACTACGAG AAACACAAAGTCTACGCCTGCG AAGTCACCCATCAGGGCCTGAG CTCGCCCGTCACAAAGAGCTTCA ACAGGGGAGAGTGTTAG
606	Antibody 4.1 IgG1 HC (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L) DNA	GAGGTGCAGCTGGTGGAGTCTG GGGGAGGCTTGGTAAAGCCTGG GGGGTCCCTTAGACTCTCCTGTG CAGCCTCTGGATTCATTTTCAGT AACGCCTGGCTGCAGTGGGTCC GCCAGGCTCCAGGGAAGGGGCT GGAGTGGGTTGGCCGTATCAAA AGGAAAACTGATCAGCTGACAA CAGACTACGCTGCACCCGTGAA AGGCAGATTCACCATCTCAAGA GATGATTCAAAAAACACGTTGT ATCTGCTAATGAACAGCCTGAA AATCGAGGACACAGCCGTGTAT TATTGTACCGTCGTAACTAGAAG CCGGGGAATTATCTTTGACTACT GGGGCCAGGGAACCCTGGTCAC CGTGTCCTCAGCCTCCACCAAGG GCCCATCGGTCTTCCCCCTGGCA CCCTCCTCCAAGAGCACCTCTGG

		GGGCACAGCGGCCCTGGGCTGC CTGGTCAAGGACTACTTCCCCGA ACCGGTGACGGTGTCGTGGAAC TCAGGCGCCCTGACCAGCGGCG TGCACACCTTCCCGGCTGTCCTA CAGTCCTCAGGACTCTACTCCCT CAGCAGCGTGGTGACCGTGCCC TCCAGCAGCTTGGGCACCCAGA CCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGG ACAAGAAAGTTGAGCCCAAATC TTGTGACAAAACTCACACATGCC CACCGTGCCCAGCACCTGAACTC CTGGGGGGACCGTCAGTCTTCCT CTTCCCCCCAAAACCCAAGGAC ACCCTCATGATCTCCCGGACCCC TGAGGTCACATGCGTGGTGGTG GACGTGAGCCACGAAGACCCTG AGGTCAAGTTCAACTGGTACGT GGACGGCGTGGAGGTGCATAAT GCCAAGACAAAGCCGCGGGAGG AGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCC TGCACCAGGACTGGCTGAATGG CAAGGAGTACAAGTGCAAGGTG TCCAACAAAGCCCTCCCAGCCCC CATCGAGAAAACCATCTCCAAA GCCAAAGGGCAGCCCCGAGAAC CACAGGTGTACACCCTGCCCCCA TCCCGGGAGGAGATGACCAAGA ACCAGGTCAGCCTGACCTGCCTG GTCAAAGGCTTCTATCCCAGCGA CATCGCCGTGGAGTGGGAGAGC AATGGGCAGCCGGAGAACAACT ACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGAC AAGAGCAGGTGGCAGCAGGGGA ACGTCTTCTCATGCTCCGTGATG CATGAGGCTCTGCACAACCACT ACACGCAGAAGAGCCTCTCCCT GTCTCCGGGCAAATAG
607	Antibody 4.1 IgG1 LC (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65Q_G66L) DNA	GAAATTGTGTTGACGCAGTCTCC GGGCACCCTGTCTTTGTCTCCAG GGGAAAGCGCCACCCTCTCCTGT AGGGTCAGTCAGAGTGTCAGCA GCAGCCAGTTAGCCTGGTACCA GCAGAAACCTGGCCAGGCTCCC AGGCTCCTCATCTATGGTGCATC CAGCAGGGCCACTGGCATCCCA

		GACAGGTTCAGTGGCAGTGGGT CTGGGACAGACTTCACTCTCACC ATCAGCAGACTGGAGCCTGAAG ATTTTGCAGTGTATTACTGTCAG CAGTATGGTAACCCCCGGACGTT CGGCCAAGGGACCAAGGTGGAA ATCAAACGAACGGTGGCTGCAC CATCTGTCTTCATCTTCCCGCCA TCTGATGAGCAGTTGAAATCTGG AACTGCCTCTGTTGTGTGCCTGC TGAATAACTTCTATCCCAGAGAG GCCAAAGTACAGTGGAAGGTGG ATAACGCCCTCCAATCGGGTAA CTCCCAGGAGAGTGTCACAGAG CAGGACAGCAAGGACAGCACCT ACAGCCTCAGCAGCACCCTGAC GCTGAGCAAAGCAGACTACGAG AAACACAAAGTCTACGCCTGCG AAGTCACCCATCAGGGCCTGAG CTCGCCCGTCACAAAGAGCTTCA ACAGGGGAGAGTGTTAG
608	Antibody 4.2 IgG1 HC (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S) DNA	GAGGTGCAGCTGGTGGAGTCTG GGGGAGGCTTGGTAAAGCCTGG GGGGTCCCTTAGACTCTCCTGTG CAGCCTCTGGATTCATTTTCAGT AACGCCTGGCTGCAGTGGGTCC GCCAGGCTCCAGGGAAGGGGCT GGAGTGGGTTGGCCGTATCAAA AGGAAAACTGATGCCAGCACAA CAGACTACGCTGCACCCGTGAA AGGCAGATTCACCATCTCAAGA GATGATTCAAAAAACACGTTGT ATCTGCTAATGAACAGCCTGAA AATCGAGGACACAGCCGTGTAT TATTGTACCGTCGTAACTAGAAG CCGGGGAATTATCTTTGACTACT GGGGCCAGGGAACCCTGGTCAC CGTGTCCTCAGCCTCCACCAAGG GCCCATCGGTCTTCCCCCTGGCA CCCTCCTCCAAGAGCACCTCTGG GGGCACAGCGGCCCTGGGCTGC CTGGTCAAGGACTACTTCCCCGA ACCGGTGACGGTGTCGTGGAAC TCAGGCGCCCTGACCAGCGGCG TGCACACCTTCCCGGCTGTCCTA CAGTCCTCAGGACTCTACTCCCT CAGCAGCGTGGTGACCGTGCCC TCCAGCAGCTTGGGCACCCAGA CCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGG

		ACAAGAAAGTTGAGCCCAAATC TTGTGACAAAACTCACACATGCC CACCGTGCCCAGCACCTGAACTC CTGGGGGGACCGTCAGTCTTCCT CTTCCCCCCAAAACCCAAGGAC ACCCTCATGATCTCCCGGACCCC TGAGGTCACATGCGTGGTGGTG GACGTGAGCCACGAAGACCCTG AGGTCAAGTTCAACTGGTACGT GGACGGCGTGGAGGTGCATAAT GCCAAGACAAAGCCGCGGGAGG AGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCC TGCACCAGGACTGGCTGAATGG CAAGGAGTACAAGTGCAAGGTG TCCAACAAAGCCCTCCCAGCCCC CATCGAGAAAACCATCTCCAAA GCCAAAGGGCAGCCCCGAGAAC CACAGGTGTACACCCTGCCCCCA TCCCGGGAGGAGATGACCAAGA ACCAGGTCAGCCTGACCTGCCTG GTCAAAGGCTTCTATCCCAGCGA CATCGCCGTGGAGTGGGAGAGC AATGGGCAGCCGGAGAACAACT ACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGAC AAGAGCAGGTGGCAGCAGGGGA ACGTCTTCTCATGCTCCGTGATG CATGAGGCTCTGCACAACCACT ACACGCAGAAGAGCCTCTCCCT GTCTCCGGGCAAATAG
609	Antibody 4.2 IgG1 LC (VH:M41L_S42Q_L111R_V112S,VL :S18R_S136P)_huIgG1z mAb(LC:R18S,HC:G65A_G66S) DNA	GAAATTGTGTTGACGCAGTCTCC GGGCACCCTGTCTTTGTCTCCAG GGGAAAGCGCCACCCTCTCCTGT AGGGTCAGTCAGAGTGTCAGCA GCAGCCAGTTAGCCTGGTACCA GCAGAAACCTGGCCAGGCTCCC AGGCTCCTCATCTATGGTGCATC CAGCAGGGCCACTGGCATCCCA GACAGGTTCAGTGGCAGTGGGT CTGGGACAGACTTCACTCTCACC ATCAGCAGACTGGAGCCTGAAG ATTTTGCAGTGTATTACTGTCAG CAGTATGGTAACCCCCGGACGTT CGGCCAAGGGACCAAGGTGGAA ATCAAACGAACGGTGGCTGCAC CATCTGTCTTCATCTTCCCGCCA TCTGATGAGCAGTTGAAATCTGG AACTGCCTCTGTTGTGTGCCTGC

		TGAATAACTTCTATCCCAGAGAG GCCAAAGTACAGTGGAAGGTGG ATAACGCCCTCCAATCGGGTAA CTCCCAGGAGAGTGTCACAGAG CAGGACAGCAAGGACAGCACCT ACAGCCTCAGCAGCACCCTGAC GCTGAGCAAAGCAGACTACGAG AAACACAAAGTCTACGCCTGCG AAGTCACCCATCAGGGCCTGAG CTCGCCCGTCACAAAGAGCTTCA ACAGGGGAGAGTGTTAG
610	Antibody 5.0 IgG1 HC DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AGCTATGGCATGCACTGGGTCC GCCAGGCTCCAGGCAAGGGGCT GGAGTGGGTGGCAGTTATATCA TATGATGGAAGTAATAAATACT ATGCAGACTCCGTGAAGGGCCG ATTCACCATCTCCAGAGACAATT CCAAGAACACGCTGTATCTGCA AATGAACAGCCTGAGAGCTGAG GACACGGCTGTGTATTACTGTGC GAGGGGGCGATATTTTGACTGG TTCCTCTTTGACTACTGGGGCCA GGGAACCCTGGTCACCGTCTCCT CAGCCTCCACCAAGGGCCCATC GGTCTTCCCCCTGGCACCCTCCT CCAAGAGCACCTCTGGGGGCAC AGCGGCCCTGGGCTGCCTGGTC AAGGACTACTTCCCCGAACCGG TGACGGTGTCGTGGAACTCAGG CGCCCTGACCAGCGGCGTGCAC ACCTTCCCGGCTGTCCTACAGTC CTCAGGACTCTACTCCCTCAGCA GCGTGGTGACCGTGCCCTCCAGC AGCTTGGGCACCCAGACCTACA TCTGCAACGTGAATCACAAGCC CAGCAACACCAAGGTGGACAAG AAAGTTGAGCCCAAATCTTGTG ACAAAACTCACACATGCCCACC GTGCCCAGCACCTGAACTCCTGG GGGGACCGTCAGTCTTCCTCTTC CCCCCAAAACCCAAGGACACCC TCATGATCTCCCGGACCCCTGAG GTCACATGCGTGGTGGTGGACG TGAGCCACGAAGACCCTGAGGT CAAGTTCAACTGGTACGTGGAC GGCGTGGAGGTGCATAATGCCA

		AGACAAAGCCGCGGGAGGAGCA GTACAACAGCACGTACCGTGTG GTCAGCGTCCTCACCGTCCTGCA CCAGGACTGGCTGAATGGCAAG GAGTACAAGTGCAAGGTGTCCA ACAAAGCCCTCCCAGCCCCCATC GAGAAAACCATCTCCAAAGCCA AAGGGCAGCCCCGAGAACCACA GGTGTACACCCTGCCCCCATCCC GGGAGGAGATGACCAAGAACCA GGTCAGCCTGACCTGCCTGGTCA AAGGCTTCTATCCCAGCGACATC GCCGTGGAGTGGGAGAGCAATG GGCAGCCGGAGAACAACTACAA GACCACGCCTCCCGTGCTGGACT CCGACGGCTCCTTCTTCCTCTAT AGCAAGCTCACCGTGGACAAGA GCAGGTGGCAGCAGGGGAACGT CTTCTCATGCTCCGTGATGCATG AGGCTCTGCACAACCACTACAC GCAGAAGAGCCTCTCCCTGTCTC CGGGCAAATAG
611	Antibody 5.0 IgG1 LC DNA	GATACTGTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGTCAGAGCCTCCTACA TAGTGATGGAAAGACCTATTTGT TTTGGTACCTGCAGAAGCCAGG CCAGCCTCCACAGCTCCTGATCA GTGAAGTTTCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGTGTG GAGGCTGAGGATGTTGGGTTTTA TTACTGCATGCAAAGTTTACGGC TTCCGCTCACTTTCGGCGGAGGG ACCAAGGTGGAGATCAAACGAA CGGTGGCTGCACCATCTGTCTTC ATCTTCCCGCCATCTGATGAGCA GTTGAAATCTGGAACTGCCTCTG TTGTGTGCCTGCTGAATAACTTC TATCCCAGAGAGGCCAAAGTAC AGTGGAAGGTGGATAACGCCCT CCAATCGGGTAACTCCCAGGAG AGTGTCACAGAGCAGGACAGCA AGGACAGCACCTACAGCCTCAG CAGCACCCTGACGCTGAGCAAA GCAGACTACGAGAAACACAAAG TCTACGCCTGCGAAGTCACCCAT CAGGGCCTGAGCTCGCCCGTCA

		CAAAGAGCTTCAACAGGGGAGA GTGTTAG
612	Antibody 5.1 IgG1 HC (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AGCTATGGCATGCACTGGGTCC GCCAGGCTCCAGGCAAGGGGCT GGAGTGGGTGGCAGTTATCTCAT ATGATGGAAGTAATAAATACTA TGCAGACTCCGTGAAGGGCCGA TTCACCATCTCCAGAGACAATTC CAAGAACACGCTGTATCTGCAA ATGAACAGCCTGAGAGCTGAGG ACACGGCTGTGTATTACTGTGCG AGGGGGCGATATTTTGACTGGA CCCTCTTTGACTACTGGGGCCAG GGAACCCTGGTCACCGTGTCCTC AGCCTCCACCAAGGGCCCATCG GTCTTCCCCCTGGCACCCTCCTC CAAGAGCACCTCTGGGGGCACA GCGGCCCTGGGCTGCCTGGTCA AGGACTACTTCCCCGAACCGGT GACGGTGTCGTGGAACTCAGGC GCCCTGACCAGCGGCGTGCACA CCTTCCCGGCTGTCCTACAGTCC TCAGGACTCTACTCCCTCAGCAG CGTGGTGACCGTGCCCTCCAGCA GCTTGGGCACCCAGACCTACATC TGCAACGTGAATCACAAGCCCA GCAACACCAAGGTGGACAAGAA AGTTGAGCCCAAATCTTGTGACA AAACTCACACATGCCCACCGTG CCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCC CCCAAAACCCAAGGACACCCTC ATGATCTCCCGGACCCCTGAGGT CACATGCGTGGTGGTGGACGTG AGCCACGAAGACCCTGAGGTCA AGTTCAACTGGTACGTGGACGG CGTGGAGGTGCATAATGCCAAG ACAAAGCCGCGGGAGGAGCAGT ACAACAGCACGTACCGTGTGGT CAGCGTCCTCACCGTCCTGCACC AGGACTGGCTGAATGGCAAGGA GTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCG AGAAAACCATCTCCAAAGCCAA AGGGCAGCCCCGAGAACCACAG GTGTACACCCTGCCCCCATCCCG

		GGAGGAGATGACCAAGAACCAG GTCAGCCTGACCTGCCTGGTCAA AGGCTTCTATCCCAGCGACATCG CCGTGGAGTGGGAGAGCAATGG GCAGCCGGAGAACAACTACAAG ACCACGCCTCCCGTGCTGGACTC CGACGGCTCCTTCTTCCTCTATA GCAAGCTCACCGTGGACAAGAG CAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACG CAGAAGAGCCTCTCCCTGTCTCC GGGCAAATAG
613	Antibody 5.1 IgG1 LC (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb DNA	GATACTGTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGTCAGAGCCTCCTACA TAGAGATGGAAAGACCTATTTG TTTTGGTACCTGCAGAAGCCAGG CCAGCCTCCACAGCTCCTGATCT ACGAAGTTTCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGTGTG GAGGCTGAGGATGTTGGGGTGT ATTACTGCATGCAAAGTTTACGG CTTCCGCTCACTTTCGGCGGAGG GACCAAGGTGGAGATCAAACGA ACGGTGGCTGCACCATCTGTCTT CATCTTCCCGCCATCTGATGAGC AGTTGAAATCTGGAACTGCCTCT GTTGTGTGCCTGCTGAATAACTT CTATCCCAGAGAGGCCAAAGTA CAGTGGAAGGTGGATAACGCCC TCCAATCGGGTAACTCCCAGGA GAGTGTCACAGAGCAGGACAGC AAGGACAGCACCTACAGCCTCA GCAGCACCCTGACGCTGAGCAA AGCAGACTACGAGAAACACAAA GTCTACGCCTGCGAAGTCACCCA TCAGGGCCTGAGCTCGCCCGTCA CAAAGAGCTTCAACAGGGGAGA GTGTTAG
614	Antibody 5.2 IgG1 HC (VH:G40P_F134T,VL:S57Y_E58L_V 67R_F103V)_huIgG1z mAb DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AGCTATCCCATGCACTGGGTCCG CCAGGCTCCAGGCAAGGGGCTG GAGTGGGTGGCAGTTATCTCATA

		TGATGGAAGTAATAAATACTAT GCAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCC AAGAACACGCTGTATCTGCAAA TGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTACTGTGCGA GGGGGCGATATTTTGACTGGAC CCTCTTTGACTACTGGGGCCAGG GAACCCTGGTCACCGTGTCCTCA GCCTCCACCAAGGGCCCATCGG TCTTCCCCCTGGCACCCTCCTCC AAGAGCACCTCTGGGGGCACAG CGGCCCTGGGCTGCCTGGTCAA GGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCG CCCTGACCAGCGGCGTGCACAC CTTCCCGGCTGTCCTACAGTCCT CAGGACTCTACTCCCTCAGCAGC GTGGTGACCGTGCCCTCCAGCA GCTTGGGCACCCAGACCTACATC TGCAACGTGAATCACAAGCCCA GCAACACCAAGGTGGACAAGAA AGTTGAGCCCAAATCTTGTGACA AAACTCACACATGCCCACCGTG CCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCC CCCAAAACCCAAGGACACCCTC ATGATCTCCCGGACCCCTGAGGT CACATGCGTGGTGGTGGACGTG AGCCACGAAGACCCTGAGGTCA AGTTCAACTGGTACGTGGACGG CGTGGAGGTGCATAATGCCAAG ACAAAGCCGCGGGAGGAGCAGT ACAACAGCACGTACCGTGTGGT CAGCGTCCTCACCGTCCTGCACC AGGACTGGCTGAATGGCAAGGA GTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCG AGAAAACCATCTCCAAAGCCAA AGGGCAGCCCCGAGAACCACAG GTGTACACCCTGCCCCCATCCCG GGAGGAGATGACCAAGAACCAG GTCAGCCTGACCTGCCTGGTCAA AGGCTTCTATCCCAGCGACATCG CCGTGGAGTGGGAGAGCAATGG GCAGCCGGAGAACAACTACAAG ACCACGCCTCCCGTGCTGGACTC CGACGGCTCCTTCTTCCTCTATA GCAAGCTCACCGTGGACAAGAG CAGGTGGCAGCAGGGGAACGTC

		TTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACG CAGAAGAGCCTCTCCCTGTCTCC GGGCAAATAG
615	Antibody 5.2 IgG1 LC (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb DNA	GATACTGTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGTCAGAGCCTCCTACA TAGTGATGGAAAGACCTATTTGT TTTGGTACCTGCAGAAGCCAGG CCAGCCTCCACAGCTCCTGATCT ACCTGAGATCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGTGTG GAGGCTGAGGATGTTGGGGTGT ATTACTGCATGCAAAGTTTACGG CTTCCGCTCACTTTCGGCGGAGG GACCAAGGTGGAGATCAAACGA ACGGTGGCTGCACCATCTGTCTT CATCTTCCCGCCATCTGATGAGC AGTTGAAATCTGGAACTGCCTCT GTTGTGTGCCTGCTGAATAACTT CTATCCCAGAGAGGCCAAAGTA CAGTGGAAGGTGGATAACGCCC TCCAATCGGGTAACTCCCAGGA GAGTGTCACAGAGCAGGACAGC AAGGACAGCACCTACAGCCTCA GCAGCACCCTGACGCTGAGCAA AGCAGACTACGAGAAACACAAA GTCTACGCCTGCGAAGTCACCCA TCAGGGCCTGAGCTCGCCCGTCA CAAAGAGCTTCAACAGGGGAGA GTGTTAG
616	Antibody 5.3 IgG1 HC (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AGCTATGGCATGCACTGGGTCC GCCAGGCTCCAGGCAAGGGGCT GGAGTGGGTGGCAGTTATCTCAT ATGATGGAAGTAATAAATACTA TAGCAGATCCGTGAAGGGCCGA TTCACCATCTCCAGAGACAATTC CAAGAACACGCTGTATCTGCAA ATGAACAGCCTGAGAGCTGAGG ACACGGCTGTGTATTACTGTGCG AGGGGGCGATATTTTGACTGGTT CCTCTTTGACTACTGGGGCCAGG GAACCCTGGTCACCGTGTCCTCA

		GCCTCCACCAAGGGCCCATCGG TCTTCCCCCTGGCACCCTCCTCC AAGAGCACCTCTGGGGGCACAG CGGCCCTGGGCTGCCTGGTCAA GGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCG CCCTGACCAGCGGCGTGCACAC CTTCCCGGCTGTCCTACAGTCCT CAGGACTCTACTCCCTCAGCAGC GTGGTGACCGTGCCCTCCAGCA GCTTGGGCACCCAGACCTACATC TGCAACGTGAATCACAAGCCCA GCAACACCAAGGTGGACAAGAA AGTTGAGCCCAAATCTTGTGACA AAACTCACACATGCCCACCGTG CCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCC CCCAAAACCCAAGGACACCCTC ATGATCTCCCGGACCCCTGAGGT CACATGCGTGGTGGTGGACGTG AGCCACGAAGACCCTGAGGTCA AGTTCAACTGGTACGTGGACGG CGTGGAGGTGCATAATGCCAAG ACAAAGCCGCGGGAGGAGCAGT ACAACAGCACGTACCGTGTGGT CAGCGTCCTCACCGTCCTGCACC AGGACTGGCTGAATGGCAAGGA GTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCG AGAAAACCATCTCCAAAGCCAA AGGGCAGCCCCGAGAACCACAG GTGTACACCCTGCCCCCATCCCG GGAGGAGATGACCAAGAACCAG GTCAGCCTGACCTGCCTGGTCAA AGGCTTCTATCCCAGCGACATCG CCGTGGAGTGGGAGAGCAATGG GCAGCCGGAGAACAACTACAAG ACCACGCCTCCCGTGCTGGACTC CGACGGCTCCTTCTTCCTCTATA GCAAGCTCACCGTGGACAAGAG CAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACG CAGAAGAGCCTCTCCCTGTCTCC GGGCAAATAG
617	Antibody 5.3 IgG1 LC (VH:A71S_D72R,VL:S57Y_E58L_V67S_F103V)_huIgG1z mAb DNA	GATACTGTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGTCAGAGCCTCCTACA TAGTGATGGAAAGACCTATTTGT

		TTTGGTACCTGCAGAAGCCAGG CCAGCCTCCACAGCTCCTGATCT ACCTGAGCTCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGTGTG GAGGCTGAGGATGTTGGGGTGT ATTACTGCATGCAAAGTTTACGG CTTCCGCTCACTTTCGGCGGAGG GACCAAGGTGGAGATCAAACGA ACGGTGGCTGCACCATCTGTCTT CATCTTCCCGCCATCTGATGAGC AGTTGAAATCTGGAACTGCCTCT GTTGTGTGCCTGCTGAATAACTT CTATCCCAGAGAGGCCAAAGTA CAGTGGAAGGTGGATAACGCCC TCCAATCGGGTAACTCCCAGGA GAGTGTCACAGAGCAGGACAGC AAGGACAGCACCTACAGCCTCA GCAGCACCCTGACGCTGAGCAA AGCAGACTACGAGAAACACAAA GTCTACGCCTGCGAAGTCACCCA TCAGGGCCTGAGCTCGCCCGTCA CAAAGAGCTTCAACAGGGGAGA GTGTTAG
618	Antibody 5.4 IgG1 HC (VH:G40A,VL:S57Y_E58L_V67T_F 103V)_huIgG1z mAb DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AGCTATGCCATGCACTGGGTCCG CCAGGCTCCAGGCAAGGGGCTG GAGTGGGTGGCAGTTATCTCATA TGATGGAAGTAATAAATACTAT GCAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCC AAGAACACGCTGTATCTGCAAA TGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTACTGTGCGA GGGGGCGATATTTTGACTGGTTC CTCTTTGACTACTGGGGCCAGGG AACCCTGGTCACCGTGTCCTCAG CCTCCACCAAGGGCCCATCGGTC TTCCCCCTGGCACCCTCCTCCAA GAGCACCTCTGGGGGCACAGCG GCCCTGGGCTGCCTGGTCAAGG ACTACTTCCCCGAACCGGTGACG GTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTC CCGGCTGTCCTACAGTCCTCAGG ACTCTACTCCCTCAGCAGCGTGG

		TGACCGTGCCCTCCAGCAGCTTG GGCACCCAGACCTACATCTGCA ACGTGAATCACAAGCCCAGCAA CACCAAGGTGGACAAGAAAGTT GAGCCCAAATCTTGTGACAAAA CTCACACATGCCCACCGTGCCCA GCACCTGAACTCCTGGGGGGAC CGTCAGTCTTCCTCTTCCCCCCA AAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACA TGCGTGGTGGTGGACGTGAGCC ACGAAGACCCTGAGGTCAAGTT CAACTGGTACGTGGACGGCGTG GAGGTGCATAATGCCAAGACAA AGCCGCGGGAGGAGCAGTACAA CAGCACGTACCGTGTGGTCAGC GTCCTCACCGTCCTGCACCAGGA CTGGCTGAATGGCAAGGAGTAC AAGTGCAAGGTGTCCAACAAAG CCCTCCCAGCCCCCATCGAGAA AACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGT ACACCCTGCCCCCATCCCGGGA GGAGATGACCAAGAACCAGGTC AGCCTGACCTGCCTGGTCAAAG GCTTCTATCCCAGCGACATCGCC GTGGAGTGGGAGAGCAATGGGC AGCCGGAGAACAACTACAAGAC CACGCCTCCCGTGCTGGACTCCG ACGGCTCCTTCTTCCTCTATAGC AAGCTCACCGTGGACAAGAGCA GGTGGCAGCAGGGGAACGTCTT CTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGG GCAAATAG
619	Antibody 5.4 IgG1 LC (VH:G40A,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb DNA	GATACTGTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGTCAGAGCCTCCTACA TAGTGATGGAAAGACCTATTTGT TTTGGTACCTGCAGAAGCCAGG CCAGCCTCCACAGCTCCTGATCT ACCTGACCTCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGTGTG GAGGCTGAGGATGTTGGGGTGT ATTACTGCATGCAAAGTTTACGG CTTCCGCTCACTTTCGGCGGAGG

		GACCAAGGTGGAGATCAAACGA ACGGTGGCTGCACCATCTGTCTT CATCTTCCCGCCATCTGATGAGC AGTTGAAATCTGGAACTGCCTCT GTTGTGTGCCTGCTGAATAACTT CTATCCCAGAGAGGCCAAAGTA CAGTGGAAGGTGGATAACGCCC TCCAATCGGGTAACTCCCAGGA GAGTGTCACAGAGCAGGACAGC AAGGACAGCACCTACAGCCTCA GCAGCACCCTGACGCTGAGCAA AGCAGACTACGAGAAACACAAA GTCTACGCCTGCGAAGTCACCCA TCAGGGCCTGAGCTCGCCCGTCA CAAAGAGCTTCAACAGGGGAGA GTGTTAG
620	Antibody 5.5 IgG1 HC (VH:G40P_M41V,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AGCTATCCCGTGCACTGGGTCCG CCAGGCTCCAGGCAAGGGGCTG GAGTGGGTGGCAGTTATCTCATA TGATGGAAGTAATAAATACTAT GCAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCC AAGAACACGCTGTATCTGCAAA TGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTACTGTGCGA GGGGGCGATATTTTGACTGGTTC CTCTTTGACTACTGGGGCCAGGG AACCCTGGTCACCGTGTCCTCAG CCTCCACCAAGGGCCCATCGGTC TTCCCCCTGGCACCCTCCTCCAA GAGCACCTCTGGGGGCACAGCG GCCCTGGGCTGCCTGGTCAAGG ACTACTTCCCCGAACCGGTGACG GTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTC CCGGCTGTCCTACAGTCCTCAGG ACTCTACTCCCTCAGCAGCGTGG TGACCGTGCCCTCCAGCAGCTTG GGCACCCAGACCTACATCTGCA ACGTGAATCACAAGCCCAGCAA CACCAAGGTGGACAAGAAAGTT GAGCCCAAATCTTGTGACAAAA CTCACACATGCCCACCGTGCCCA GCACCTGAACTCCTGGGGGGAC CGTCAGTCTTCCTCTTCCCCCCA AAACCCAAGGACACCCTCATGA

		TCTCCCGGACCCCTGAGGTCACA TGCGTGGTGGTGGACGTGAGCC ACGAAGACCCTGAGGTCAAGTT CAACTGGTACGTGGACGGCGTG GAGGTGCATAATGCCAAGACAA AGCCGCGGGAGGAGCAGTACAA CAGCACGTACCGTGTGGTCAGC GTCCTCACCGTCCTGCACCAGGA CTGGCTGAATGGCAAGGAGTAC AAGTGCAAGGTGTCCAACAAAG CCCTCCCAGCCCCCATCGAGAA AACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGT ACACCCTGCCCCCATCCCGGGA GGAGATGACCAAGAACCAGGTC AGCCTGACCTGCCTGGTCAAAG GCTTCTATCCCAGCGACATCGCC GTGGAGTGGGAGAGCAATGGGC AGCCGGAGAACAACTACAAGAC CACGCCTCCCGTGCTGGACTCCG ACGGCTCCTTCTTCCTCTATAGC AAGCTCACCGTGGACAAGAGCA GGTGGCAGCAGGGGAACGTCTT CTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGG GCAAATAG
621	Antibody 5.5 IgG1 LC (VH:G40P_M41V,VL:S57Y_E58L_V 67T_F103V)_huIgG1z mAb DNA	GATACTGTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGTCAGAGCCTCCTACA TAGTGATGGAAAGACCTATTTGT TTTGGTACCTGCAGAAGCCAGG CCAGCCTCCACAGCTCCTGATCT ACCTGACCTCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGTGTG GAGGCTGAGGATGTTGGGGTGT ATTACTGCATGCAAAGTTTACGG CTTCCGCTCACTTTCGGCGGAGG GACCAAGGTGGAGATCAAACGA ACGGTGGCTGCACCATCTGTCTT CATCTTCCCGCCATCTGATGAGC AGTTGAAATCTGGAACTGCCTCT GTTGTGTGCCTGCTGAATAACTT CTATCCCAGAGAGGCCAAAGTA CAGTGGAAGGTGGATAACGCCC TCCAATCGGGTAACTCCCAGGA GAGTGTCACAGAGCAGGACAGC

		AAGGACAGCACCTACAGCCTCA GCAGCACCCTGACGCTGAGCAA AGCAGACTACGAGAAACACAAA GTCTACGCCTGCGAAGTCACCCA TCAGGGCCTGAGCTCGCCCGTCA CAAAGAGCTTCAACAGGGGAGA GTGTTAG
622	Antibody 5.6 IgG1 HC (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L) DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AGCTATGGCATGCACTGGGTCC GCCAGGCTCCAGGCAAGGGGCT GGAGTGGGTGGCAGTTATCTCAT ATGATGGAAGTAATAAATACTA TGCAGACTCCGTGAAGGGCCGA TTCACCATCTCCAGAGACAATTC CAAGAACACGCTGTATCTGCAA ATGAACAGCCTGAGAGCTGAGG ACACGGCTGTGTATTACTGTGCG AGGGGGCGATATTTTGACTGGA CCCTCTTTGACTACTGGGGCCAG GGAACCCTGGTCACCGTGTCCTC AGCCTCCACCAAGGGCCCATCG GTCTTCCCCCTGGCACCCTCCTC CAAGAGCACCTCTGGGGGCACA GCGGCCCTGGGCTGCCTGGTCA AGGACTACTTCCCCGAACCGGT GACGGTGTCGTGGAACTCAGGC GCCCTGACCAGCGGCGTGCACA CCTTCCCGGCTGTCCTACAGTCC TCAGGACTCTACTCCCTCAGCAG CGTGGTGACCGTGCCCTCCAGCA GCTTGGGCACCCAGACCTACATC TGCAACGTGAATCACAAGCCCA GCAACACCAAGGTGGACAAGAA AGTTGAGCCCAAATCTTGTGACA AAACTCACACATGCCCACCGTG CCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCC CCCAAAACCCAAGGACACCCTC ATGATCTCCCGGACCCCTGAGGT CACATGCGTGGTGGTGGACGTG AGCCACGAAGACCCTGAGGTCA AGTTCAACTGGTACGTGGACGG CGTGGAGGTGCATAATGCCAAG ACAAAGCCGCGGGAGGAGCAGT ACAACAGCACGTACCGTGTGGT CAGCGTCCTCACCGTCCTGCACC AGGACTGGCTGAATGGCAAGGA

		GTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCG AGAAAACCATCTCCAAAGCCAA AGGGCAGCCCCGAGAACCACAG GTGTACACCCTGCCCCCATCCCG GGAGGAGATGACCAAGAACCAG GTCAGCCTGACCTGCCTGGTCAA AGGCTTCTATCCCAGCGACATCG CCGTGGAGTGGGAGAGCAATGG GCAGCCGGAGAACAACTACAAG ACCACGCCTCCCGTGCTGGACTC CGACGGCTCCTTCTTCCTCTATA GCAAGCTCACCGTGGACAAGAG CAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACG CAGAAGAGCCTCTCCCTGTCTCC GGGCAAATAG
623	Antibody 5.6 IgG1 LC (VH:F134T,VL:S34R_S57Y_F103V) _huIgG1z mAb(LC:G37A_K38R_M107L) DNA	GATACTGTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGTCAGAGCCTCCTACA TAGAGATGCCAGAACCTATTTGT TTTGGTACCTGCAGAAGCCAGG CCAGCCTCCACAGCTCCTGATCT ACGAAGTTTCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGTGTG GAGGCTGAGGATGTTGGGGTGT ATTACTGCCTGCAAAGTTTACGG CTTCCGCTCACTTTCGGCGGAGG GACCAAGGTGGAGATCAAACGA ACGGTGGCTGCACCATCTGTCTT CATCTTCCCGCCATCTGATGAGC AGTTGAAATCTGGAACTGCCTCT GTTGTGTGCCTGCTGAATAACTT CTATCCCAGAGAGGCCAAAGTA CAGTGGAAGGTGGATAACGCCC TCCAATCGGGTAACTCCCAGGA GAGTGTCACAGAGCAGGACAGC AAGGACAGCACCTACAGCCTCA GCAGCACCCTGACGCTGAGCAA AGCAGACTACGAGAAACACAAA GTCTACGCCTGCGAAGTCACCCA TCAGGGCCTGAGCTCGCCCGTCA CAAAGAGCTTCAACAGGGGAGA GTGTTAG
624	Antibody 5.7 IgG1 HC (VH:A71S_D72R,VL:S57Y_E58L_V	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG

	67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L) DNA	GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AGCTATGGCATGCACTGGGTCC GCCAGGCTCCAGGCAAGGGGCT GGAGTGGGTGGCAGTTATCTCAT ATGATGGAAGTAATAAATACTA TAGCAGATCCGTGAAGGGCCGA TTCACCATCTCCAGAGACAATTC CAAGAACACGCTGTATCTGCAA ATGAACAGCCTGAGAGCTGAGG ACACGGCTGTGTATTACTGTGCG AGGGGGCGATATTTTGACTGGTT CCTCTTTGACTACTGGGGCCAGG GAACCCTGGTCACCGTGTCCTCA GCCTCCACCAAGGGCCCATCGG TCTTCCCCCTGGCACCCTCCTCC AAGAGCACCTCTGGGGGCACAG CGGCCCTGGGCTGCCTGGTCAA GGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCG CCCTGACCAGCGGCGTGCACAC CTTCCCGGCTGTCCTACAGTCCT CAGGACTCTACTCCCTCAGCAGC GTGGTGACCGTGCCCTCCAGCA GCTTGGGCACCCAGACCTACATC TGCAACGTGAATCACAAGCCCA GCAACACCAAGGTGGACAAGAA AGTTGAGCCCAAATCTTGTGACA AAACTCACACATGCCCACCGTG CCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCC CCCAAAACCCAAGGACACCCTC ATGATCTCCCGGACCCCTGAGGT CACATGCGTGGTGGTGGACGTG AGCCACGAAGACCCTGAGGTCA AGTTCAACTGGTACGTGGACGG CGTGGAGGTGCATAATGCCAAG ACAAAGCCGCGGGAGGAGCAGT ACAACAGCACGTACCGTGTGGT CAGCGTCCTCACCGTCCTGCACC AGGACTGGCTGAATGGCAAGGA GTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCG AGAAAACCATCTCCAAAGCCAA AGGGCAGCCCCGAGAACCACAG GTGTACACCCTGCCCCCATCCCG GGAGGAGATGACCAAGAACCAG GTCAGCCTGACCTGCCTGGTCAA AGGCTTCTATCCCAGCGACATCG CCGTGGAGTGGGAGAGCAATGG

		GCAGCCGGAGAACAACTACAAG ACCACGCCTCCCGTGCTGGACTC CGACGGCTCCTTCTTCCTCTATA GCAAGCTCACCGTGGACAAGAG CAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACG CAGAAGAGCCTCTCCCTGTCTCC GGGCAAATAG
625	Antibody 5.7 IgG1 LC (VH:A71S_D72R,VL:S57Y_E58L_V 67S_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L) DNA	GATACTGTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGTCAGAGCCTCCTACA TAGTGATGCCAGAACCTATTTGT TTTGGTACCTGCAGAAGCCAGG CCAGCCTCCACAGCTCCTGATCT ACCTGAGCTCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGTGTG GAGGCTGAGGATGTTGGGGTGT ATTACTGCCTGCAAAGTTTACGG CTTCCGCTCACTTTCGGCGGAGG GACCAAGGTGGAGATCAAACGA ACGGTGGCTGCACCATCTGTCTT CATCTTCCCGCCATCTGATGAGC AGTTGAAATCTGGAACTGCCTCT GTTGTGTGCCTGCTGAATAACTT CTATCCCAGAGAGGCCAAAGTA CAGTGGAAGGTGGATAACGCCC TCCAATCGGGTAACTCCCAGGA GAGTGTCACAGAGCAGGACAGC AAGGACAGCACCTACAGCCTCA GCAGCACCCTGACGCTGAGCAA AGCAGACTACGAGAAACACAAA GTCTACGCCTGCGAAGTCACCCA TCAGGGCCTGAGCTCGCCCGTCA CAAAGAGCTTCAACAGGGGAGA GTGTTAG
626	Antibody 5.8 IgG1 HC (VH:G40P_F134T,VL:S57Y_E58L_V 67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L) DNA	CAGGTGCAGCTGGTGGAG TCTGGGGGAGGCGTGGTCCAGC CTGGGAGGTCCCTGAGACTCTCC TGTGCAGCCTCTGGATTCACCTT CAGTAGCTATCCCATGCACTGGG TCCGCCAGGCTCCAGGCAAGGG GCTGGAGTGGGTGGCAGTTATCT CATATGATGGAAGTAATAAATA CTATGCAGACTCCGTGAAGGGC CGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTG

		CAAATGAACAGCCTGAGAGCTG AGGACACGGCTGTGTATTACTGT GCGAGGGGGCGATATTTTGACT GGACCCTCTTTGACTACTGGGGC CAGGGAACCCTGGTCACCGTGT CCTCAGCCTCCACCAAGGGCCC ATCGGTCTTCCCCCTGGCACCCT CCTCCAAGAGCACCTCTGGGGG CACAGCGGCCCTGGGCTGCCTG GTCAAGGACTACTTCCCCGAACC GGTGACGGTGTCGTGGAACTCA GGCGCCCTGACCAGCGGCGTGC ACACCTTCCCGGCTGTCCTACAG TCCTCAGGACTCTACTCCCTCAG CAGCGTGGTGACCGTGCCCTCCA GCAGCTTGGGCACCCAGACCTA CATCTGCAACGTGAATCACAAG CCCAGCAACACCAAGGTGGACA AGAAAGTTGAGCCCAAATCTTG TGACAAAACTCACACATGCCCA CCGTGCCCAGCACCTGAACTCCT GGGGGGACCGTCAGTCTTCCTCT TCCCCCCAAAACCCAAGGACAC CCTCATGATCTCCCGGACCCCTG AGGTCACATGCGTGGTGGTGGA CGTGAGCCACGAAGACCCTGAG GTCAAGTTCAACTGGTACGTGG ACGGCGTGGAGGTGCATAATGC CAAGACAAAGCCGCGGGAGGAG CAGTACAACAGCACGTACCGTG TGGTCAGCGTCCTCACCGTCCTG CACCAGGACTGGCTGAATGGCA AGGAGTACAAGTGCAAGGTGTC CAACAAAGCCCTCCCAGCCCCC ATCGAGAAAACCATCTCCAAAG CCAAAGGGCAGCCCCGAGAACC ACAGGTGTACACCCTGCCCCCAT CCCGGGAGGAGATGACCAAGAA CCAGGTCAGCCTGACCTGCCTGG TCAAAGGCTTCTATCCCAGCGAC ATCGCCGTGGAGTGGGAGAGCA ATGGGCAGCCGGAGAACAACTA CAAGACCACGCCTCCCGTGCTG GACTCCGACGGCTCCTTCTTCCT CTATAGCAAGCTCACCGTGGAC AAGAGCAGGTGGCAGCAGGGGA ACGTCTTCTCATGCTCCGTGATG CATGAGGCTCTGCACAACCACT ACACGCAGAAGAGCCTCTCCCT GTCTCCGGGCAAATAG

627	Antibody 5.8 IgG1 LC (VH:G40P_F134T,VL:S57Y_E58L_V67R_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L) DNA	GATACTGTGATGACCCAG ACTCCACTCTCTCTGTCCGTCAC CCCTGGACAGCCGGCCTCCATCT CCTGCAAGTCTAGTCAGAGCCTC CTACATAGTGATGCCAGAACCT ATTTGTTTTGGTACCTGCAGAAG CCAGGCCAGCCTCCACAGCTCCT GATCTACCTGAGATCCAACCGGT TCTCTGGAGTGCCAGATAGGTTC AGTGGCAGCGGGTCAGGGACAG ATTTCACACTGAAAATCAGCCGT GTGGAGGCTGAGGATGTTGGGG TGTATTACTGCCTGCAAAGTTTA CGGCTTCCGCTCACTTTCGGCGG AGGGACCAAGGTGGAGATCAAA CGAACGGTGGCTGCACCATCTGT CTTCATCTTCCCGCCATCTGATG AGCAGTTGAAATCTGGAACTGC CTCTGTTGTGTGCCTGCTGAATA ACTTCTATCCCAGAGAGGCCAA AGTACAGTGGAAGGTGGATAAC GCCCTCCAATCGGGTAACTCCCA GGAGAGTGTCACAGAGCAGGAC AGCAAGGACAGCACCTACAGCC TCAGCAGCACCCTGACGCTGAG CAAAGCAGACTACGAGAAACAC AAAGTCTACGCCTGCGAAGTCA CCCATCAGGGCCTGAGCTCGCCC GTCACAAAGAGCTTCAACAGGG GAGAGTGTTAG
628	Antibody 5.9 IgG1 HC (VH:G40A,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L) DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG CAGCCTCTGGATTCACCTTCAGT AGCTATGCCATGCACTGGGTCCG CCAGGCTCCAGGCAAGGGGCTG GAGTGGGTGGCAGTTATCTCATA TGATGGAAGTAATAAATACTAT GCAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCC AAGAACACGCTGTATCTGCAAA TGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTACTGTGCGA GGGGGCGATATTTTGACTGGTTC CTCTTTGACTACTGGGGCCAGGG AACCCTGGTCACCGTGTCCTCAG CCTCCACCAAGGGCCCATCGGTC TTCCCCCTGGCACCCTCCTCCAA GAGCACCTCTGGGGGCACAGCG GCCCTGGGCTGCCTGGTCAAGG

		ACTACTTCCCCGAACCGGTGACG GTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTC CCGGCTGTCCTACAGTCCTCAGG ACTCTACTCCCTCAGCAGCGTGG TGACCGTGCCCTCCAGCAGCTTG GGCACCCAGACCTACATCTGCA ACGTGAATCACAAGCCCAGCAA CACCAAGGTGGACAAGAAAGTT GAGCCCAAATCTTGTGACAAAA CTCACACATGCCCACCGTGCCCA GCACCTGAACTCCTGGGGGGAC CGTCAGTCTTCCTCTTCCCCCCA AAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACA TGCGTGGTGGTGGACGTGAGCC ACGAAGACCCTGAGGTCAAGTT CAACTGGTACGTGGACGGCGTG GAGGTGCATAATGCCAAGACAA AGCCGCGGGAGGAGCAGTACAA CAGCACGTACCGTGTGGTCAGC GTCCTCACCGTCCTGCACCAGGA CTGGCTGAATGGCAAGGAGTAC AAGTGCAAGGTGTCCAACAAAG CCCTCCCAGCCCCCATCGAGAA AACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGT ACACCCTGCCCCCATCCCGGGA GGAGATGACCAAGAACCAGGTC AGCCTGACCTGCCTGGTCAAAG GCTTCTATCCCAGCGACATCGCC GTGGAGTGGGAGAGCAATGGGC AGCCGGAGAACAACTACAAGAC CACGCCTCCCGTGCTGGACTCCG ACGGCTCCTTCTTCCTCTATAGC AAGCTCACCGTGGACAAGAGCA GGTGGCAGCAGGGGAACGTCTT CTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGG GCAAATAG
629	Antibody 5.9 IgG1 LC (VH:G40A,VL:S57Y_E58L_V67T_F103V)_huIgG1z mAb(LC:G37A_K38R_M107L) DNA	GATACTGTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGTCAGAGCCTCCTACA TAGTGATGCCAGAACCTATTTGT TTTGGTACCTGCAGAAGCCAGG CCAGCCTCCACAGCTCCTGATCT ACCTGACCTCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG

		GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGTGTG GAGGCTGAGGATGTTGGGGTGT ATTACTGCCTGCAAAGTTTACGG CTTCCGCTCACTTTCGGCGGAGG GACCAAGGTGGAGATCAAACGA ACGGTGGCTGCACCATCTGTCTT CATCTTCCCGCCATCTGATGAGC AGTTGAAATCTGGAACTGCCTCT GTTGTGTGCCTGCTGAATAACTT CTATCCCAGAGAGGCCAAAGTA CAGTGGAAGGTGGATAACGCCC TCCAATCGGGTAACTCCCAGGA GAGTGTCACAGAGCAGGACAGC AAGGACAGCACCTACAGCCTCA GCAGCACCCTGACGCTGAGCAA AGCAGACTACGAGAAACACAAA GTCTACGCCTGCGAAGTCACCCA TCAGGGCCTGAGCTCGCCCGTCA CAAAGAGCTTCAACAGGGGAGA GTGTTAG
630	Antibody 6.0 IgG1 HC DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG AAGCCTCTGGATTCACCTTCAGT AGCTATGTCATGCACTGGGTCCG CCAGGCTCCAGGCAAGGGGCTG GAGTGGGTGTCAGTTATATCATA TGATGGAAGTAGTCAATACTAT ACAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCC AAGAATACGCTGAATCTGCAAA TGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTACTGTGTGA GAGGCCGTTTGGCCACTGCTATC CTCTTTGACTACTGGGGCCAGGG AACCCTGGTCACCGTCTCCTCAG CCTCCACCAAGGGCCCATCGGTC TTCCCCCTGGCACCCTCCTCCAA GAGCACCTCTGGGGGCACAGCG GCCCTGGGCTGCCTGGTCAAGG ACTACTTCCCCGAACCGGTGACG GTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTC CCGGCTGTCCTACAGTCCTCAGG ACTCTACTCCCTCAGCAGCGTGG TGACCGTGCCCTCCAGCAGCTTG GGCACCCAGACCTACATCTGCA ACGTGAATCACAAGCCCAGCAA CACCAAGGTGGACAAGAAAGTT

		GAGCCCAAATCTTGTGACAAAA CTCACACATGCCCACCGTGCCCA GCACCTGAACTCCTGGGGGGAC CGTCAGTCTTCCTCTTCCCCCCA AAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACA TGCGTGGTGGTGGACGTGAGCC ACGAAGACCCTGAGGTCAAGTT CAACTGGTACGTGGACGGCGTG GAGGTGCATAATGCCAAGACAA AGCCGCGGGAGGAGCAGTACAA CAGCACGTACCGTGTGGTCAGC GTCCTCACCGTCCTGCACCAGGA CTGGCTGAATGGCAAGGAGTAC AAGTGCAAGGTGTCCAACAAAG CCCTCCCAGCCCCCATCGAGAA AACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGT ACACCCTGCCCCCATCCCGGGA GGAGATGACCAAGAACCAGGTC AGCCTGACCTGCCTGGTCAAAG GCTTCTATCCCAGCGACATCGCC GTGGAGTGGGAGAGCAATGGGC AGCCGGAGAACAACTACAAGAC CACGCCTCCCGTGCTGGACTCCG ACGGCTCCTTCTTCCTCTATAGC AAGCTCACCGTGGACAAGAGCA GGTGGCAGCAGGGGAACGTCTT CTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGG GCAAATAG
631	Antibody 6.0 IgG1 LC DNA	GATATTTTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGCCAGAGCCTCCTATA TAGTGATGGAAAGACCTATTTAT TTTGGTACCTGCAGAGGCCAGG CCAACCTCCACAGCTCCTGATCT ATGAAGTTTCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGGGTG GAGGCTGAGGATGTTGGGATTT ATTACTGCATGCAAAGTATAAA ACTTCCTCTCACTTTCGGCGGAG GGACCAAGGTGGAGATCAAACG AACGGTGGCTGCACCATCTGTCT TCATCTTCCCGCCATCTGATGAG CAGTTGAAATCTGGAACTGCCTC

		TGTTGTGTGCCTGCTGAATAACT TCTATCCCAGAGAGGCCAAAGT ACAGTGGAAGGTGGATAACGCC CTCCAATCGGGTAACTCCCAGG AGAGTGTCACAGAGCAGGACAG CAAGGACAGCACCTACAGCCTC AGCAGCACCCTGACGCTGAGCA AAGCAGACTACGAGAAACACAA AGTCTACGCCTGCGAAGTCACCC ATCAGGGCCTGAGCTCGCCCGTC ACAAAGAGCTTCAACAGGGGAG AGTGTTAG
632	Antibody 6.1 IgG1 HC (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG AAGCCTCTGGATTCACCTTCAGT AGCTATGTCATGCACTGGGTCCG CCAGGCTCCAGGCAAGGGGCTG GAGTGGGTGTCAGTTATCTCATA TGATGGAAGTAGACAATACTAT ACAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCC AAGAATACGCTGAATCTGCAAA TGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTACTGTGTGA GAGGCCGTTTGGCCACTAGCCCC CTCTTTGACTACTGGGGCCAGGG AACCCTGGTCACCGTGTCCTCAG CCTCCACCAAGGGCCCATCGGTC TTCCCCCTGGCACCCTCCTCCAA GAGCACCTCTGGGGGCACAGCG GCCCTGGGCTGCCTGGTCAAGG ACTACTTCCCCGAACCGGTGACG GTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTC CCGGCTGTCCTACAGTCCTCAGG ACTCTACTCCCTCAGCAGCGTGG TGACCGTGCCCTCCAGCAGCTTG GGCACCCAGACCTACATCTGCA ACGTGAATCACAAGCCCAGCAA CACCAAGGTGGACAAGAAAGTT GAGCCCAAATCTTGTGACAAAA CTCACACATGCCCACCGTGCCCA GCACCTGAACTCCTGGGGGGAC CGTCAGTCTTCCTCTTCCCCCCA AAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACA TGCGTGGTGGTGGACGTGAGCC ACGAAGACCCTGAGGTCAAGTT CAACTGGTACGTGGACGGCGTG

		GAGGTGCATAATGCCAAGACAA AGCCGCGGGAGGAGCAGTACAA CAGCACGTACCGTGTGGTCAGC GTCCTCACCGTCCTGCACCAGGA CTGGCTGAATGGCAAGGAGTAC AAGTGCAAGGTGTCCAACAAAG CCCTCCCAGCCCCCATCGAGAA AACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGT ACACCCTGCCCCCATCCCGGGA GGAGATGACCAAGAACCAGGTC AGCCTGACCTGCCTGGTCAAAG GCTTCTATCCCAGCGACATCGCC GTGGAGTGGGAGAGCAATGGGC AGCCGGAGAACAACTACAAGAC CACGCCTCCCGTGCTGGACTCCG ACGGCTCCTTCTTCCTCTATAGC AAGCTCACCGTGGACAAGAGCA GGTGGCAGCAGGGGAACGTCTT CTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGG GCAAATAG
633	Antibody 6.1 IgG1 LC (VH:S67R_A114S_I134P,VL:F71L)_ huIgG1z mAb DNA	GATATTTTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGCCAGAGCCTCCTATA TAGTGATGGAAAGACCTATTTAT TTTGGTACCTGCAGAGGCCAGG CCAACCTCCACAGCTCCTGATCT ATGAAGTTTCCAACCGGCTGTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGGGTG GAGGCTGAGGATGTTGGGATTT ATTACTGCATGCAAAGTATCAA ACTTCCTCTCACTTTCGGCGGAG GGACCAAGGTGGAGATCAAACG AACGGTGGCTGCACCATCTGTCT TCATCTTCCCGCCATCTGATGAG CAGTTGAAATCTGGAACTGCCTC TGTTGTGTGCCTGCTGAATAACT TCTATCCCAGAGAGGCCAAAGT ACAGTGGAAGGTGGATAACGCC CTCCAATCGGGTAACTCCCAGG AGAGTGTCACAGAGCAGGACAG CAAGGACAGCACCTACAGCCTC AGCAGCACCCTGACGCTGAGCA AAGCAGACTACGAGAAACACAA AGTCTACGCCTGCGAAGTCACCC

		ATCAGGGCCTGAGCTCGCCCGTC ACAAAGAGCTTCAACAGGGGAG AGTGTTAG
634	Antibody 6.2 IgG1 HC (VH:S67R_Q68A_L135K_F136L,VL: S109T_I110L)_huIgG1z mAb DNA	CAGGTGCAGCTGGTGGAGTCTG GGGGAGGCGTGGTCCAGCCTGG GAGGTCCCTGAGACTCTCCTGTG AAGCCTCTGGATTCACCTTCAGT AGCTATGTCATGCACTGGGTCCG CCAGGCTCCAGGCAAGGGGCTG GAGTGGGTGTCAGTTATCTCATA TGATGGAAGTAGAGCCTACTAT ACAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCC AAGAATACGCTGAATCTGCAAA TGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTACTGTGTGA GAGGCCGTTTGGCCACTGCTATC AAGCTGGACTACTGGGGCCAGG GAACCCTGGTCACCGTGTCCTCA GCCTCCACCAAGGGCCCATCGG TCTTCCCCCTGGCACCCTCCTCC AAGAGCACCTCTGGGGGCACAG CGGCCCTGGGCTGCCTGGTCAA GGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCG CCCTGACCAGCGGCGTGCACAC CTTCCCGGCTGTCCTACAGTCCT CAGGACTCTACTCCCTCAGCAGC GTGGTGACCGTGCCCTCCAGCA GCTTGGGCACCCAGACCTACATC TGCAACGTGAATCACAAGCCCA GCAACACCAAGGTGGACAAGAA AGTTGAGCCCAAATCTTGTGACA AAACTCACACATGCCCACCGTG CCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCC CCCAAAACCCAAGGACACCCTC ATGATCTCCCGGACCCCTGAGGT CACATGCGTGGTGGTGGACGTG AGCCACGAAGACCCTGAGGTCA AGTTCAACTGGTACGTGGACGG CGTGGAGGTGCATAATGCCAAG ACAAAGCCGCGGGAGGAGCAGT ACAACAGCACGTACCGTGTGGT CAGCGTCCTCACCGTCCTGCACC AGGACTGGCTGAATGGCAAGGA GTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCG AGAAAACCATCTCCAAAGCCAA AGGGCAGCCCCGAGAACCACAG

		GTGTACACCCTGCCCCCATCCCG GGAGGAGATGACCAAGAACCAG GTCAGCCTGACCTGCCTGGTCAA AGGCTTCTATCCCAGCGACATCG CCGTGGAGTGGGAGAGCAATGG GCAGCCGGAGAACAACTACAAG ACCACGCCTCCCGTGCTGGACTC CGACGGCTCCTTCTTCCTCTATA GCAAGCTCACCGTGGACAAGAG CAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACG CAGAAGAGCCTCTCCCTGTCTCC GGGCAAATAG
635	Antibody 6.2 IgG1 LC (VH:S67R_Q68A_L135K_F136L,VL:S109T_I110L)_huIgG1z mAb DNA	GATATTTTGATGACCCAGACTCC ACTCTCTCTGTCCGTCACCCCTG GACAGCCGGCCTCCATCTCCTGC AAGTCTAGCCAGAGCCTCCTATA TAGTGATGGAAAGACCTATTTAT TTTGGTACCTGCAGAGGCCAGG CCAACCTCCACAGCTCCTGATCT ATGAAGTTTCCAACCGGTTCTCT GGAGTGCCAGATAGGTTCAGTG GCAGCGGGTCAGGGACAGATTT CACACTGAAAATCAGCCGGGTG GAGGCTGAGGATGTTGGGATTT ATTACTGCATGCAAACCCTGAA ACTTCCTCTCACTTTCGGCGGAG GGACCAAGGTGGAGATCAAACG AACGGTGGCTGCACCATCTGTCT TCATCTTCCCGCCATCTGATGAG CAGTTGAAATCTGGAACTGCCTC TGTTGTGTGCCTGCTGAATAACT TCTATCCCAGAGAGGCCAAAGT ACAGTGGAAGGTGGATAACGCC CTCCAATCGGGTAACTCCCAGG AGAGTGTCACAGAGCAGGACAG CAAGGACAGCACCTACAGCCTC AGCAGCACCCTGACGCTGAGCA AAGCAGACTACGAGAAACACAA AGTCTACGCCTGCGAAGTCACCC ATCAGGGCCTGAGCTCGCCCGTC ACAAAGAGCTTCAACAGGGGAG AGTGTTAG

zeluvalimab HC without C-terminal lysine (SEQ ID NO: 636)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYDMSWVRQAPGKGLEWVSLISGGGS
QTYYAESVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYFCASPSGHYFYAMDVWG
QGTTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG

VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKT
HTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD
GVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTI
SKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT
TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

Table 19. Amino acid sequences of afucosylated CCR8 mIgG2a antibody.

SEQ ID NO:	Designation	Sequence
637	CCR8 mIgG2a LCDR1	KYSQSLLHSDGKTYLF
638	CCR8 mIgG2a LCDR2	EVSNRFS
639	CCR8 mIgG2a LCDR3	MQTLKLPLT
640	CCR8 mIgG2a HCDR1	NYGMH
641	CCR8 mIgG2a HCDR2	VISYDGSRNFYADSVKG
642	CCR8 mIgG2a HCDR3	AGGNGRFDY
643	CCR8 mIgG2a LCVR 1	DIVMTQTPLSLSVTPGQPASISCKYSQSLLHS DGKTYLFWYLQKPGQSPQLLIYEVSNRFSGV PDRFSGSGSGTDFTLKISRVEAEDVGVYYCM QTLKLPLTFGGGTKVEIKR
644	CCR8 mIgG2a HCVR	QVQLVESGGGVVQPGRSLRLSCAASGFTFSN YGMHWVRQAPGKGLEWVAVISYDGSRNFY ADSVKGRFTISRDNSKNTLYLQMNSLRAEDT AVYYCARAGGNGRFDYWGQGTLVTVSS
645	CCR8 mIgG2a LC	DIVMTQTPLSLSVTPGQPASISCKYSQSLLHS DGKTYLFWYLQKPGQSPQLLIYEVSNRFSGV PDRFSGSGSGTDFTLKISRVEAEDVGVYYCM QTLKLPLTFGGGTKVEIKRADAAPTVSIFPPS SEQLTSGGASVVCFLNNFYPKDINVKWKIDG SERQNGVLNSWTDQDSKDSTYSMSSTLTLTK DEYERHNSYTCEATHKTSTSPIVKSFNRNEC
646	CCR8 mIgG2a HC	QVQLVESGGGVVQPGRSLRLSCAASGFTFSN YGMHWVRQAPGKGLEWVAVISYDGSRNFY ADSVKGRFTISRDNSKNTLYLQMNSLRAEDT AVYYCARAGGNGRFDYWGQGTLVTVSSAK TTAPSVYPLAPVCGDTTGSSVTLGCLVKGYF PEPVTLTWNSGSLSSGVHTFPAVLQSDLYTLS SSVTVTSSTWPSQSITCNVAHPASSTKVDKKI EPRGPTIKPCPPCKCPAPNLLGGPSVFIFPPKIK DVLMISLSPIVTCVVVDVSEDDPDVQISWFV NNVEVHTAQTQTHREDYNSTLRVVSALPIQH QDWMSGKEFKCKVNNKDLPAPIERTISKPKG SVRAPQVYVLPPPEEEMTKKQVTLTCMVTD FMPEDIYVEWTNNGKTELNYKNTEPVLDSD GSYFMYSKLRVEKKNWVERNSYSCSVVHEG LHNHHTTKSFSRTPGK

Table 20. Amino acid sequences.

SEQ ID NO:	Designation	Sequence
647	MPK20298-A4_SCFV huCCR8 HV hv_cdr1	NNGMH
648	MPK20298-A4_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVKG
649	MPK20298-A4_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNRNYYGMDV
650	MPK20298-A4_SCFV huCCR8 LV lv_cdr1	GGNNIGSQNVH
651	MPK20298-A4_SCFV huCCR8 LV lv_cdr2	RDSNRPS
652	MPK20298-A4_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
653	MPK20299-D2_SCFV huCCR8 HV hv_cdr1	NYGMH
654	MPK20299-D2_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
655	MPK20299-D2_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
656	MPK20299-D2_SCFV huCCR8 LV lv_cdr1	GGHNIGSKGVH
657	MPK20299-D2_SCFV huCCR8 LV lv_cdr2	RNSNRPS
658	MPK20299-D2_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
659	MPK20299-F11_SCFV huCCR8 HV hv_cdr1	NYGMH
660	MPK20299-F11_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
661	MPK20299-F11_SCFV huCCR8 HV hv_cdr3	VYYGSGSYYKKRYYYGMDV
662	MPK20299-F11_SCFV huCCR8 LV lv_cdr1	GGNNIGSQNVH
663	MPK20299-F11_SCFV huCCR8 LV lv_cdr2	RDSNRPS
664	MPK20299-F11_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
665	MPK20298-H6_SCFV huCCR8 HV hv_cdr1	SSGMH
666	MPK20298-H6_SCFV huCCR8 HV hv_cdr2	VISYDGTNKYYADSVKG
667	MPK20298-H6_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
668	MPK20298-H6_SCFV huCCR8 LV lv_cdr1	GGHNIGSKGVH
669	MPK20298-H6_SCFV huCCR8 LV lv_cdr2	RNSNRPS
670	MPK20298-H6_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
671	MPK20297-A4_SCFV huCCR8 HV hv_cdr1	NYGMH
672	MPK20297-A4_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVKG
673	MPK20297-A4_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
674	MPK20297-A4_SCFV huCCR8 LV lv_cdr1	GGHNIGSQNVH
675	MPK20297-A4_SCFV huCCR8 LV lv_cdr2	RDSNRPS
676	MPK20297-A4_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
677	MPK20299-H8_SCFV huCCR8 HV hv_cdr1	NYGMH
678	MPK20299-H8_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
679	MPK20299-H8_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
680	MPK20299-H8_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
681	MPK20299-H8_SCFV huCCR8 LV lv_cdr2	RNSNRPS
682	MPK20299-H8_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
683	MPK20300-C11_SCFV huCCR8 HV hv_cdr1	SYGMH
684	MPK20300-C11_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
685	MPK20300-C11_SCFV huCCR8 HV hv_cdr3	VYYGSGSYYKNRYYYGMDV

SEQ ID NO:	Designation	Sequence
686	MPK20300-C11_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
687	MPK20300-C11_SCFV huCCR8 LV lv_cdr2	RDINRPS
688	MPK20300-C11_SCFV huCCR8 LV lv_cdr3	QVWDSSVV
689	MPK20298-B1_SCFV huCCR8 HV hv_cdr1	NYGMH
690	MPK20298-B1_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
691	MPK20298-B1_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
692	MPK20298-B1_SCFV huCCR8 LV lv_cdr1	EGNNIGSKNVH
693	MPK20298-B1_SCFV huCCR8 LV lv_cdr2	RNSNRPS
694	MPK20298-B1_SCFV huCCR8 LV lv_cdr3	QAWDSSTVV
695	MPK20297-E5_SCFV huCCR8 HV hv_cdr1	NNGMH
696	MPK20297-E5_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYTDSVKG
697	MPK20297-E5_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
698	MPK20297-E5_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
699	MPK20297-E5_SCFV huCCR8 LV lv_cdr2	RDSNRPS
700	MPK20297-E5_SCFV huCCR8 LV lv_cdr3	QVWDSSSDHVV
701	MPK20299-A3_SCFV huCCR8 HV hv_cdr1	NYGMH
702	MPK20299-A3_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
703	MPK20299-A3_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
704	MPK20299-A3_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
705	MPK20299-A3_SCFV huCCR8 LV lv_cdr2	RNSNRPS
706	MPK20299-A3_SCFV huCCR8 LV lv_cdr3	QAWDSSNVV
707	MPK20297-B4_SCFV huCCR8 HV hv_cdr1	RNGMH
708	MPK20297-B4_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVKG
709	MPK20297-B4_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNNYYYGMDV
710	MPK20297-B4_SCFV huCCR8 LV lv_cdr1	GGNNIGSQNVH
711	MPK20297-B4_SCFV huCCR8 LV lv_cdr2	RDSNRPS
712	MPK20297-B4_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
713	MPK20298-F6_SCFV huCCR8 HV hv_cdr1	RNGMH
714	MPK20298-F6_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVKG
715	MPK20298-F6_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
716	MPK20298-F6_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
717	MPK20298-F6_SCFV huCCR8 LV lv_cdr2	RDSNRPS
718	MPK20298-F6_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
719	MPK20299-H3_SCFV huCCR8 HV hv_cdr1	NYGMH
720	MPK20299-H3_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
721	MPK20299-H3_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
722	MPK20299-H3_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
723	MPK20299-H3_SCFV huCCR8 LV lv_cdr2	RNSNRPS
724	MPK20299-H3_SCFV huCCR8 LV lv_cdr3	QIWDSSTVV
725	MPK20298-B9_SCFV huCCR8 HV hv_cdr1	RNGMH
726	MPK20298-B9_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVKG
727	MPK20298-B9_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKNYYYGMDV
728	MPK20298-B9_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
729	MPK20298-B9_SCFV huCCR8 LV lv_cdr2	RDSNRPS
730	MPK20298-B9_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
731	MPK20299-E2_SCFV huCCR8 HV hv_cdr1	NNGMH

SEQ ID NO:	Designation	Sequence
732	MPK20299-E2_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYTDSVKG
733	MPK20299-E2_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
734	MPK20299-E2_SCFV huCCR8 LV lv_cdr1	EGNNIGSQNVH
735	MPK20299-E2_SCFV huCCR8 LV lv_cdr2	RDSNRPS
736	MPK20299-E2_SCFV huCCR8 LV lv_cdr3	QVWDGSAVV
737	MPK20299-D6_SCFV huCCR8 HV hv_cdr1	SYGMH
738	MPK20299-D6_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
739	MPK20299-D6_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
740	MPK20299-D6_SCFV huCCR8 LV lv_cdr1	EGNNIGSQNVH
741	MPK20299-D6_SCFV huCCR8 LV lv_cdr2	RDSNRPS
742	MPK20299-D6_SCFV huCCR8 LV lv_cdr3	QVWDGSAVV
743	MPK20299-A4_SCFV huCCR8 HV hv_cdr1	NYGFH
744	MPK20299-A4_SCFV huCCR8 HV hv_cdr2	VISYDGSNRYYADSVKG
745	MPK20299-A4_SCFV huCCR8 HV hv_cdr3	VYYGSGTYYKNRYYYGMDV
746	MPK20299-A4_SCFV huCCR8 LV lv_cdr1	GGHNIGSKGVH
747	MPK20299-A4_SCFV huCCR8 LV lv_cdr2	RNSNRPS
748	MPK20299-A4_SCFV huCCR8 LV lv_cdr3	QAWDSGTVV
749	MPK20300-G5_SCFV huCCR8 HV hv_cdr1	NYGFH
750	MPK20300-G5_SCFV huCCR8 HV hv_cdr2	VISYDGSNRYYADSVKG
751	MPK20300-G5_SCFV huCCR8 HV hv_cdr3	VYYGSGTYYKNRYYYGMDV
752	MPK20300-G5_SCFV huCCR8 LV lv_cdr1	GANNIGSKNVH
753	MPK20300-G5_SCFV huCCR8 LV lv_cdr2	RDFNRPS
754	MPK20300-G5_SCFV huCCR8 LV lv_cdr3	QVWDSSTGNVV
755	MPK20299-C3_SCFV huCCR8 HV hv_cdr1	NYGFH
756	MPK20299-C3_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
757	MPK20299-C3_SCFV huCCR8 HV hv_cdr3	VYYGSGSYYKNRYYYGMDV
758	MPK20299-C3_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
759	MPK20299-C3_SCFV huCCR8 LV lv_cdr2	RDSNRPS
760	MPK20299-C3_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
761	MPK20299-B7_SCFV huCCR8 HV hv_cdr1	NYGMH
762	MPK20299-B7_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
763	MPK20299-B7_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
764	MPK20299-B7_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
765	MPK20299-B7_SCFV huCCR8 LV lv_cdr2	RDSNRPS
766	MPK20299-B7_SCFV huCCR8 LV lv_cdr3	QVWDSSSAHVI
767	MPK20299-A5_SCFV huCCR8 HV hv_cdr1	GYGMH
768	MPK20299-A5_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
769	MPK20299-A5_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
770	MPK20299-A5_SCFV huCCR8 LV lv_cdr1	GGNNLGSKNVH
771	MPK20299-A5_SCFV huCCR8 LV lv_cdr2	RNSNRPS
772	MPK20299-A5_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
773	MPK20299-D1_SCFV huCCR8 HV hv_cdr1	NNGMH
774	MPK20299-D1_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
775	MPK20299-D1_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
776	MPK20299-D1_SCFV huCCR8 LV lv_cdr1	GGNRIGSKNVH
777	MPK20299-D1_SCFV huCCR8 LV lv_cdr2	RDSNRPS

SEQ ID NO:	Designation	Sequence
778	MPK20299-D1_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
779	MPK20299-C5_SCFV huCCR8 HV hv_cdr1	NYGFH
780	MPK20299-C5_SCFV huCCR8 HV hv_cdr2	VISYDGSNRYYADSVKG
781	MPK20299-C5_SCFV huCCR8 HV hv_cdr3	VYYGSGTYYKNRYYYGMDV
782	MPK20299-C5_SCFV huCCR8 LV lv_cdr1	GGHNIGSKGVH
783	MPK20299-C5_SCFV huCCR8 LV lv_cdr2	RNSNRPS
784	MPK20299-C5_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
785	MPK20299-B5_SCFV huCCR8 HV hv_cdr1	NYGMH
786	MPK20299-B5_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
787	MPK20299-B5_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
788	MPK20299-B5_SCFV huCCR8 LV lv_cdr1	GGHNIGSKGVH
789	MPK20299-B5_SCFV huCCR8 LV lv_cdr2	RNSNRPS
790	MPK20299-B5_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
791	MPK20299-G9_SCFV huCCR8 HV hv_cdr1	NNGMH
792	MPK20299-G9_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVRG
793	MPK20299-G9_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
794	MPK20299-G9_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
795	MPK20299-G9_SCFV huCCR8 LV lv_cdr2	RNSNRPS
796	MPK20299-G9_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
797	MPK20299-G5_SCFV huCCR8 HV hv_cdr1	NNGMH
798	MPK20299-G5_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVRG
799	MPK20299-G5_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
800	MPK20299-G5_SCFV huCCR8 LV lv_cdr1	EGNNIGSKNVH
801	MPK20299-G5_SCFV huCCR8 LV lv_cdr2	RDSNRPS
802	MPK20299-G5_SCFV huCCR8 LV lv_cdr3	QVWDSSAVV
803	MPK20298-C10_SCFV huCCR8 HV hv_cdr1	SSGMH
804	MPK20298-C10_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVKG
805	MPK20298-C10_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNNYYYGMDV
806	MPK20298-C10_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
807	MPK20298-C10_SCFV huCCR8 LV lv_cdr2	RNSNRPS
808	MPK20298-C10_SCFV huCCR8 LV lv_cdr3	QAWDSSTVV
809	MPK20298-B5_SCFV huCCR8 HV hv_cdr1	NYGMH
810	MPK20298-B5_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
811	MPK20298-B5_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
812	MPK20298-B5_SCFV huCCR8 LV lv_cdr1	GGNNIGSQNVH
813	MPK20298-B5_SCFV huCCR8 LV lv_cdr2	RDSNRPS
814	MPK20298-B5_SCFV huCCR8 LV lv_cdr3	QVWDSSAVV
815	MPK20299-F2_SCFV huCCR8 HV hv_cdr1	SSGMH
816	MPK20299-F2_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVKG
817	MPK20299-F2_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
818	MPK20299-F2_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
819	MPK20299-F2_SCFV huCCR8 LV lv_cdr2	RDSNRPS
820	MPK20299-F2_SCFV huCCR8 LV lv_cdr3	QAWDSGTVV

SEQ ID NO:	Designation	Sequence
821	MPK20298-D4_SCFV huCCR8 HV hv_cdr1	NYGMH
822	MPK20298-D4_SCFV huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
823	MPK20298-D4_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKKRYYYGMDV
824	MPK20298-D4_SCFV huCCR8 LV lv_cdr1	GGNNIGGKNVH
825	MPK20298-D4_SCFV huCCR8 LV lv_cdr2	RDSNRPS
826	MPK20298-D4_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
827	MPK20297-F5_SCFV huCCR8 HV hv_cdr1	RNGMH
828	MPK20297-F5_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVKG
829	MPK20297-F5_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNNYYYGMDV
830	MPK20297-F5_SCFV huCCR8 LV lv_cdr1	GGNNIGSKNVH
831	MPK20297-F5_SCFV huCCR8 LV lv_cdr2	RNSNRPS
832	MPK20297-F5_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
833	MPK20299-D9_SCFV huCCR8 HV hv_cdr1	RNGMH
834	MPK20299-D9_SCFV huCCR8 HV hv_cdr2	VISNDGSNKYYADSVKG
835	MPK20299-D9_SCFV huCCR8 HV hv_cdr3	VYYGSGIYYKNNYYYGMDV
836	MPK20299-D9_SCFV huCCR8 LV lv_cdr1	GGNNIESKNVH
837	MPK20299-D9_SCFV huCCR8 LV lv_cdr2	RDSNRPS
838	MPK20299-D9_SCFV huCCR8 LV lv_cdr3	QVWDSSTVV
839	huCCR8_32360_huIgG1z mAb(LC:K38R)_HC huCCR8 HV hv_cdr1	NARMG
840	huCCR8_32360_huIgG1z mAb(LC:K38R)_HC huCCR8 HV hv_cdr2	RIKSKTEGGTRDYAAPVKG
841	huCCR8_32360_huIgG1z mAb(LC:K38R)_HC huCCR8 HV hv_cdr3	YSGV
842	huCCR8_32360_huIgG1z mAb(LC:K38R)_LC huCCR8 LV lv_cdr1	KSSQSVLYSSNNRNYLA
843	huCCR8_32360_huIgG1z mAb(LC:K38R)_LC huCCR8 LV lv_cdr2	WASTRES
844	huCCR8_32360_huIgG1z mAb(LC:K38R)_LC huCCR8 LV lv_cdr3	QQYYSIPIT
845	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_HC huCCR8 HV hv_cdr1	NYGFH
846	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_HC huCCR8 HV hv_cdr2	VISYDGSNRYYASSVKG
847	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_HC huCCR8 HV hv_cdr3	VYYGSGTYYKNRYYYGMDV
848	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_LC huCCR8 LV lv_cdr1	GGHNIGSKGVH

SEQ ID NO:	Designation	Sequence
849	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_LC huCCR8 LV lv_cdr2	RAANRPS
850	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_LC huCCR8 LV lv_cdr3	QAFDAGTVV
851	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_HC huCCR8 HV hv_cdr1	NYGFH
852	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_HC huCCR8 HV hv_cdr2	VISYAGSNRYYAASVKG
853	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_HC huCCR8 HV hv_cdr3	VYYGSGTYYKNRYYYGMDV
854	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_LC huCCR8 LV lv_cdr1	GGHNIGSKGVH
855	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_LC huCCR8 LV lv_cdr2	RQSNRPS
856	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_LC huCCR8 LV lv_cdr3	QAFDAGTVV
857	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_HC huCCR8 HV hv_cdr1	NYGFH
858	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_HC huCCR8 HV hv_cdr2	VISYSGSNRYYADSVKG
859	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_HC huCCR8 HV hv_cdr3	VYYGSGTYYKNRYYYGMDV
860	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_LC huCCR8 LV lv_cdr1	GGHNIGSKGVH

SEQ ID NO:	Designation	Sequence
861	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_LC huCCR8 LV lv_cdr2	RQSNRPS
862	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_LC huCCR8 LV lv_cdr3	QAFDAGTVV
863	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGHNIGSKGVH
864	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RNSNRPS
865	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDISTVV
866	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	NCGMH
867	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISYDGGNKYHADSVKG
868	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
869	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGHNIGSKGVH
870	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RNSNRPS
871	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSSTVV
872	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	NCGMH
873	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISYDGGNKYYADSVKG
874	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
875	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGNNIGSKNVH
876	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RDSNRPS
877	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSNTVV
878	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	NNGMH
879	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISNDGSNKYYADSVRG
880	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGIYYKNNYYYGMDV
881	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGNNIGSKNVH

SEQ ID NO:	Designation	Sequence
882	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RNSNRPS
883	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSSTVV
884	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	TYGMH
885	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
886	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGSYYKKNYYYGMDV
887	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGNNIGGKNVH
888	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RDSNRPS
889	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSSTVV
890	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	SYGFH
891	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
892	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGTYYKNRYYYGMDV
893	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGNNIGSKNVH
894	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RDSNRPS
895	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSSTVV
896	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	NNGMH
897	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISNDGSNKYYPDSVKG
898	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGNYYKNNYYYGMDV
899	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	EGNNIGSQNVH
900	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RDSNRPS
901	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDGSAVV
902	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	SSGMH
903	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISHDGSNKYYADSVKG
904	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV

SEQ ID NO:	Designation	Sequence
905	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGHNIGSKGVH
906	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RNSNRPS
907	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSSTVV
908	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	DCGMH
909	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISYDGGNKYYADSVKG
910	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
911	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGNNIGSKNVH
912	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RSSNRPS
913	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QIWDSSTVV
914	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	SYGMH
915	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISFDGNNKYYADSVKG
916	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGSYYKNRYYYGMDV
917	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGNNIGSKNVH
918	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RDSNRPS
919	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSSTVV
920	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	SNGMH
921	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISNDGSNKYYGDSVKG
922	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGIYYRNNYYYGMDV
923	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGNNIGSKNVH
924	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RNTNRPS
925	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSSTVV
926	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	GYGMH
927	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG

SEQ ID NO:	Designation	Sequence
928	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
929	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGNNIGSKNVH
930	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RNTNRPS
931	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSSTVV
932	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	GYGMH
933	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISYDGSNKYYADSVKG
934	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGIYYKNRYYYGMDV
935	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGNNIGDKNVH
936	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RNNVRPS
937	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSSTVV
938	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	NFGMH
939	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISYDGGNKYYADSVKG
940	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGSYYKKRYYYGMDV
941	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr1	GGNNIGSKNVH
942	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr2	RDSNRPS
943	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_LC huCCR8 LV lv_cdr3	QVWDSSTVV
944	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr1	SCGMH
945	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr2	VISYDGTNKYYADSVKG
946	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_HC huCCR8 HV hv_cdr3	VYYGSGIYYKKNYYYGMDV
947	huCCR8_32360_huIgG1z mAb_HC huCCR8 HV hv_cdr1	NARMG
948	huCCR8_32360_huIgG1z mAb_HC huCCR8 HV hv_cdr2	RIKSKTEGGTRDYAAPVKG
949	huCCR8_32360_huIgG1z mAb_HC huCCR8 HV hv_cdr3	YSGV
950	huCCR8_32360_huIgG1z mAb_LC huCCR8 LV lv_cdr1	KSSQSVLYSSNNKNYLA

SEQ ID NO:	Designation	Sequence
951	huCCR8_32360_huIgG1z mAb_LC huCCR8 LV lv_cdr2	WASTRES
952	huCCR8_32360_huIgG1z mAb_LC huCCR8 LV lv_cdr3	QQYYSIPIT
953	MPK20298-A4_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSNNGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRTEDTAVYYCAKV YYGSGIYYKNRNYYGMDVWGQGTT VTVSS
954	MPK20298-A4_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGNN IGSQNVHWYQQKPGQAPVLVIYRDS NRPSGIPDRFSGSKSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTK LTVL
955	MPK20299-D2_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSS
956	MPK20299-D2_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTITRAQ AGDEADYYCQVWDSSTVVFGGGTK LTVL
957	MPK20299-F11_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAPS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLFLQMNSLRAEDTAVYFCARVY YGSGSYYKKRYYYGMDVWGQGTT VTVSS
958	MPK20299-F11_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGNN IGSQNVHWYQQKPGQAPVLVIYRDS NRPSGIPERFSGSKSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTQ LTVL
959	MPK20298-H6_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSSSGMHWVRQAPGKGLEWVA VISYDGTNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSS
960	MPK20298-H6_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTQ LTVL

SEQ ID NO:	Designation	Sequence
961	MPK20297-A4_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAVS GFNFSNYGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKKRYYYGMDVWGQGTT VTVSS
962	MPK20297-A4_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGHN IGSQNVHWYQQKPGQAPVLVIYRDS NRPSGIPERFSGSKSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTQ LTVL
963	MPK20299-H8_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSS
964	MPK20299-H8_SCFV LV huCCR8	SYELTQPPSVSVAPGQTARITCGGNNI GSKNVHWYQQKAGQAPVQVIYRNS NRPSGIPARFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTK LTVL
965	MPK20300-C11_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSSYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGSYYKNRYYYGMDVWGQGT TVTVSS
966	MPK20300-C11_SCFV LV huCCR8	SYELTQPPSVSVAPGQTARIPCGGNNI GSKNVHWYQQKPGQAPVLVIYRDIN RPSGIPERFSGSNSGNTATLTISRAQA GDEADYYCQVWDSSVVFGGGTKLT VL
967	MPK20298-B1_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSS
968	MPK20298-B1_SCFV LV huCCR8	SYELTQPPSVSVALGQTARLTCEGNN IGSKNVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISRVQ AGDEADYYCQAWDSSTVVFGGGTQ LTVL
969	MPK20297-E5_SCFV HV huCCR8	QVQLVESGGGLVKPGGSLRLSCAVS GFNFSNNGMHWVRQAPGKGLEWVA VISYDGSNKYYTDSVKGRFTISRDNS KNTLYLQMNSLRTEDTAVYYCAKV

SEQ ID NO:	Designation	Sequence
		YYGSGIYYKKRYYYGMDVWGQGTT VTVSS
970	MPK20297-E5_SCFV LV huCCR8	SYELTQPLSVSEALGQTARITCGGNNI GSKNVHWYQQKPGQAPVLVIYRDSN RPSGIPERFSGSNSGNAATLTISRVEA GDEADYYCQVWDSSSDHVVFGGGT QLTVL
971	MPK20299-A3_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSS
972	MPK20299-A3_SCFV LV huCCR8	SYELTQPPSVSVAPGQTARITCGGNNI GSKNVHWYQQKPGQAPVLVIYRNSN RPSGIPERFSGSNSGNTATLTISGTQA MDEADYYCQAWDSSNVVFGGGTQL TVL
973	MPK20297-B4_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSRNGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSS
974	MPK20297-B4_SCFV LV huCCR8	SYELTQPLSVSVALGQTARITCGGNN IGSQNVHWYQQKPGQAPVLVIYRDS NRPSGIPDRFSGSKSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTQ LTVL
975	MPK20298-F6_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSRNGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSS
976	MPK20298-F6_SCFV LV huCCR8	SYELTQPPSVSVAPGQTARITCGGNNI GSKNVHWYQQKPGQAPVLVIYRDSN RPSGIPERFSGSKSGTTATLTISRAQA GDEAEYYCQVWDSSTVVFGGGTELT VL
977	MPK20299-H3_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSS

SEQ ID NO:	Designation	Sequence
978	MPK20299-H3_SCFV LV huCCR8	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQKPGQAPVLAIYRNS NRPSGIPERFTGSNSGNTATLTISRAQ AGDESDYYCQIWDSSTVVFGGGTKL TVL
979	MPK20298-B9_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSRNGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKKNYYYGMDVWGQGTT VTVSS
980	MPK20298-B9_SCFV LV huCCR8	SYELTQPPSVSVALGQTARISCGGNNI GSKNVHWYQQKPGQAPVLVIYRDSN RPSGIPERFSGSKSGTTATLTISRAQA GDEAEYYCQVWDSSTVVFGGGTQLT VL
981	MPK20299-E2_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAVS GFNFSNNGMHWVRQAPGKGLEWVA VISYDGSNKYYTDSVKGRFTISRDNS KNTLYLQMNSLRTEDTAVYYCAKV YYGSGIYYKKRYYYGMDVWGQGTT VTVSS
982	MPK20299-E2_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCEGNNI GSQNVHWYQQKPGQAPVLVMYRDS NRPSGIPERFSGSKSGNTATLAISRAQ AGDESDYYCQVWDGSAVVFGGGTK LTVL
983	MPK20299-D6_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSSYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSS
984	MPK20299-D6_SCFV LV huCCR8	SYELTQPLSVSVALGQTARITCEGNNI GSQNVHWYQQKPGQAPVLVMYRDS NRPSGIPERFSGSKSGNTATLAISRAQ AGDESDYYCQVWDGSAVVFGGGTQ LTVL
985	MPK20299-A4_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYDGSNRYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSS
986	MPK20299-A4_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISGTQ

SEQ ID NO:	Designation	Sequence
		AMDEADYYCQAWDSGTVVFGGGTQ LTVL
987	MPK20300-G5_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYDGSNRYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSS
988	MPK20300-G5_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGANN IGSKNVHWYQQKPGQPPVLVIYRDF NRPSGIPERFSASNSGNTATLTISRGQ AGDEADYYCQVWDSSTGNVVFGGG TKLTVL
989	MPK20299-C3_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFIFSNYGFHWVRQTPGKGLEWVAV ISYDGSNKYYADSVKGRFTISRDNSK NTLYLQMNSLRGEDTAVYYCARVY YGSGSYYKNRYYYGMDVWGQGTT VTVSS
990	MPK20299-C3_SCFV LV huCCR8	SYELTQPPSVSVAPGQTARITCGGNNI GSKNVHWYQQKPGQAPVLVIYRDSN RPSGIPERFSGSKSGTTATLTISRAQA GDEADYYCQVWDSSTVVFGGGTELT VL
991	MPK20299-B7_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSS
992	MPK20299-B7_SCFV LV huCCR8	SYELTQSSSVSVAPGQTARITCGGNNI GSKNVHWYQQKPGQAPVLVIYRDSN RPSGIPERFSGSKSGTTATLTISRVEA GDEADYYCQVWDSSSAHVIFGGGTK LTVL
993	MPK20299-A5_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCGAS GFTFSGYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGIYYKNRYYYGMDVWGQGTT VTVSS
994	MPK20299-A5_SCFV LV huCCR8	SYELTQPPSGSVALGQTARITCGGNN LGSKNVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTK LTVL

SEQ ID NO:	Designation	Sequence
995	MPK20299-D1_SCFV HV huCCR8	QVQLVESGGGLVKPGGSLRLSCAAS GFTFSNNGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSS
996	MPK20299-D1_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGNRI GSKNVHWYQQKPGQAPVLVIYRDSN RPSGIPERFSGSKSGTTATLTISRAQA GDEAEYYCQVWDSSTVVFGGGTKLT VL
997	MPK20299-C5_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYDGSNRYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSS
998	MPK20299-C5_SCFV LV huCCR8	SYELTQLPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTE LTVL
999	MPK20299-B5_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKNRYYYGMDVWGQGTTV TVSS
1000	MPK20299-B5_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTQ LTVL
1001	MPK20299-G9_SCFV HV huCCR8	QVQLVESGGDLVQPGRSLRLSCAAS GFTFSNNGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVRGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSS
1002	MPK20299-G9_SCFV LV huCCR8	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTLSRVQ AGDEADYYCQVWDSSTVVFGGGTK LTVL
1003	MPK20299-G5_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAVS GFNFSNNGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVRGRFTISRDNS KNTLYLQMDSLRTEDTAVYYCAKV

SEQ ID NO:	Designation	Sequence
		YYGSGIYYKNRYYYGMDVWGQGTT VTVSS
1004	MPK20299-G5_SCFV LV huCCR8	SYELTQPPSVSVALGQTARLTCEGNN IGSKNVHWYQQKPGQAPVLVIYRDS NRPSGIPERFSGSKSGNTATLAISRAQ AGDESDYYCQVWDSSAVVFGGGTK LTVL
1005	MPK20298-C10_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSSSGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSS
1006	MPK20298-C10_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGNN IGSKNVHWYQQKPGQAPVLAIYRNS NRPSGIPERFTGSNSGNTATLTISGTQ AMDEADYYCQAWDSSTVVFGGGTK LTVL
1007	MPK20298-B5_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSS
1008	MPK20298-B5_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGNN IGSQNVHWYQQKPGQAPVLVIYRDS NRPSGIPERFSGSKSGNTATLAISRAQ AGDESDYYCQVWDSSAVVFGGGTQ LTVL
1009	MPK20299-F2_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTLSSSGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVKGRFTISRDDS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSS
1010	MPK20299-F2_SCFV LV huCCR8	SYELTQPPSVSVALGQTARISCGGNNI GSKNVHWYQQKPGQAPVLVMYRDS NRPSGIPERFSGSNSGNTATLTISGTQ AMDEADYYCQAWDSGTVVFGGGTK LTVL
1011	MPK20298-D4_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSS

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1012	MPK20298-D4_SCFV LV huCCR8	SYELTQPPSVSVALGQTARITCGGNN IGGKNVHWYQQKPGQAPVLVIYRDS NRPSGIPERFSGSKSGNTATLTISRAQ AGDESDYYCQVWDSSTVVFGGGTQ LTVL
1013	MPK20297-F5_SCFV HV huCCR8	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSRNGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSS
1014	MPK20297-F5_SCFV LV huCCR8	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTK LTVL
1015	MPK20299-D9_SCFV HV huCCR8	QVQLVESGGGLVKPGGSLRLSCAAS GFNFSRNGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSS
1016	MPK20299-D9_SCFV LV huCCR8	SYELTQPPSVSVALGQTARISCGGNNI ESKNVHWYQQKPGQAPVLVIYRDSN RPSGIPERFSGSKSGTTATLTISRAQA GDEAEYYCQVWDSSTVVFGGGTQLT VL
1017	huCCR8_32360_huIgG1z mAb(LC:K38R)_HC HV huCCR8	EVQLVESGGGLVKPGGSLRLSCAAS GFTFSNARMGWVRQAPGKGLEWVG RIKSKTEGGTRDYAAPVKGRFTISRD DSKNTLYLQMNSLKTEDTAVYYCTS YSGVWGQGTMVTVSS
1018	huCCR8_32360_huIgG1z mAb(LC:K38R)_LC LV huCCR8	DIVMTQSPDSLAVSLGERATINCKSS QSVLYSSNNRNYLAWYHQKPGQSPK LLISWASTRESGVPDRFSGSGSGTDFT LTINSLQAEDVAVYYCQQYYSIPITFG GGTKVEIKR
1019	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_HC HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYDGSNRYYASSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSS
1020	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_LC LV huCCR8	SYELTQPPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRAA NRPSGIPERFSGSNSGNTATLTISGTQ AGDEADYYCQAFDAGTVVFGGGTQ LTVLG

SEQ ID NO:	Designation	Sequence
1021	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_HC HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYAGSNRYYAASVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSS
1022	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_LC LV huCCR8	SYELTQPPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRQS NRPSGIPERFSGSNSGNTATLTISGTQ AEDEADYYCQAFDAGTVVFGGGTQ LTVLG
1023	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_HC HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYSGSNRYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSS
1024	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_LC LV huCCR8	SYELTQPPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRQS NRPSGIPERFSGSNSGNTATLTISGTQ AGDEADYYCQAFDAGTVVFGGGTQ LTVLG
1025	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDISTVVFGGGTEL TVLG
1026	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_HC HV huCCR8	QVQLVESGGGVAQPGRSLRLSCAAS GFNFSNCGMHWVRQAPGKGLEWVA VISYDGGNKYHADSVKGRFTISRDDS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSS
1027	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGKTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTE LTVLG
1028	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_HC HV huCCR8	QVQLVESGGGVAQPGRSLRLSCAAS GFNFSNCGMHWVRQAPGKGLEWVA VISYDGGNKYYADSVKGRFTISRDDS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSS
1029	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQKRPGQAPVLVIYRDS NRPSGIPERFSGSKSGNTATLTISRAQ

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		AGDEADYYCQVWDSNTVVFGGGTN LTVLG
1030	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_HC HV huCCR8	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSNNGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVRGRFTISRDNS KNTLYLQMNSLRAEDTAVYSCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSS
1031	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQKAGQAPVQVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTK LTVLG
1032	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_HC HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAAS GFNFNTYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KSTLYLQMNSLRAEDTAVYYCARVY YGSGSYYKKNYYYGMDVWGQGTT VTVSS
1033	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCGGNN IGGKNVHWYQQKPGQAPVLVIYRDS NRPSGIPERFSGSKSGNTATLTISRAQ AGDESDYYCQVWDSSTVVFGGGTTL TVLG
1034	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_HC HV huCCR8	QVQVVESGGGVVQPGRSLRLSCAAS GFTLSSYGFHWVRQTPGKGLEWVAV ISYDGSNKYYADSVKGRFTISRDNSK NTLYLQMNSLRGEDTAVYYCARVY YGSGTYYKNRYYYGMDVWGQGTT VTVSS
1035	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSEALGQTARITCGGNNI GSKNVHWYQQKPGQAPVLVIYRDSN RPSGIPERFSGSKSGNTATLTISRAQA GDEADYYCQVWDSSTVVFGGGTKV TVLG
1036	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_HC HV huCCR8	QVQLVESGGGVVQPGRSLRLSCVVS GFNFINNGMHWVRQAPGKGLDWVA VISNDGSNKYYPDSVKGRFTISRDNS KNTLYLQMNSLRAEDSAVYYCAKV YYGSGNYYKNNYYYGMDVWGQGT TVTVSS
1037	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCEGNNI GSQNVHWYQQKPGQAPVLVMYRDS NRPSGIPERFSGSKSGNTATLAISRAQ AGDESDYYCQVWDGSAVVFGGGTT LTVLG

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1038	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_HC HV huCCR8	QMQVVESGGGVVQPGRSLRLSCAAS GFTFSSSGMHWVRQAPGKGLEWVA VISHDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLGGEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VIVSS
1039	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTE LTVLG
1040	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_HC HV huCCR8	QVQLVESGGGVAQPGRSLRLSCAAS GFNFSDCGMHWVRQAPGKGLEWVA VISYDGGNKYYADSVKGRFTISRDDS KNTLYLQTDSLRTEDTAVYYCAKVY YGSGIYYKNRYYYGMDVWGQGTTV TVSS
1041	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTGRITCGGNN IGSKNVHWYQQKPGQAPVLVIYRSS NRPSGIPERFSGSNSGNTATLTISRAQ AGDESDYYCQIWDSSTVVFGGGTKL TVLG
1042	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_HC HV huCCR8	QVQVVESGGGVVQPGRSLRLSCAAS GFTFSSYGMHWVRQAPGKGLEWVA VISFDGNNKYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGSYYKNRYYYGMDVWGQGT TVTVST
1043	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQRPGQAPVLVIYRDS NRPSGIPERLSGSKAGNTATLTISRAH AGDEADYYCQVWDSSTVVFGGGTE LTVQG
1044	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_HC HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAVS GFTFSSNGMHWVRQAPGKGLEWVA VISNDGSNKYYGDSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYRNNYYYGMDVWGQGTT VTVSS
1045	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQKPGQAPILVIYRNTN RPSGIPERFSGSNSGNTATLTISRAQV GDESDYFCQVWDSSTVVFGGGTKLT VLG
1046	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_HC HV huCCR8	QVQVVESGGGVVQPGRSLRLSCGAS GFTFSGYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFPISRDNS KNTLYLQMNSLRGEDTAVYYCARV

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		YYGSGIYYKNRYYYGMDVWGQGTTVAVSS
1047	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCGGNNIGSKNVHWYQQKPGQAPILVIYRNTNRPSGIPERFSGSNSGNTATLTISRAQVGDESDYFCQVWDSSTVVFGGGTKLTVLG
1048	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_HC HV huCCR8	QVQVVESGGGVVQPGRSLRLSCGASGFTFSGYGMHWVRQAPGKGLEWVAVISYDGSNKYYADSVKGRFTISRDNSKNTLYLQMNSLRGEDTAVYYCARVYYGSGIYYKNRYYYGMDVWGQGTTVAVSS
1049	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_LC LV huCCR8	SYDLTQPLSVSVALGQTARITCGGNNIGDKNVHWYQQKPGQAPVLVIYRNNVRPSGIPERFSGSNSGNTATLTISRAQAGDEADYYCQVWDSSTVVFGGGTKLTVLG
1050	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_HC HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAASGLNFSNFGMHWVRQAPGKGLDWVAVISYDGGNKYYADSVKGRFTVSRDNSKNTLFLQMNSLRAEDTALYYCAKVYYGSGSYYKKRYYYGMDVWGQGTTVTVSS
1051	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_LC LV huCCR8	SYELTQPLSVSVALGQTARITCGGNNIGSKNVHWYQQKPGQAPVLVIYRDSNRPSGIPERFSGSKSGNTATLTISRAQAGDEADYYCQVWDSSTVVFGGGAKLTVLG
1052	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_HC HV huCCR8	QVQLVESGGGVVQPGRSLRLSCAASGFNFSSCGMHWVRQAPGKGLEWVAVISYDGTNKYYADSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKVYYGSGIYYKKNYYYGMDVWGQGTTVTVSS
1053	huCCR8_32360_huIgG1z mAb_HC HV huCCR8	EVQLVESGGGLVKPGGSLRLSCAASGFTFSNARMGWVRQAPGKGLEWVGRIKSKTEGGTRDYAAPVKGRFTISRDDSKNTLYLQMNSLKTEDTAVYYCTSYSGVWGQGTMVTVSS
1054	huCCR8_32360_huIgG1z mAb_LC LV huCCR8	DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYHQKPGQSPKLLISWASTRESGVPDRFSGSGSGTDFTLTINSLQAEDVAVYYCQQYYSIPITFGGGTKVEIKR

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1055	huCCR8_32360_huIgG1z mAb(LC:K38R)_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1056	huCCR8_32360_huIgG1z mAb(LC:K38R)_LC Constant	TVAAPSVFIFPPSDEQLKSGTASVVCL LNNFYPREAKVQWKVDNALQSGNS QESVTEQDSKDSTYSLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKSFN RGEC
1057	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1058	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1059	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL

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		DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1060	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1061	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1062	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1063	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1064	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK

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1065	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1066	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1067	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1068	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1069	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1070	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN

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		STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1071	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1072	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1073	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1074	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1075	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS

SEQ ID NO:	Designation	Sequence
1076	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1077	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1078	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1079	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1080	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL

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		DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1081	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1082	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1083	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1084	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1085	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS

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1086	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1087	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1088	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1089	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_LC Constant	QPKAAPSVTLFPPSSEELQANKATLV CLISDFYPGAVTVAWKADSSPVKAG VETTTPSKQSNNKYAASSYLSLTPEQ WKSHRSYSCQVTHEGSTVEKTVAPT ECS
1090	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL

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		DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1091	huCCR8_32360_huIgG1z mAb_HC Constant	ASTKGPSVFPLAPSSKSTSGGTAALG CLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVVTVPSSSLGT QTYICNVNHKPSNTKVDKKVEPKSC DKTHTCPPCPAPELLGGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYN STYRVVSVLTVLHQDWLNGKEYKC KVSNKALPAPIEKTISKAKGQPREPQ VYTLPPSREEMTKNQVSLTCLVKGF YPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVF SCSVMHEALHNHYTQKSLSLSPGK
1092	huCCR8_32360_huIgG1z mAb_LC Constant	TVAAPSVFIFPPSDEQLKSGTASVVCL LNNFYPREAKVQWKVDNALQSGNS QESVTEQDSKDSTYSLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKSFN RGEC
1093	MPK20298-A4_SCFV	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSNNGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRTEDTAVYYCAKV YYGSGIYYKNRNYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARITCGGNNIGSQN VHWYQQKPGQAPVLVIYRDSNRPSG IPDRFSGSKSGNTATLTISRAQAGDEA DYYCQVWDSSTVVFGGGTKLTVL
1094	MPK20299-D2_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSSGGGGSGGGGSGGGGSSYELTQ PPSVSVALGQTARITCGGHNIGSKGV HWYQQKPGQAPVLVIYRNSNRPSGIP ERFSGSNSGNTATLTITRAQAGDEAD YYCQVWDSSTVVFGGGTKLTVL

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1095	MPK20299-F11_SCFV	QVQLVESGGGVVQPGRSLRLSCAPS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLFLQMNSLRAEDTAVYFCARVY YGSGSYYKKRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARITCGGNNIGSQN VHWYQQKPGQAPVLVIYRDSNRPSG IPERFSGSKSGNTATLTISRAQAGDEA DYYCQVWDSSTVVFGGGTQLTVL
1096	MPK20298-H6_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSSSGMHWVRQAPGKGLEWVA VISYDGTNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARITCGGHNIGSKG VHWYQQKPGQAPVLVIYRNSNRPSG IPERFSGSNSGNTATLTISRAQAGDEA DYYCQVWDSSTVVFGGGTQLTVL
1097	MPK20297-A4_SCFV	QVQLVESGGGVVQPGRSLRLSCAVS GFNFSNYGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKKRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARITCGGHNIGSQN VHWYQQKPGQAPVLVIYRDSNRPSG IPERFSGSKSGNTATLTISRAQAGDEA DYYCQVWDSSTVVFGGGTQLTVL
1098	MPK20299-H8_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSSGGGGSGGGGSGGGGSSYELTQ PPSVSVAPGQTARITCGGNNIGSKNV HWYQQKAGQAPVQVIYRNSNRPSGI PARFSGSNSGNTATLTISRAQAGDEA DYYCQVWDSSTVVFGGGTKLTVL
1099	MPK20300-C11_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSSYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGSYYKNRYYYGMDVWGQGT TVTVSSGGGGSGGGGSGGGGSSYEL TQPPSVSVAPGQTARIPCGGNNIGSK NVHWYQQKPGQAPVLVIYRDINRPS

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		GIPERFSGSNSGNTATLTISRAQAGDE ADYYCQVWDSSVVFGGGTKLTVL
1100	MPK20298-B1_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSSGGGGSGGGGSGGGGSSYELTQ PPSVSVALGQTARLTCEGNNIGSKNV HWYQQKPGQAPVLVIYRNSNRPSGIP ERFSGSNSGNTATLTISRVQAGDEAD YYCQAWDSSTVVFGGGTQLTVL
1101	MPK20297-E5_SCFV	QVQLVESGGGLVKPGGSLRLSCAVS GFNFSNNGMHWVRQAPGKGLEWVA VISYDGSNKYYTDSVKGRFTISRDNS KNTLYLQMNSLRTEDTAVYYCAKV YYGSGIYYKKRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPLSVSEALGQTARITCGGNNIGSKN VHWYQQKPGQAPVLVIYRDSNRPSG IPERFSGSNSGNAATLTISRVEAGDEA DYYCQVWDSSSDHVVFGGGTQLTV L
1102	MPK20299-A3_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSSGGGGSGGGGSGGGGSSYELTQ PPSVSVAPGQTARITCGGNNIGSKNV HWYQQKPGQAPVLVIYRNSNRPSGIP ERFSGSNSGNTATLTISGTQAMDEAD YYCQAWDSSNVVFGGGTQLTVL
1103	MPK20297-B4_SCFV	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSRNGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPLSVSVALGQTARITCGGNNIGSQN VHWYQQKPGQAPVLVIYRDSNRPSG IPDRFSGSKSGNTATLTISRAQAGDEA DYYCQVWDSSTVVFGGGTQLTVL

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1104	MPK20298-F6_SCFV	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSRNGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVAPGQTARITCGGNNIGSKN VHWYQQKPGQAPVLVIYRDSNRPSG IPERFSGSKSGTTATLTISRAQAGDEA EYYCQVWDSSTVVFGGGTELTVL
1105	MPK20299-H3_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSSGGGGSGGGGSGGGGSSYELTQ PLSVSVALGQTARITCGGNNIGSKNV HWYQQKPGQAPVLAIYRNSNRPSGIP ERFTGSNSGNTATLTISRAQAGDESD YYCQIWDSSTVVFGGGTKLTVL
1106	MPK20298-B9_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSRNGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKKNYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARISCGGNNIGSKN VHWYQQKPGQAPVLVIYRDSNRPSG IPERFSGSKSGTTATLTISRAQAGDEA EYYCQVWDSSTVVFGGGTQLTVL
1107	MPK20299-E2_SCFV	QVQLVESGGGVVQPGRSLRLSCAVS GFNFSNNGMHWVRQAPGKGLEWVA VISYDGSNKYYTDSVKGRFTISRDNS KNTLYLQMNSLRTEDTAVYYCAKV YYGSGIYYKKRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARITCEGNNIGSQN VHWYQQKPGQAPVLVMYRDSNRPS GIPERFSGSKSGNTATLAISRAQAGDE SDYYCQVWDGSAVVFGGGTKLTVL
1108	MPK20299-D6_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSSYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSSGGGGSGGGGSGGGGSSYELTQ PLSVSVALGQTARITCEGNNIGSQNV HWYQQKPGQAPVLVMYRDSNRPSGI

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		PERFSGSKSGNTATLAISRAQAGDES DYYCQVWDGSAVVFGGGTQLTVL
1109	MPK20299-A4_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYDGSNRYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSSGGGGSGGGGSGGGGSSYEL TQPPSVSVALGQTARITCGGHNIGSK GVHWYQQKPGQAPVLVIYRNSNRPS GIPERFSGSNSGNTATLTISGTQAMDE ADYYCQAWDSGTVVFGGGTQLTVL
1110	MPK20300-G5_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYDGSNRYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSSGGGGSGGGGSGGGGSSYEL TQPPSVSVALGQTARITCGANNIGSK NVHWYQQKPGQPPVLVIYRDFNRPS GIPERFSASNSGNTATLTISRGQAGDE ADYYCQVWDSSTGNVVFGGGTKLT VL
1111	MPK20299-C3_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFIFSNYGFHWVRQTPGKGLEWVAV ISYDGSNKYYADSVKGRFTISRDNSK NTLYLQMNSLRGEDTAVYYCARVY YGSGSYYKNRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVAPGQTARITCGGNNIGSKN VHWYQQKPGQAPVLVIYRDSNRPSG IPERFSGSKSGTTATLTISRAQAGDEA DYYCQVWDSSTVVFGGGTELTVL
1112	MPK20299-B7_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSSGGGGSGGGGSGGGGSSYELTQ SSSVSVAPGQTARITCGGNNIGSKNV HWYQQKPGQAPVLVIYRDSNRPSGIP ERFSGSKSGTTATLTISRVEAGDEAD YYCQVWDSSSAHVIFGGGTKLTVL

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1113	MPK20299-A5_SCFV	QVQLVESGGGVVQPGRSLRLSCGAS GFTFSGYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSGSVALGQTARITCGGNNLGSKN VHWYQQKPGQAPVLVIYRNSNRPSG IPERFSGSNSGNTATLTISRAQAGDEA DYYCQVWDSSTVVFGGGTKLTVL
1114	MPK20299-D1_SCFV	QVQLVESGGGLVKPGGSLRLSCAAS GFTFSNNGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARITCGGNRIGSKN VHWYQQKPGQAPVLVIYRDSNRPSG IPERFSGSKSGTTATLTISRAQAGDEA EYYCQVWDSSTVVFGGGTKLTVL
1115	MPK20299-C5_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYDGSNRYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSSGGGGSGGGGSGGGGSSYEL TQLPSVSVALGQTARITCGGHNIGSK GVHWYQQKPGQAPVLVIYRNSNRPS GIPERFSGSNSGNTATLTISRAQAGDE ADYYCQVWDSSTVVFGGGTELTVL
1116	MPK20299-B5_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKNRYYYGMDVWGQGTTV TVSSGGGGSGGGGSGGGGSSYELTQ PPSVSVALGQTARITCGGHNIGSKGV HWYQQKPGQAPVLVIYRNSNRPSGIP ERFSGSNSGNTATLTISRAQAGDEAD YYCQVWDSSTVVFGGGTQLTVL
1117	MPK20299-G9_SCFV	QVQLVESGGDLVQPGRSLRLSCAAS GFTFSNNGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVRGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPLSVSVALGQTARITCGGNNIGSKN VHWYQQKPGQAPVLVIYRNSNRPSG

SEQ ID NO:	Designation	Sequence
		IPERFSGSNSGNTATLTLSRVQAGDE ADYYCQVWDSSTVVFGGGTKLTVL
1118	MPK20299-G5_SCFV	QVQLVESGGGVVQPGRSLRLSCAVS GFNFSNNGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVRGRFTISRDNS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARLTCEGNNIGSKN VHWYQQKPGQAPVLVIYRDSNRPSG IPERFSGSKSGNTATLAISRAQAGDES DYYCQVWDSSAVVFGGGTKLTVL
1119	MPK20298-C10_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSSSGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARITCGGNNIGSKN VHWYQQKPGQAPVLAIYRNSNRPSG IPERFTGSNSGNTATLTISGTQAMDE ADYYCQAWDSSTVVFGGGTKLTVL
1120	MPK20298-B5_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSSGGGGSGGGGSGGGGSSYELTQ PPSVSVALGQTARITCGGNNIGSQNV HWYQQKPGQAPVLVIYRDSNRPSGIP ERFSGSKSGNTATLAISRAQAGDESD YYCQVWDSSAVVFGGGTQLTVL
1121	MPK20299-F2_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFTLSSSGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVKGRFTISRDDS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARISCGGNNIGSKN VHWYQQKPGQAPVLVMYRDSNRPS GIPERFSGSNSGNTATLTISGTQAMDE ADYYCQAWDSGTVVFGGGTKLTVL

SEQ ID NO:	Designation	Sequence
1122	MPK20298-D4_SCFV	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSNYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYFCARVY YGSGIYYKKRYYYGMDVWGQGTTV TVSSGGGGSGGGGSGGGGSSYELTQ PPSVSVALGQTARITCGGNNIGGKNV HWYQQKPGQAPVLVIYRDSNRPSGIP ERFSGSKSGNTATLTISRAQAGDESD YYCQVWDSSTVVFGGGTQLTVL
1123	MPK20297-F5_SCFV	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSRNGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPLSVSVALGQTARITCGGNNIGSKN VHWYQQKPGQAPVLVIYRNSNRPSG IPERFSGSNSGNTATLTISRAQAGDEA DYYCQVWDSSTVVFGGGTKLTVL
1124	MPK20299-D9_SCFV	QVQLVESGGGLVKPGGSLRLSCAAS GFNFSRNGMHWVRQVPGRGLDWVA VISNDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSSGGGGSGGGGSGGGGSSYELT QPPSVSVALGQTARISCGGNNIESKN VHWYQQKPGQAPVLVIYRDSNRPSG IPERFSGSKSGTTATLTISRAQAGDEA EYYCQVWDSSTVVFGGGTQLTVL
1125	huCCR8_32360_huIgG1z mAb(LC:K38R)_HC	EVQLVESGGGLVKPGGSLRLSCAAS GFTFSNARMGWVRQAPGKGLEWVG RIKSKTEGGTRDYAAPVKGRFTISRD DSKNTLYLQMNSLKTEDTAVYYCTS YSGVWGQGTMVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEP VTVSWNSGALTSGVHTFPAVLQSSG LYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISRTP EVTCVVVDVSHEDPEVKFNWYVDG VEVHNAKTKPREEQYNSTYRVVSVL TVLHQDWLNGKEYKCKVSNKALPA PIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWE SNGQPENNYKTTPPVLDSDGSFFLYS KLTVDKSRWQQGNVFSCSVMHEAL HNHYTQKSLSLSPGK

SEQ ID NO:	Designation	Sequence
1126	huCCR8_32360_huIgG1z mAb(LC:K38R)_LC	DIVMTQSPDSLAVSLGERATINCKSS QSVLYSSNNRNYLAWYHQKPGQSPK LLISWASTRESGVPDRFSGSGSGTDFT LTINSLQAEDVAVYYCQQYYSIPITFG GGTKVEIKRTVAAPSVFIFPPSDEQLK SGTASVVCLLNNFYPREAKVQWKVD NALQSGNSQESVTEQDSKDSTYSLSS TLTLSKADYEKHKVYACEVTHQGLS SPVTKSFNRGEC
1127	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_HC	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYDGSNRYYASSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1128	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_LC	SYELTQPPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRAA NRPSGIPERFSGSNSGNTATLTISGTQ AGDEADYYCQAFDAGTVVFGGGTQ LTVLGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1129	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_HC	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYAGSNRYYAASVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH

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		EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1130	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_LC	SYELTQPPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRQS NRPSGIPERFSGSNSGNTATLTISGTQ AEDEADYYCQAFDAGTVVFGGGTQ LTVLGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1131	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_HC	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYSGSNRYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1132	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_LC	SYELTQPPSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRQS NRPSGIPERFSGSNSGNTATLTISGTQ AGDEADYYCQAFDAGTVVFGGGTQ LTVLGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS

SEQ ID NO:	Designation	Sequence
1133	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDISTVVFGGGTEL TVLGQPKAAPSVTLFPPSSEELQANK ATLVCLISDFYPGAVTVAWKADSSP VKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1134	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_HC	QVQLVESGGGVAQPGRSLRLSCAAS GFNFSNCGMHWVRQAPGKGLEWVA VISYDGGNKYHADSVKGRFTISRDDS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1135	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGKTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTE LTVLGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1136	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_HC	QVQLVESGGGVAQPGRSLRLSCAAS GFNFSNCGMHWVRQAPGKGLEWVA VISYDGGNKYYADSVKGRFTISRDDS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH

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		EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1137	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQKRPGQAPVLVIYRDS NRPSGIPERFSGSKSGNTATLTISRAQ AGDEADYYCQVWDSNTVVFGGGTN LTVLGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1138	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_HC	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSNNGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVRGRFTISRDNS KNTLYLQMNSLRAEDTAVYSCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1139	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQKAGQAPVQVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTK LTVLGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS

SEQ ID NO:	Designation	Sequence
1140	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_HC	QVQLVESGGGVVQPGRSLRLSCAAS GFNFNTYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KSTLYLQMNSLRAEDTAVYYCARVY YGSGSYYKKNYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1141	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCGGNN IGGKNVHWYQQKPGQAPVLVIYRDS NRPSGIPERFSGSKSGNTATLTISRAQ AGDESDYYCQVWDSSTVVFGGGTTL TVLGQPKAAPSVTLFPPSSEELQANK ATLVCLISDFYPGAVTVAWKADSSP VKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1142	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_HC	QVQVVESGGGVVQPGRSLRLSCAAS GFTLSSYGFHWVRQTPGKGLEWVAV ISYDGSNKYYADSVKGRFTISRDNSK NTLYLQMNSLRGEDTAVYYCARVY YGSGTYYKNRYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK

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1143	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_LC	SYELTQPLSVSEALGQTARITCGGNNI GSKNVHWYQQKPGQAPVLVIYRDSN RPSGIPERFSGSKSGNTATLTISRAQA GDEADYYCQVWDSSTVVFGGGTKV TVLGQPKAAPSVTLFPPSSEELQANK ATLVCLISDFYPGAVTVAWKADSSP VKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1144	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_HC	QVQLVESGGGVVQPGRSLRLSCVVS GFNFINNGMHWVRQAPGKGLDWVA VISNDGSNKYYPDSVKGRFTISRDNS KNTLYLQMNSLRAEDSAVYYCAKV YYGSGNYYKNNYYYGMDVWGQGT TVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1145	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCEGNNI GSQNVHWYQQKPGQAPVLVMYRDS NRPSGIPERFSGSKSGNTATLAISRAQ AGDESDYYCQVWDGSAVVFGGGTT LTVLGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1146	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_HC	QMQVVESGGGVVQPGRSLRLSCAAS GFTFSSSGMHWVRQAPGKGLEWVA VISHDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLGGEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VIVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH

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		EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1147	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCGGHN IGSKGVHWYQQKPGQAPVLVIYRNS NRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTE LTVLGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1148	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_HC	QVQLVESGGGVAQPGRSLRLSCAAS GFNFSDCGMHWVRQAPGKGLEWVA VISYDGGNKYYADSVKGRFTISRDDS KNTLYLQTDSLRTEDTAVYYCAKVY YGSGIYYKNRYYYGMDVWGQGTTV TVSSASTKGPSVFPLAPSSKSTSGGTA ALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVVTVPSS SLGTQTYICNVNHKPSNTKVDKKVE PKSCDKTHTCPPCPAPELLGGPSVFLF PPKPKDTLMISRTPEVTCVVVDVSHE DPEVKFNWYVDGVEVHNAKTKPRE EQYNSTYRVVSVLTVLHQDWLNGK EYKCKVSNKALPAPIEKTISKAKGQP REPQVYTLPPSREEMTKNQVSLTCLV KGFYPSDIAVEWESNGQPENNYKTTP PVLDSDGSFFLYSKLTVDKSRWQQG NVFSCSVMHEALHNHYTQKSLSLSP GK
1149	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTGRITCGGNN IGSKNVHWYQQKPGQAPVLVIYRSS NRPSGIPERFSGSNSGNTATLTISRAQ AGDESDYYCQIWDSSTVVFGGGTKL TVLGQPKAAPSVTLFPPSSEELQANK ATLVCLISDFYPGAVTVAWKADSSP VKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS

SEQ ID NO:	Designation	Sequence
1150	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_HC	QVQVVESGGGVVQPGRSLRLSCAAS GFTFSSYGMHWVRQAPGKGLEWVA VISFDGNNKYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGSYYKNRYYYGMDVWGQGT TVTVSTASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1151	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQRPGQAPVLVIYRDS NRPSGIPERLSGSKAGNTATLTISRAH AGDEADYYCQVWDSSTVVFGGGTE LTVQGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1152	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_HC	QVQLVESGGGVVQPGRSLRLSCAVS GFTFSSNGMHWVRQAPGKGLEWVA VISNDGSNKYYGDSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYRNNYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK

SEQ ID NO:	Designation	Sequence
1153	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQKPGQAPILVIYRNTN RPSGIPERFSGSNSGNTATLTISRAQV GDESDYFCQVWDSSTVVFGGGTKLT VLGQPKAAPSVTLFPPSSEELQANKA TLVCLISDFYPGAVTVAWKADSSPV KAGVETTTPSKQSNNKYAASSYLSLT PEQWKSHRSYSCQVTHEGSTVEKTV APTECS
1154	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_HC	QVQVVESGGGVVQPGRSLRLSCGAS GFTFSGYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFPISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGIYYKNRYYYGMDVWGQGTT VAVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1155	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQKPGQAPILVIYRNTN RPSGIPERFSGSNSGNTATLTISRAQV GDESDYFCQVWDSSTVVFGGGTKLT VLGQPKAAPSVTLFPPSSEELQANKA TLVCLISDFYPGAVTVAWKADSSPV KAGVETTTPSKQSNNKYAASSYLSLT PEQWKSHRSYSCQVTHEGSTVEKTV APTECS
1156	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_HC	QVQVVESGGGVVQPGRSLRLSCGAS GFTFSGYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGIYYKNRYYYGMDVWGQGTT VAVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH

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		EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1157	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_LC	SYDLTQPLSVSVALGQTARITCGGNN IGDKNVHWYQQKPGQAPVLVIYRNN VRPSGIPERFSGSNSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGTK LTVLGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS
1158	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_HC	QVQLVESGGGVVQPGRSLRLSCAAS GLNFSNFGMHWVRQAPGKGLDWVA VISYDGGNKYYADSVKGRFTVSRDN SKNTLFLQMNSLRAEDTALYYCAKV YYGSGSYYKKRYYYGMDVWGQGT TVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1159	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_LC	SYELTQPLSVSVALGQTARITCGGNN IGSKNVHWYQQKPGQAPVLVIYRDS NRPSGIPERFSGSKSGNTATLTISRAQ AGDEADYYCQVWDSSTVVFGGGAK LTVLGQPKAAPSVTLFPPSSEELQAN KATLVCLISDFYPGAVTVAWKADSS PVKAGVETTTPSKQSNNKYAASSYLS LTPEQWKSHRSYSCQVTHEGSTVEK TVAPTECS

SEQ ID NO:	Designation	Sequence
1160	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_HC	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSSCGMHWVRQAPGKGLEWVA VISYDGTNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKKNYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PGK
1161	huCCR8_32360_huIgG1z mAb_HC	EVQLVESGGGLVKPGGSLRLSCAAS GFTFSNARMGWVRQAPGKGLEWVG RIKSKTEGGTRDYAAPVKGRFTISRD DSKNTLYLQMNSLKTEDTAVYYCTS YSGVWGQGTMVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEP VTVSWNSGALTSGVHTFPAVLQSSG LYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISRTP EVTCVVVDVSHEDPEVKFNWYVDG VEVHNAKTKPREEQYNSTYRVVSVL TVLHQDWLNGKEYKCKVSNKALPA PIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWE SNGQPENNYKTTPPVLDSDGSFFLYS KLTVDKSRWQQGNVFSCSVMHEAL HNHYTQKSLSLSPGK
1162	huCCR8_32360_huIgG1z mAb_LC	DIVMTQSPDSLAVSLGERATINCKSS QSVLYSSNNKNYLAWYHQKPGQSPK LLISWASTRESGVPDRFSGSGSGTDFT LTINSLQAEDVAVYYCQQYYSIPITFG GGTKVEIKRTVAAPSVFIFPPSDEQLK SGTASVVCLLNNFYPREAKVQWKVD NALQSGNSQESVTEQDSKDSTYSLSS TLTLSKADYEKHKVYACEVTHQGLS SPVTKSFNRGEC

SEQ ID NO:	Designation	Sequence
1163	MPK20298-A4_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGTAGTCT CTGGATTCAACTTCAGTAACAATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGACTGGAGTGGGTGGCA GTTATTTCAAATGATGGAAGTAATA AATACTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTACA AATGAACAGCCTGAGAACTGAGGA CACGGCTGTGTATTACTGTGCGAAA GTTTACTATGGTTCGGGTATTTATT ATAAAAACAGGAACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TCAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGGGATAGCAACCG GCCCTCTGGGATCCCTGACCGATTC TCTGGCTCCAAGTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAAGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTTTTCGGCGGAGGGACC AAGCTGACCGTCCTA
1164	MPK20299-D2_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCAACTTCAGTAACTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAATGGGTGGCA GTTATATCATATGATGGAAGTAATA AATATTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTACA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTTCTGTGCGAGA GTTTACTATGGTTCGGGGATTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT

SEQ ID NO:	Designation	Sequence
		GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGACACAACATTGGAAG TAAAGGTGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGGAATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAACTCGGGGAACACG GCCACCCTGACCATCACCAGAGCC CAAGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTTTTCGGCGGAGGGACC AAGCTGACCGTCCTA
1165	MPK20299-F11_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCACCCT CTGGATTCAACTTCAGTAACTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTTATATCATATGATGGAAGTAATA AATATTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAAAACACGCTGTTTCTGCA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTTCTGTGCGAGA GTTTACTATGGTTCGGGGAGTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TCAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGGGATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAAGTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAAGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTTTTCGGCGGAGGCACCC AGCTGACCGTCCTA

SEQ ID NO:	Designation	Sequence
1166	MPK20298-H6_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCGT CTGGATTCACCTTCAGTAGCTCTGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTTATATCATATGATGGAACTAATA AATACTATGCGGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTGCA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTACTGTGCGAAA GTTTACTATGGTTCGGGTATTTATT ATAAAAACAGGTACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGACACAACATTGGAAG TAAAGGTGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGAAATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAACTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAAGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTTTTCGGCGGAGGCACCC AGCTGACCGTCCTA
1167	MPK20297-A4_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGTCT CTGGATTCAACTTCAGTAACTATGG CATGCACTGGGTCCGCCAGGTTCCA GGCAGGGGGCTAGATTGGGTGGCA GTTATATCAAATGATGGAAGTAAT AAATACTATGCAGACTCCGTGAAG GGCCGATTCACCATTTCCAGAGACA ATTCCAAGAACACACTGTATCTGCA AATGGACAGCCTGAGAACTGAGGA CACGGCTGTGTATTACTGTGCGAAA GTTTACTATGGTTCGGGTATTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT

SEQ ID NO:	Designation	Sequence
		GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGACACAACATTGGAAG TCAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGGGATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAAGTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAAGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTTTTCGGCGGAGGCACCC AGCTGACCGTCCTA
1168	MPK20299-H8_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCAACTTCAGTAACTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAATGGGTGGCA GTTATATCATATGATGGAAGTAATA AATATTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTACA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTTCTGTGCGAGA GTTTACTATGGTTCGGGGATTTATT ATAAAAAGAGATACTACTACGGGA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCGGTGTCAGTGGC CCCAGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TAAAAATGTGCACTGGTACCAGCA GAAGGCAGGCCAGGCCCCTGTGCA GGTCATCTATAGAAATAGCAACCG GCCCTCTGGGATCCCTGCGCGATTC TCTGGCTCCAACTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAGGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTTTTCGGCGGTGGGACCA AGCTGACCGTCCTA

SEQ ID NO:	Designation	Sequence
1169	MPK20300-C11_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCACCTTCAGTAGCTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTTATATCATATGATGGAAGTAATA AATACTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTGCA AATGAACAGCCTGAGAGGTGAGGA CACGGCGGTGTATTACTGTGCGAG AGTTTACTATGGTTCGGGGAGTTAT TATAAAAACCGCTACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCGGTGTCAGTGGC CCCAGGACAGACGGCCAGGATTCC CTGTGGGGGAAACAACATTGGAAG TAAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTACT GGTCATCTATAGGGATATCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAACTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAAGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGCAGC GTGGTATTCGGCGGAGGGACCAAG CTGACCGTCCTC
1170	MPK20298-B1_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCAACTTCAGTAACTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAATGGGTGGCA GTTATATCATATGATGGAAGTAATA AATATTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTACA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTTCTGTGCGAGA GTTTACTATGGTTCGGGGATTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT

SEQ ID NO:	Designation	Sequence
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1171	MPK20297-E5_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCCTGGTCAAGCCTGGGGGG TCCCTGAGACTCTCCTGTGCAGTCT CTGGATTCAACTTCAGTAACAATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTCATATCGTATGATGGAAGTAATA AATACTATACAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTGCA AATGAACAGCCTGAGAACTGAGGA CACGGCTGTGTATTACTGTGCGAAA GTTTACTATGGTTCGGGTATTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACTCTCAGTGTCAGAGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TAAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTACT GGTCATCTATAGGGATAGCAACCG GCCCTCAGGGATCCCTGAGCGATTC TCTGGCTCCAACTCTGGGAACGCGG CCACCCTGACCATCAGTAGGGTCG AAGCCGGGGATGAGGCCGACTATT ACTGTCAGGTGTGGGATAGTAGCA GTGATCATGTGGTATTCGGCGGAG GCACCCAGCTGACCGTCCTA

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1172	MPK20299-A3_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCAACTTCAGTAACTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAATGGGTGGCA GTTATATCATATGATGGAAGTAATA AATATTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTACA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTTCTGTGCGAGA GTTTACTATGGTTCGGGGATTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCGGTGTCAGTGGC CCCAGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TAAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTACT GGTCATCTATAGAAATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAACTCTGGGAACACAG CCACTCTGACCATCAGCGGGACCC AGGCTATGGATGAGGCTGACTATT ACTGTCAGGCGTGGGACAGCAGCA ATGTGGTATTCGGCGGAGGCACCC AGCTGACCGTCCTA
1173	MPK20297-B4_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGTAGTCT CTGGATTCAACTTCAGTAGGAATGG CATGCACTGGGTCCGCCAGGTTCCA GGCAGGGGGCTAGATTGGGTGGCA GTTATATCAAATGATGGAAGTAAT AAATACTATGCAGACTCCGTGAAG GGCCGATTCACCATCTCCAGAGAC AATTCCAAGAACACGCTGTATCTGC AAATGAACAGCCTGAGAGCTGAGG ACACGGCTGTGTATTACTGTGCGAA AGTTTACTATGGTTCGGGGATTTAT TATAAAAATAACTACTATTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT

SEQ ID NO:	Designation	Sequence
		GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACTCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TCAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGGGATAGCAACCG GCCCTCTGGGATCCCTGACCGATTC TCTGGCTCCAAGTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAAGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTTTTCGGCGGAGGCACCC AGCTGACCGTCCTA
1174	MPK20298-F6_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGTAGTCT CTGGATTCAACTTCAGTAGGAATGG CATGCACTGGGTCCGCCAGGTTCCA GGCAGGGGGCTAGATTGGGTGGCA GTTATATCAAATGATGGAAGTAAT AAATACTATGCAGACTCCGTGAAG GGCCGATTCACCATCTCCAGAGAC AATTCCAAGAACACGCTGTATCTGC AAATGAACAGCCTGAGAGCTGAGG ACACGGCTGTGTATTACTGTGCGAA AGTTTACTATGGTTCGGGGATTTAT TATAAAAACCGCTATTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCGGTGTCAGTGGC CCCAGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TAAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGGGATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAAGTCGGGGACCACG GCCACCCTGACCATCAGCAGAGCC CAAGCCGGGGATGAGGCTGAGTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTTTTCGGCGGAGGGACC GAGCTGACCGTCCTA

SEQ ID NO:	Designation	Sequence
1175	MPK20299-H3_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCAACTTCAGTAACTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAATGGGTGGCA GTTATATCATATGATGGAAGTAATA AATATTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTACA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTTCTGTGCGAGA GTTTACTATGGTTCGGGGATTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CACAGCCACTCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TAAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGCCATCTATAGGAATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC ACTGGCTCCAACTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAAGCCGGGGATGAGTCTGACTAT TACTGTCAAATATGGGACAGCAGC ACTGTGGTATTCGGCGGAGGCACC AAGCTGACCGTCCTA
1176	MPK20298-B9_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCAACTTCAGTAGGAATGG CATGCACTGGGTCCGCCAGGTTCCA GGCAGGGGGCTAGATTGGGTGGCA GTTATATCAAATGATGGAAGTAAT AAATACTATGCGGACTCCGTGAAG GGCCGATTCACCATCTCCAGAGAC AATTCCAAGAACACGCTGTATCTGC AAATGAACAGCCTGAGAGCTGAGG ACACGGCTGTGTATTACTGTGCGAA AGTTTACTATGGTTCGGGTATTTAT TATAAAAAGAACTACTACTACGGT ATGGACGTCTGGGGCCAAGGGACC ACGGTCACCGTCTCCTCAGGTGGTG GTGGTTCTGGCGGCGGCGGCTCCG

SEQ ID NO:	Designation	Sequence
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1177	MPK20299-E2_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGTCT CTGGATTCAACTTCAGTAACAATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTCATATCGTATGATGGAAGTAATA AATACTATACAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTGCA AATGAACAGCCTGAGAACTGAGGA CACGGCTGTGTATTACTGTGCGAAA GTTTACTATGGTTCGGGTATTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGAGGGAAACAACATTGGAAG TCAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATGTATAGGGATAGCAACCG GCCCTCTGGGATCCCTGAACGATTC TCTGGCTCCAAGTCGGGGAACACG GCCACCCTGGCCATCAGCAGAGCC CAAGCCGGGGATGAGTCTGACTAT TACTGTCAGGTGTGGGACGGCAGT GCCGTGGTATTCGGCGGAGGGACC AAGCTGACCGTCCTA

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1178	MPK20299-D6_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCGT CTGGATTCACCTTCAGTAGCTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTTATATCATATGATGGAAGTAATA AATATTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTACA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTTCTGTGCGAGA GTTTACTATGGTTCGGGGATTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACTCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGAGGGAAACAACATTGGAAG TCAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATGTATAGGGATAGCAACCG GCCCTCTGGGATCCCTGAACGATTC TCTGGCTCCAAGTCGGGGAACACG GCCACCCTGGCCATCAGCAGAGCC CAAGCCGGGGATGAGTCTGACTAT TACTGTCAGGTGTGGGACGGCAGT GCCGTGGTATTCGGCGGAGGCACC CAGCTGACCGTCCTA
1179	MPK20299-A4_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCACCTTCAGTAACTATGG CTTTCACTGGGTCCGCCAGACTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTTATATCATATGATGGAAGTAATA GATACTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTCCA AATGAACAGCCTGAGAGGTGAGGA CACGGCGCTATATTACTGTGCGAGA GTTTACTATGGTTCGGGGACTTATT ATAAAAACCGCTACTACTACGGTAT GGACGTCTGGGGCCAAGGGACCAC GGTCACCGTCTCCTCAGGTGGTGGT GGTTCTGGCGGCGGCGGCTCCGGT

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1180	MPK20300-G5_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCACCTTCAGTAACTATGG CTTTCACTGGGTCCGCCAGACTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTTATATCATATGATGGAAGTAATA GATACTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTCCA AATGAACAGCCTGAGAGGTGAGGA CACGGCGCTATATTACTGTGCGAGA GTTTACTATGGTTCGGGGACTTATT ATAAAAACCGCTACTACTACGGTAT GGACGTCTGGGGCCAAGGGACCAC GGTCACCGTCTCCTCAGGTGGTGGT GGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGCAAACAACATTGGAAG TAAAAATGTTCACTGGTACCAGCA GAAGCCAGGCCAGCCCCCTGTGCT GGTCATCTATAGAGATTTCAACCGG CCCTCTGGGATCCCTGAGCGATTCT CTGCCTCCAACTCGGGGAACACGG CCACCCTGACCATCAGCAGAGGCC AAGCCGGGGATGAGGCTGACTATT ACTGTCAGGTGTGGGACAGCAGCA CTGGGAATGTGGTATTCGGCGGAG GGACCAAGCTGACCGTCCTA

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1182	MPK20299-B7_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCAACTTCAGTAACTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAATGGGTGGCA GTTATATCATATGATGGAAGTAATA AATATTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTACA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTTCTGTGCGAGA GTTTACTATGGTTCGGGGATTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT

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1183	MPK20299-A5_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGGAGCCT CTGGATTCACCTTCAGTGGCTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTTATATCATATGATGGAAGTAATA AATACTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCAAGAGACA ATTCCAAGAACACGCTGTATCTGCA AATGAACAGCCTGAGAGGTGAGGA CACGGCGGTGTATTACTGTGCGAG AGTTTATTATGGTTCGGGGATTTAT TATAAAAACCGCTACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGGGTCAGTGGC CCTGGGACAGACGGCCAGGATCAC CTGTGGGGGAAACAACCTTGGAAG TAAAAATGTGCACTGGTACCAACA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGAAATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAACTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAGGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTATTCGGCGGTGGGACC AAGCTGACCGTCCTA

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1185	MPK20299-C5_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCACCTTCAGTAACTATGG CTTTCACTGGGTCCGCCAGACTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTTATATCATATGATGGAAGTAATA GATACTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTCCA AATGAACAGCCTGAGAGGTGAGGA CACGGCGCTATATTACTGTGCGAGA GTTTACTATGGTTCGGGGACTTATT ATAAAAACCGCTACTACTACGGTAT GGACGTCTGGGGCCAAGGGACCAC GGTCACCGTCTCCTCAGGTGGTGGT GGTTCTGGCGGCGGCGGCTCCGGT

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1186	MPK20299-B5_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCAACTTCAGTAACTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAATGGGTGGCA GTTATATCATATGATGGAAGTAATA AATATTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTACA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTTCTGTGCGAGA GTTTACTATGGTTCGGGGATTTATT ATAAAAACCGCTATTACTACGGTAT GGACGTCTGGGGCCAAGGGACCAC GGTCACCGTCTCCTCAGGTGGTGGT GGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGACACAACATTGGAAG TAAAGGTGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGAAATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAACTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAAGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGTAGT ACTGTGGTTTTCGGCGGAGGCACCC AGCTGACCGTCCTA

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1187	MPK20299-G9_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGACTTGGTACAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCGT CTGGATTCACCTTCAGTAACAATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGACTGGAGTGGGTGGCA GTTATTTCAAATGATGGCAGTAATA AATATTATGCAGATTCCGTGAGGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTGCA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTATTGTGCGAAA GTTTACTATGGTTCGGGTATTTATT ATAAAAACAGGTACTACTACGGGA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACTCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TAAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGGAATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAACTCGGGGAACACG GCCACCCTGACTCTTAGCAGAGTCC AAGCCGGGGATGAGGCTGACTATT ACTGTCAGGTGTGGGACAGCAGCA CTGTGGTTTTCGGCGGAGGGACCA AGCTGACCGTCCTA
1188	MPK20299-G5_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGTCT CTGGATTCAACTTCAGTAACAATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGACTGGAGTGGGTGGCA GTTATTTCAAATGATGGCAGTAATA AATATTATGCAGATTCCGTGAGGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACACTGTATCTGCA AATGGACAGCCTGAGAACTGAGGA CACGGCTGTGTATTACTGTGCGAAA GTTTACTATGGTTCGGGTATTTATT ATAAAAACAGGTACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT

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1189	MPK20298-C10_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCACCTTCAGTAGCTCTGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTTATATCAAATGATGGAAGTAAT AAATACTATGCAGACTCCGTGAAG GGCCGATTCACCATCTCCAGAGAC AATTCCAAGAACACGCTGTATCTGC AAATGAACAGCCTGAGAGCTGAGG ACACGGCTGTGTATTACTGTGCGAA AGTTTACTATGGTTCGGGGATTTAT TATAAAAATAACTACTATTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TAAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGCCATCTATAGGAATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC ACTGGCTCCAACTCGGGGAACACG GCCACCCTGACCATCAGCGGGACC CAGGCTATGGATGAGGCTGACTATT ACTGTCAGGCGTGGGACAGCAGCA CTGTGGTATTCGGCGGAGGGACCA AGCTGACCGTCCTA

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1191	MPK20299-F2_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCACCCTCAGTAGCTCTGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAGTGGGTGGCA GTTATATCAAATGATGGAAGTAAT AAATACTATGCGGACTCCGTGAAG GGCCGGTTCACCATCTCCAGAGAC GATTCCAAGAACACACTGTATCTGC AAATGGACAGCCTGAGAACTGAGG ACACGGCTGTGTATTACTGTGCGAA AGTTTACTATGGTTCGGGTATTTAT TATAAAAACAGGTACTACTACGGG ATGGACGTCTGGGGCCAAGGGACC ACGGTCACCGTCTCCTCAGGTGGTG GTGGTTCTGGCGGCGGCGGCTCCG

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1192	MPK20298-D4_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCAACTTCAGTAACTATGG CATGCACTGGGTCCGCCAGGCTCCA GGCAAGGGGCTGGAATGGGTGGCA GTTATATCATATGATGGAAGTAATA AATATTATGCAGACTCCGTGAAGG GCCGATTCACCATCTCCAGAGACA ATTCCAAGAACACGCTGTATCTACA AATGAACAGCCTGAGAGCTGAGGA CACGGCTGTGTATTTCTGTGCGAGA GTTTACTATGGTTCGGGGATTTATT ATAAAAAGAGATACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACCCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGAATTAC CTGTGGGGGAAACAACATTGGAGG TAAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGGGATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAAGTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAAGCCGGGGATGAGTCTGACTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTATTCGGCGGAGGCACC CAGCTGACCGTCCTA

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1193	MPK20297-F5_SCFV	CAGGTGCAGCTGGTGGAGTCTGGG GGAGGCGTGGTCCAGCCTGGGAGG TCCCTGAGACTCTCCTGTGTAGTCT CTGGATTCAACTTCAGTAGGAATGG CATGCACTGGGTCCGCCAGGTTCCA GGCAGGGGGCTAGATTGGGTGGCA GTTATATCAAATGATGGAAGTAAT AAATACTATGCAGACTCCGTGAAG GGCCGATTCACCATCTCCAGAGAC AATTCCAAGAACACGCTGTATCTGC AAATGAACAGCCTGAGAGCTGAGG ACACGGCTGTGTATTACTGTGCGAA AGTTTACTATGGTTCGGGGATTTAT TATAAAAATAACTACTATTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT GGTGGTGGTTCTTCATATGAGCTGA CTCAGCCACTCTCAGTGTCAGTGGC CCTGGGACAGACGGCCAGGATTAC CTGTGGGGGAAACAACATTGGAAG TAAAAATGTGCACTGGTACCAGCA GAAGCCAGGCCAGGCCCCTGTGCT GGTCATCTATAGAAATAGCAACCG GCCCTCTGGGATCCCTGAGCGATTC TCTGGCTCCAACTCGGGGAACACG GCCACCCTGACCATCAGCAGAGCC CAGGCCGGGGATGAGGCTGACTAT TACTGTCAGGTGTGGGACAGCAGC ACTGTGGTTTTCGGCGGTGGGACCA AGCTGACCGTCCTA
1194	MPK20299-D9_SCFV	CAGGTGCAGCTGGTGGAGTCCGGG GGAGGCTTGGTCAAGCCTGGAGGG TCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCAACTTCAGTAGGAATGG CATGCACTGGGTCCGCCAGGTTCCA GGCAGGGGGCTAGATTGGGTGGCA GTTATATCAAATGATGGAAGTAAT AAATACTATGCAGACTCCGTGAAG GGCCGATTCACCATCTCCAGAGAC AATTCCAAGAACACGCTGTATCTGC AAATGAACAGCCTGAGAGCTGAGG ACACGGCTGTGTATTACTGTGCGAA AGTTTACTATGGTTCGGGGATTTAT TATAAAAATAACTACTACTACGGTA TGGACGTCTGGGGCCAAGGGACCA CGGTCACCGTCTCCTCAGGTGGTGG TGGTTCTGGCGGCGGCGGCTCCGGT

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1195	huCCR8_32360_huIgG1z mAb(LC:K38R)_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTGAGGTGC AGCTGGTGGAGTCTGGGGGAGGCT TGGTAAAGCCTGGGGGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT TACTTTCAGTAACGCCCGGATGGGC TGGGTCCGCCAGGCTCCAGGGAAG GGGCTGGAGTGGGTTGGCCGTATT AAAAGCAAAACTGAAGGTGGGACA AGAGACTACGCTGCACCCGTGAAA GGCAGATTCACCATCTCAAGAGAT GATTCAAAAAACACGCTGTATCTGC AAATGAACAGCCTGAAAACCGAGG ACACAGCCGTGTATTATTGTACCTC GTATAGTGGGGTCTGGGGCCAAGG GACAATGGTCACCGTGTCTTCAGCC TCCACCAAGGGCCCATCGGTCTTCC CCCTGGCACCCTCCTCCAAGAGCAC CTCTGGGGGCACAGCGGCCCTGGG CTGCCTGGTCAAGGACTACTTCCCC GAACCGGTGACGGTGTCGTGGAAC TCAGGCGCCCTGACCAGCGGCGTG CACACCTTCCCGGCTGTCCTACAGT CCTCAGGACTCTACTCCCTCAGCAG CGTGGTGACCGTGCCCTCCAGCAGC TTGGGCACCCAGACCTACATCTGCA ACGTGAATCACAAGCCCAGCAACA CCAAGGTGGACAAGAAAGTTGAGC CCAAATCTTGTGACAAAACTCACAC ATGCCCACCGTGCCCAGCACCTGA ACTCCTGGGGGGACCGTCAGTCTTC CTCTTCCCCCCAAAACCCAAGGACA CCCTCATGATCTCCCGGACCCCTGA

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1196	huCCR8_32360_huIgG1z mAb(LC:K38R)_LC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTGACATCG TGATGACCCAGTCTCCAGACTCCCT GGCTGTGTCTCTGGGCGAGAGGGC CACCATCAACTGCAAGTCCAGCCA GAGTGTTTTATACAGTTCCAACAAT AGAAACTACTTAGCTTGGTACCATC AGAAACCAGGACAGTCTCCTAAGC TGCTCATTTCCTGGGCATCTACCCG GGAATCCGGGGTCCCTGACCGATTC AGTGGCAGCGGGTCTGGGACAGAT TTCACTCTCACCATCAACAGCCTGC AGGCTGAAGATGTGGCAGTTTATTA CTGTCAACAATATTATAGTATTCCG ATCACTTTCGGCGGAGGGACCAAG GTGGAGATCAAACGAACGGTGGCT GCACCATCTGTCTTCATCTTCCCGC CATCTGATGAGCAGTTGAAATCTGG AACTGCCTCTGTTGTGTGCCTGCTG AATAACTTCTATCCCAGAGAGGCC AAAGTACAGTGGAAGGTGGATAAC GCCCTCCAATCGGGTAACTCCCAGG AGAGTGTCACAGAGCAGGACAGCA

SEQ ID NO:	Designation	Sequence
		AGGACAGCACCTACAGCCTCAGCA GCACCCTGACGCTGAGCAAAGCAG ACTACGAGAAACACAAAGTCTACG CCTGCGAAGTCACCCATCAGGGCCT GAGCTCGCCCGTCACAAAGAGCTT CAACAGGGGAGAGTGTTAG
1197	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGCTGGTGGAGTCCGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT CACCTTCAGTAACTATGGCTTTCAC TGGGTCCGCCAGACTCCAGGCAAG GGGCTGGAGTGGGTGGCAGTTATC TCATATGATGGAAGTAATAGATACT ATGCAAGCTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCCAA GAACACGCTGTATCTCCAAATGAA CAGCCTGAGAGGTGAGGACACGGC GCTATATTACTGTGCGAGAGTTTAC TATGGTTCGGGGACTTATTATAAAA ACCGCTACTACTACGGTATGGACGT CTGGGGCCAAGGGACCACGGTCAC CGTGTCCTCAGCCTCCACCAAGGGC CCATCGGTCTTCCCCCTGGCACCCT CCTCCAAGAGCACCTCTGGGGGCA CAGCGGCCCTGGGCTGCCTGGTCA AGGACTACTTCCCCGAACCGGTGA CGGTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTCCC GGCTGTCCTACAGTCCTCAGGACTC TACTCCCTCAGCAGCGTGGTGACCG TGCCCTCCAGCAGCTTGGGCACCCA GACCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGGAC AAGAAAGTTGAGCCCAAATCTTGT GACAAAACTCACACATGCCCACCG TGCCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCCCC CAAAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACATG

SEQ ID NO:	Designation	Sequence
		CGTGGTGGTGGACGTGAGCCACGA AGACCCTGAGGTCAAGTTCAACTG GTACGTGGACGGCGTGGAGGTGCA TAATGCCAAGACAAAGCCGCGGGA GGAGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCCTG CACCAGGACTGGCTGAATGGCAAG GAGTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCGAG AAAACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGTAC ACCCTGCCCCCATCCCGGGAGGAG ATGACCAAGAACCAGGTCAGCCTG ACCTGCCTGGTCAAAGGCTTCTATC CCAGCGACATCGCCGTGGAGTGGG AGAGCAATGGGCAGCCGGAGAACA ACTACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCCTC TATAGCAAGCTCACCGTGGACAAG AGCAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCAGA AGAGCCTCTCCCTGTCTCCGGGCAA ATAG
1198	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCATATGAGCTGACTCAG CCACCCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGACACAACATTGGAAGTAAAG GTGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTACTGGTCAT CTATAGAGCCGCCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAACTCTGGGAACACAGCCACTCT GACCATCAGCGGGACCCAGGCTGG CGATGAGGCTGACTATTACTGTCAG GCGTTCGACGCCGGCACTGTGGTAT TCGGCGGAGGCACCCAGCTGACCG TCCTAGGTCAGCCCAAGGCTGCACC CTCGGTCACTCTGTTCCCGCCCTCC TCTGAGGAGCTTCAAGCCAACAAG GCCACACTGGTGTGTCTCATCAGTG ACTTCTACCCGGGAGCCGTGACAGT GGCCTGGAAGGCAGATAGCAGCCC CGTCAAGGCGGGAGTGGAAACCAC CACACCCTCCAAACAAAGCAACAA CAAGTACGCGGCCAGCAGCTATCT

SEQ ID NO:	Designation	Sequence
		GAGCCTGACGCCTGAGCAGTGGAA GTCCCACAGAAGCTACAGCTGCCA GGTCACGCATGAAGGGAGCACCGT GGAGAAGACAGTGGCCCCTACAGA ATGTTCATAG
1199	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGCTGGTGGAGTCCGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT CACCTTCAGTAACTATGGCTTTCAC TGGGTCCGCCAGACTCCAGGCAAG GGGCTGGAGTGGGTGGCAGTTATC TCATATGCCGGAAGTAATAGATACT ATGCAGCCTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCCAA GAACACGCTGTATCTCCAAATGAA CAGCCTGAGAGGTGAGGACACGGC GCTATATTACTGTGCGAGAGTTTAC TATGGTTCGGGGACTTATTATAAAA ACCGCTACTACTACGGTATGGACGT CTGGGGCCAAGGGACCACGGTCAC CGTGTCCTCAGCCTCCACCAAGGGC CCATCGGTCTTCCCCCTGGCACCCT CCTCCAAGAGCACCTCTGGGGGCA CAGCGGCCCTGGGCTGCCTGGTCA AGGACTACTTCCCCGAACCGGTGA CGGTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTCCC GGCTGTCCTACAGTCCTCAGGACTC TACTCCCTCAGCAGCGTGGTGACCG TGCCCTCCAGCAGCTTGGGCACCCA GACCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGGAC AAGAAAGTTGAGCCCAAATCTTGT GACAAAACTCACACATGCCCACCG TGCCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCCCC CAAAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACATG CGTGGTGGTGGACGTGAGCCACGA

SEQ ID NO:	Designation	Sequence
		AGACCCTGAGGTCAAGTTCAACTG GTACGTGGACGGCGTGGAGGTGCA TAATGCCAAGACAAAGCCGCGGGA GGAGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCCTG CACCAGGACTGGCTGAATGGCAAG GAGTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCGAG AAAACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGTAC ACCCTGCCCCCATCCCGGGAGGAG ATGACCAAGAACCAGGTCAGCCTG ACCTGCCTGGTCAAAGGCTTCTATC CCAGCGACATCGCCGTGGAGTGGG AGAGCAATGGGCAGCCGGAGAACA ACTACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCCTC TATAGCAAGCTCACCGTGGACAAG AGCAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCAGA AGAGCCTCTCCCTGTCTCCGGGCAA ATAG
1200	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z(mAb)_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCATATGAGCTGACTCAG CCACCCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGACACAACATTGGAAGTAAAG GTGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTACTGGTCAT CTATAGACAGAGCAACCGGCCCTC TGGGATCCCTGAGCGATTCTCTGGC TCCAACTCTGGGAACACAGCCACTC TGACCATCAGCGGGACCCAGGCTG AAGATGAGGCTGACTATTACTGTCA GGCGTTCGACGCCGGCACTGTGGT ATTCGGCGGAGGCACCCAGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1201	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGCTGGTGGAGTCCGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT CACCTTCAGTAACTATGGCTTTCAC TGGGTCCGCCAGACTCCAGGCAAG GGGCTGGAGTGGGTGGCAGTTATC TCATATAGCGGAAGTAATAGATAC TATGCAGACTCCGTGAAGGGCCGA TTCACCATCTCCAGAGACAATTCCA AGAACACGCTGTATCTCCAAATGA ACAGCCTGAGAGGTGAGGACACGG CGCTATATTACTGTGCGAGAGTTTA CTATGGTTCGGGGACTTATTATAAA AACCGCTACTACTACGGTATGGAC GTCTGGGGCCAAGGGACCACGGTC ACCGTGTCCTCAGCCTCCACCAAGG GCCCATCGGTCTTCCCCCTGGCACC CTCCTCCAAGAGCACCTCTGGGGGC ACAGCGGCCCTGGGCTGCCTGGTC AAGGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCGCC CTGACCAGCGGCGTGCACACCTTCC CGGCTGTCCTACAGTCCTCAGGACT CTACTCCCTCAGCAGCGTGGTGACC GTGCCCTCCAGCAGCTTGGGCACCC AGACCTACATCTGCAACGTGAATC ACAAGCCCAGCAACACCAAGGTGG ACAAGAAAGTTGAGCCCAAATCTT GTGACAAAACTCACACATGCCCAC CGTGCCCAGCACCTGAACTCCTGGG GGGACCGTCAGTCTTCCTCTTCCCC CCAAAACCCAAGGACACCCTCATG ATCTCCCGGACCCCTGAGGTCACAT GCGTGGTGGTGGACGTGAGCCACG

SEQ ID NO:	Designation	Sequence
		AAGACCCTGAGGTCAAGTTCAACT GGTACGTGGACGGCGTGGAGGTGC ATAATGCCAAGACAAAGCCGCGGG AGGAGCAGTACAACAGCACGTACC GTGTGGTCAGCGTCCTCACCGTCCT GCACCAGGACTGGCTGAATGGCAA GGAGTACAAGTGCAAGGTGTCCAA CAAAGCCCTCCCAGCCCCCATCGA GAAAACCATCTCCAAAGCCAAAGG GCAGCCCCGAGAACCACAGGTGTA CACCCTGCCCCCATCCCGGGAGGA GATGACCAAGAACCAGGTCAGCCT GACCTGCCTGGTCAAAGGCTTCTAT CCCAGCGACATCGCCGTGGAGTGG GAGAGCAATGGGCAGCCGGAGAAC AACTACAAGACCACGCCTCCCGTG CTGGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGACA AGAGCAGGTGGCAGCAGGGGAACG TCTTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGGGC AAATAG
1202	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCATATGAGCTGACTCAG CCACCCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGACACAACATTGGAAGTAAAG GTGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTACTGGTCAT CTATAGACAGAGCAACCGGCCCTC TGGGATCCCTGAGCGATTCTCTGGC TCCAACTCTGGGAACACAGCCACTC TGACCATCAGCGGGACCCAGGCTG GCGATGAGGCTGACTATTACTGTCA GGCGTTCGACGCCGGCACTGTGGT ATTCGGCGGAGGCACCCAGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1203	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAACTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGACACAACATTGGAAGTAAAG GTGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTGCTGGTCAT CTATAGAAATAGCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAACTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAAGCCG GGGATGAGGCTGACTATTACTGTCA GGTGTGGGACATCAGCACTGTGGTT TTCGGCGGAGGGACCGAGCTGACC GTCCTAGGTCAGCCCAAGGCTGCA CCCTCGGTCACTCTGTTCCCGCCCT CCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG

SEQ ID NO:	Designation	Sequence
1204	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGCTGGTGGAGTCTGGGGGAGGCG TGGCCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT CAACTTCAGTAACTGTGGCATGCAC TGGGTCCGCCAGGCTCCAGGCAAG GGGCTGGAGTGGGTGGCAGTTATA TCATATGATGGAGGTAATAAATATC ATGCGGACTCCGTGAAGGGCCGGT TCACCATCTCCAGAGACGATTCCAA GAACACACTGTATCTGCAAATGGA CAGCCTGAGAACTGAGGACACGGC TGTGTATTACTGTGCGAAAGTTTAC TATGGTTCGGGTATTTATTATAAAA ACAGGTACTACTACGGGATGGACG TCtGGGGCCAAGGGACCACGGTCAC CGTCTCCTCAGCCTCCACCAAGGGC CCATCGGTCTTCCCCCTGGCACCCT CCTCCAAGAGCACCTCTGGGGGCA CAGCGGCCCTGGGCTGCCTGGTCA AGGACTACTTCCCCGAACCGGTGA CGGTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTCCC GGCTGTCCTACAGTCCTCAGGACTC TACTCCCTCAGCAGCGTGGTGACCG TGCCCTCCAGCAGCTTGGGCACCCA GACCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGGAC AAGAAAGTTGAGCCCAAATCTTGT GACAAAACTCACACATGCCCACCG TGCCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCCCC CAAAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACATG CGTGGTGGTGGACGTGAGCCACGA AGACCCTGAGGTCAAGTTCAACTG GTACGTGGACGGCGTGGAGGTGCA TAATGCCAAGACAAAGCCGCGGGA GGAGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCCTG CACCAGGACTGGCTGAATGGCAAG GAGTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCGAG AAAACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGTAC ACCCTGCCCCCATCCCGGGAGGAG

SEQ ID NO:	Designation	Sequence
		ATGACCAAGAACCAGGTCAGCCTG ACCTGCCTGGTCAAAGGCTTCTATC CCAGCGACATCGCCGTGGAGTGGG AGAGCAATGGGCAGCCGGAGAACA ACTACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCCTC TATAGCAAGCTCACCGTGGACAAG AGCAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCAGA AGAGCCTCTCCCTGTCTCCGGGCAA ATAG
1205	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAGCTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGACACAACATTGGAAGTAAAG GTGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTGCTGGTCAT CTATAGAAATAGCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAACTCGGGGAAAACGGCCACCC TGACCATCAGCAGAGCCCAAGCCG GGGATGAGGCTGACTATTACTGTCA GGTGTGGGACAGCAGCACTGTGGT TTTCGGCGGAGGGACCGAGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1206	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGCTGGTGGAGTCTGGGGGAGGCG TGGCCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT CAACTTCAGTAACTGTGGCATGCAC TGGGTCCGCCAGGCTCCAGGCAAG GGGCTGGAGTGGGTGGCAGTTATA TCATATGATGGAGGTAATAAATATT ATGCGGACTCCGTGAAGGGCCGGT TCACCATCTCCAGAGACGATTCCAA GAACACACTGTATCTGCAAATGGA CAGCCTGAGAACTGAGGACACGGC TGTGTATTACTGTGCGAAAGTTTAC TATGGTTCGGGTATTTATTATAAAA ACAGGTATTACTACGGGATGGACG TCTGGGGCCAAGGGACCACGGTCA CCGTCTCCTCAGCCTCCACCAAGGG CCCATCGGTCTTCCCCCTGGCACCC TCCTCCAAGAGCACCTCTGGGGGC ACAGCGGCCCTGGGCTGCCTGGTC AAGGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCGCC CTGACCAGCGGCGTGCACACCTTCC CGGCTGTCCTACAGTCCTCAGGACT CTACTCCCTCAGCAGCGTGGTGACC GTGCCCTCCAGCAGCTTGGGCACCC AGACCTACATCTGCAACGTGAATC ACAAGCCCAGCAACACCAAGGTGG ACAAGAAAGTTGAGCCCAAATCTT GTGACAAAACTCACACATGCCCAC CGTGCCCAGCACCTGAACTCCTGGG GGGACCGTCAGTCTTCCTCTTCCCC CCAAAACCCAAGGACACCCTCATG ATCTCCCGGACCCCTGAGGTCACAT GCGTGGTGGTGGACGTGAGCCACG

SEQ ID NO:	Designation	Sequence
		AAGACCCTGAGGTCAAGTTCAACT GGTACGTGGACGGCGTGGAGGTGC ATAATGCCAAGACAAAGCCGCGGG AGGAGCAGTACAACAGCACGTACC GTGTGGTCAGCGTCCTCACCGTCCT GCACCAGGACTGGCTGAATGGCAA GGAGTACAAGTGCAAGGTGTCCAA CAAAGCCCTCCCAGCCCCCATCGA GAAAACCATCTCCAAAGCCAAAGG GCAGCCCCGAGAACCACAGGTGTA CACCCTGCCCCCATCCCGGGAGGA GATGACCAAGAACCAGGTCAGCCT GACCTGCCTGGTCAAAGGCTTCTAT CCCAGCGACATCGCCGTGGAGTGG GAGAGCAATGGGCAGCCGGAGAAC AACTACAAGACCACGCCTCCCGTG CTGGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGACA AGAGCAGGTGGCAGCAGGGGAACG TCTTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGGGC AAATAG
1207	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAGCTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGAAACAACATTGGAAGTAAAA ATGTGCACTGGTACCAGAAGAGGC CAGGCCAGGCCCCTGTGCTGGTCAT CTATAGGGATAGCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAAGTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAAGCCG GGGATGAGGCTGACTATTACTGTCA GGTGTGGGACAGCAACACTGTGGT TTTCGGCGGAGGGACCAACCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1208	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGCTGGTGGAGTCTGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGTAGTCTCTGGATT CAACTTCAGTAACAATGGCATGCA CTGGGTCCGCCAGGCTCCAGGCAA GGGACTGGAGTGGGTGGCAGTTAT TTCAAATGATGGCAGTAATAAATAT TATGCAGATTCCGTGAGGGGCCGA TTCACCATCTCCAGAGACAATTCCA AGAACACGCTGTATCTGCAAATGA ACAGCCTGAGAGCTGAGGACACGG CTGTGTATTCCTGTGCGAAAGTTTA CTATGGTTCGGGAATTTATTACAAA AATAACTACTACTACGGTATGGAC GTCTGGGGCCAAGGGACCACGGTC ACCGTCTCCTCAGCCTCCACCAAGG GCCCATCGGTCTTCCCCCTGGCACC CTCCTCCAAGAGCACCTCTGGGGGC ACAGCGGCCCTGGGCTGCCTGGTC AAGGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCGCC CTGACCAGCGGCGTGCACACCTTCC CGGCTGTCCTACAGTCCTCAGGACT CTACTCCCTCAGCAGCGTGGTGACC GTGCCCTCCAGCAGCTTGGGCACCC AGACCTACATCTGCAACGTGAATC ACAAGCCCAGCAACACCAAGGTGG ACAAGAAAGTTGAGCCCAAATCTT GTGACAAAACTCACACATGCCCAC CGTGCCCAGCACCTGAACTCCTGGG GGGACCGTCAGTCTTCCTCTTCCCC CCAAAACCCAAGGACACCCTCATG ATCTCCCGGACCCCTGAGGTCACAT GCGTGGTGGTGGACGTGAGCCACG

SEQ ID NO:	Designation	Sequence
		AAGACCCTGAGGTCAAGTTCAACT GGTACGTGGACGGCGTGGAGGTGC ATAATGCCAAGACAAAGCCGCGGG AGGAGCAGTACAACAGCACGTACC GTGTGGTCAGCGTCCTCACCGTCCT GCACCAGGACTGGCTGAATGGCAA GGAGTACAAGTGCAAGGTGTCCAA CAAAGCCCTCCCAGCCCCCATCGA GAAAACCATCTCCAAAGCCAAAGG GCAGCCCCGAGAACCACAGGTGTA CACCCTGCCCCCATCCCGGGAGGA GATGACCAAGAACCAGGTCAGCCT GACCTGCCTGGTCAAAGGCTTCTAT CCCAGCGACATCGCCGTGGAGTGG GAGAGCAATGGGCAGCCGGAGAAC AACTACAAGACCACGCCTCCCGTG CTGGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGACA AGAGCAGGTGGCAGCAGGGGAACG TCTTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGGGC AAATAG
1209	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTcctATGAGCTGACTCAGC CACTCTCAGTGTCAGTGGCCCTGGG ACAGACGGCCAGGATTACCTGTGG GGGAAACAACATTGGAAGTAAAAA TGTGCACTGGTACCAGCAGAAGGC AGGCCAGGCCCCTGTGCAGGTCAT CTATAGAAATAGCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAACTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAGGCCG GGGATGAGGCTGACTATTACTGTCA GGTGTGGGACAGCAGCACTGTGGT TTTCGGCGGTGGGACCAAGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1210	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGCTGGTGGAGTCTGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT CAACTTCAATACCTATGGCATGCAC TGGGTCCGCCAGGCTCCAGGCAAG GGGCTGGAGTGGGTGGCAGTTATA TCATATGATGGAAGTAATAAATATT ATGCAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCCAA GAGCACGCTGTATCTGCAAATGAA CAGCCTGAGAGCTGAGGACACGGC TGTGTATTACTGTGCGAGAGTTTAC TATGGTTCGGGGAGTTATTATAAAA AGAATTACTACTACGGTATGGACGT CTGGGGCCAAGGGACCACGGTCAC CGTCTCCTCAGCCTCCACCAAGGGC CCATCGGTCTTCCCCCTGGCACCCT CCTCCAAGAGCACCTCTGGGGGCA CAGCGGCCCTGGGCTGCCTGGTCA AGGACTACTTCCCCGAACCGGTGA CGGTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTCCC GGCTGTCCTACAGTCCTCAGGACTC TACTCCCTCAGCAGCGTGGTGACCG TGCCCTCCAGCAGCTTGGGCACCCA GACCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGGAC AAGAAAGTTGAGCCCAAATCTTGT GACAAAACTCACACATGCCCACCG TGCCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCCCC CAAAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACATG CGTGGTGGTGGACGTGAGCCACGA

SEQ ID NO:	Designation	Sequence
		AGACCCTGAGGTCAAGTTCAACTG GTACGTGGACGGCGTGGAGGTGCA TAATGCCAAGACAAAGCCGCGGGA GGAGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCCTG CACCAGGACTGGCTGAATGGCAAG GAGTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCGAG AAAACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGTAC ACCCTGCCCCCATCCCGGGAGGAG ATGACCAAGAACCAGGTCAGCCTG ACCTGCCTGGTCAAAGGCTTCTATC CCAGCGACATCGCCGTGGAGTGGG AGAGCAATGGGCAGCCGGAGAACA ACTACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCCTC TATAGCAAGCTCACCGTGGACAAG AGCAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCAGA AGAGCCTCTCCCTGTCTCCGGGCAA ATAG
1211	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAGCTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGAAACAACATTGGAGGTAAAA ATGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTGCTGGTCAT CTATAGGGATAGCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAAGTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAAGCCG GGGATGAGTCTGACTATTACTGTCA GGTTTGGGACAGCAGCACTGTGGT ATTCGGCGGAGGGACCACGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1212	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGGTGGTGGAGTCTGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT CACCCTCAGTAGTTATGGCTTTCAC TGGGTCCGCCAGACTCCAGGCAAG GGGCTGGAGTGGGTGGCAGTTATA TCATATGATGGAAGTAATAAATAct ATGCAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCCAA GAACACGCTGTATCTCCAAATGAA CAGCCTGAGAGGTGAGGACACGGC GGTGTATTACTGTGCGAGAGTTTAC TATGGTTCGGGGACTTATTATAAAA ACCGCTACTACTACGGTATGGACGT CTGGGGCCAAGGGACCACGGTCAC CGTCTCCTCAGCCTCCACCAAGGGC CCATCGGTCTTCCCCCTGGCACCCT CCTCCAAGAGCACCTCTGGGGGCA CAGCGGCCCTGGGCTGCCTGGTCA AGGACTACTTCCCCGAACCGGTGA CGGTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTCCC GGCTGTCCTACAGTCCTCAGGACTC TACTCCCTCAGCAGCGTGGTGACCG TGCCCTCCAGCAGCTTGGGCACCCA GACCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGGAC AAGAAAGTTGAGCCCAAATCTTGT GACAAAACTCACACATGCCCACCG TGCCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCCCC CAAAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACATG CGTGGTGGTGGACGTGAGCCACGA

SEQ ID NO:	Designation	Sequence
		AGACCCTGAGGTCAAGTTCAACTG GTACGTGGACGGCGTGGAGGTGCA TAATGCCAAGACAAAGCCGCGGGA GGAGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCCTG CACCAGGACTGGCTGAATGGCAAG GAGTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCGAG AAAACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGTAC ACCCTGCCCCCATCCCGGGAGGAG ATGACCAAGAACCAGGTCAGCCTG ACCTGCCTGGTCAAAGGCTTCTATC CCAGCGACATCGCCGTGGAGTGGG AGAGCAATGGGCAGCCGGAGAACA ACTACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCCTC TATAGCAAGCTCACCGTGGACAAG AGCAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCAGA AGAGCCTCTCCCTGTCTCCGGGCAA ATAG
1213	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAGCTGACTCAG CCACTCTCAGTGTCAGAGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGAAACAACATTGGAAGTAAAA ATGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTACTGGTCAT CTATAGGGATAGCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAAGTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAAGCCG GGGATGAGGCTGACTATTACTGTCA GGTGTGGGACAGCAGCACTGTGGT TTTCGGCGGAGGGACCAAGGTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

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		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1214	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGCTGGTGGAGTCTGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGTAGTCTCTGGATT CAACTTCATTAACAATGGCATGCAC TGGGTCCGCCAGGCTCCAGGCAAG GGGCTGGACTGGGTGGCAGTTATA TCAAATGATGGAAGTAATAAATAC TATCCAGACTCCGTGAAGGGCCGA TTCACCATCTCCAGAGACAATTCCA AGAACACGCTGTATCTGCAAATGA ACAGCCTGAGAGCTGAGGACTCGG CTGTGTATTACTGTGCGAAAGTTTA CTATGGTTCGGGAAATTATTATAAA AACAACTACTACTACGGTATGGAC GTCTGGGGCCAAGGGACCACGGTC ACCGTCTCCTCAGCCTCCACCAAGG GCCCATCGGTCTTCCCCCTGGCACC CTCCTCCAAGAGCACCTCTGGGGGC ACAGCGGCCCTGGGCTGCCTGGTC AAGGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCGCC CTGACCAGCGGCGTGCACACCTTCC CGGCTGTCCTACAGTCCTCAGGACT CTACTCCCTCAGCAGCGTGGTGACC GTGCCCTCCAGCAGCTTGGGCACCC AGACCTACATCTGCAACGTGAATC ACAAGCCCAGCAACACCAAGGTGG ACAAGAAAGTTGAGCCCAAATCTT GTGACAAAACTCACACATGCCCAC CGTGCCCAGCACCTGAACTCCTGGG GGGACCGTCAGTCTTCCTCTTCCCC CCAAAACCCAAGGACACCCTCATG ATCTCCCGGACCCCTGAGGTCACAT GCGTGGTGGTGGACGTGAGCCACG

SEQ ID NO:	Designation	Sequence
		AAGACCCTGAGGTCAAGTTCAACT GGTACGTGGACGGCGTGGAGGTGC ATAATGCCAAGACAAAGCCGCGGG AGGAGCAGTACAACAGCACGTACC GTGTGGTCAGCGTCCTCACCGTCCT GCACCAGGACTGGCTGAATGGCAA GGAGTACAAGTGCAAGGTGTCCAA CAAAGCCCTCCCAGCCCCCATCGA GAAAACCATCTCCAAAGCCAAAGG GCAGCCCCGAGAACCACAGGTGTA CACCCTGCCCCCATCCCGGGAGGA GATGACCAAGAACCAGGTCAGCCT GACCTGCCTGGTCAAAGGCTTCTAT CCCAGCGACATCGCCGTGGAGTGG GAGAGCAATGGGCAGCCGGAGAAC AACTACAAGACCACGCCTCCCGTG CTGGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGACA AGAGCAGGTGGCAGCAGGGGAACG TCTTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGGGC AAATAG
1215	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAGCTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG AGGGAAACAACATTGGAAGTCAAA ATGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTGCTGGTCAT GTATAGGGATAGCAACCGGCCCTC TGGGATCCCTGAACGATTCTCTGGC TCCAAGTCGGGGAACACGGCCACC CTGGCCATCAGCAGAGCCCAAGCC GGGGATGAGTCTGACTATTACTGTC AGGTGTGGGACGGCAGTGCCGTGG TATTCGGCGGAGGGACCACGCTGA CCGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1216	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGATGC AGGTGGTGGAGTCTGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT CACCTTCAGTAGCTCTGGCATGCAC TGGGTCCGCCAGGCTCCAGGCAAG GGCCTGGAGTGGGTGGCAGTTATA TCACATGATGGAAGTAATAAATAC TATGCAGACTCCGTGAAGGGCCGA TTCACCATCTCCAGAGACAATTCCA AGAACACGCTGTATCTGCAAATGA ATAGCCTGGGAGGTGAGGACACGG CGGTGTATTACTGTGCGAAAGTTTA CTATGGTTCGGGGATTTATTATAAA AACCGCTATTACTACGGTATGGACG TCTGGGGCCAAGGGACCACGGTCA TCGTCTCGTCAGCCTCCACCAAGGG CCCATCGGTCTTCCCCCTGGCACCC TCCTCCAAGAGCACCTCTGGGGGC ACAGCGGCCCTGGGCTGCCTGGTC AAGGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCGCC CTGACCAGCGGCGTGCACACCTTCC CGGCTGTCCTACAGTCCTCAGGACT CTACTCCCTCAGCAGCGTGGTGACC GTGCCCTCCAGCAGCTTGGGCACCC AGACCTACATCTGCAACGTGAATC ACAAGCCCAGCAACACCAAGGTGG ACAAGAAAGTTGAGCCCAAATCTT GTGACAAAACTCACACATGCCCAC CGTGCCCAGCACCTGAACTCCTGGG GGGACCGTCAGTCTTCCTCTTCCCC CCAAAACCCAAGGACACCCTCATG ATCTCCCGGACCCCTGAGGTCACAT GCGTGGTGGTGGACGTGAGCCACG

SEQ ID NO:	Designation	Sequence
		AAGACCCTGAGGTCAAGTTCAACT GGTACGTGGACGGCGTGGAGGTGC ATAATGCCAAGACAAAGCCGCGGG AGGAGCAGTACAACAGCACGTACC GTGTGGTCAGCGTCCTCACCGTCCT GCACCAGGACTGGCTGAATGGCAA GGAGTACAAGTGCAAGGTGTCCAA CAAAGCCCTCCCAGCCCCCATCGA GAAAACCATCTCCAAAGCCAAAGG GCAGCCCCGAGAACCACAGGTGTA CACCCTGCCCCCATCCCGGGAGGA GATGACCAAGAACCAGGTCAGCCT GACCTGCCTGGTCAAAGGCTTCTAT CCCAGCGACATCGCCGTGGAGTGG GAGAGCAATGGGCAGCCGGAGAAC AACTACAAGACCACGCCTCCCGTG CTGGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGACA AGAGCAGGTGGCAGCAGGGGAACG TCTTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGGGC AAATAG
1217	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAGCTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGACACAACATTGGAAGTAAAG GTGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTGCTGGTCAT CTATAGAAATAGCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAACTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAAGCCG GGGATGAGGCTGACTATTACTGTCA GGTGTGGGACAGCAGCACTGTGGT TTTCGGCGGAGGGACCGAGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1218	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGctGGTGGAGtctGGGGGAGGCGTG GCCCAGCCTGGGAGGTCCCTGAGA CTCTCCTGTGCAGCCTCTGGATTCA ACTTCAGTGattGTGGCATGCACTGG GTCCGCCaggCTCCAGGCAAGGGGC TGGAGTGGGTGGCAGTTATATCATA TGATGGAGGTAATAAATATTATGC GGACTCCGTGAAGGGCCGGTTCAC CATCTCCAGAGacgATTCCAAGAAC ACACTGTAtcTGCAAacggacAGCCTG AGAACTGAGGACACGGCTGTGTAT TACTGTGCGAAAGTTTACTATGGTT CGGGTATTTATTATAAAAACAGGTA CTACTACGGGATGGACGTctggggCC AAGGGACCACGGTcaccgTCTCCTCA GCCTCCACCAAGGGCCCATCGGTCT TCCCCCTGGCACCCTCCTCCAAGAG CACCTCTGGGGGCACAGCGGCCCT GGGCTGCCTGGTCAAGGACTACTTC CCCGAACCGGTGACGGTGTCGTGG AACTCAGGCGCCCTGACCAGCGGC GTGCACACCTTCCCGGCTGTCCTAC AGTCCTCAGGACTCTACTCCCTCAG CAGCGTGGTGACCGTGCCCTCCAGC AGCTTGGGCACCCAGACCTACATCT GCAACGTGAATCACAAGCCCAGCA ACACCAAGGTGGACAAGAAAGTTG AGCCCAAATCTTGTGACAAAACTC ACACATGCCCACCGTGCCCAGCAC CTGAACTCCTGGGGGGACCGTCAG TCTTCCTCTTCCCCCCAAAACCCAA GGACACCCTCATGATCTCCCGGACC CCTGAGGTCACATGCGTGGTGGTG GACGTGAGCCACGAAGACCCTGAG

SEQ ID NO:	Designation	Sequence
		GTCAAGTTCAACTGGTACGTGGAC GGCGTGGAGGTGCATAATGCCAAG ACAAAGCCGCGGGAGGAGCAGTAC AACAGCACGTACCGTGTGGTCAGC GTCCTCACCGTCCTGCACCAGGACT GGCTGAATGGCAAGGAGTACAAGT GCAAGGTGTCCAACAAAGCCCTCC CAGCCCCCATCGAGAAAACCATCT CCAAAGCCAAAGGGCAGCCCCGAG AACCACAGGTGTACACCCTGCCCCC ATCCCGGGAGGAGATGACCAAGAA CCAGGTCAGCCTGACCTGCCTGGTC AAAGGCTTCTATCCCAGCGACATCG CCGTGGAGTGGGAGAGCAATGGGC AGCCGGAGAACAACTACAAGACCA CGCCTCCCGTGCTGGACTCCGACGG CTCCTTCTTCCTCTATAGCAAGCTC ACCGTGGACAAGAGCAGGTGGCAG CAGGGGAACGTCTTCTCATGCTCCG TGATGCATGAGGCTCTGCACAACC ACTACACGCAGAAGAGCCTCTCCCT GTCTCCGGGCAAATAG
1219	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAGCTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGGCAGGATTACCTGTG GGGGAAACAACATTGGAAGTAAAA ATGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTGCTGGTCAT CTATAGGAGTAGCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAACTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAAGCCG GGGATGAGTCTGACTATTACTGTCA AATATGGGACAGCAGCACTGTGGT ATTCGGCGGAGGGACCAAGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1220	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGGTGGTGGAGTCTGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT CACCTTCAGTAGCTATGGCATGCAC TGGGTCCGCCAGGCTCCAGGCAAG GGGCTGGAGTGGGTGGCAGTTATA TCATTTGATGGAAATAATAAATACT ATGCAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCCAA GAACACGCTATATCTGCAAATGAA CAGCCTGAGAGGTGAGGACACGGC GGTGTATTACTGTGCGAGAGTTTAT TATGGTTCGGGGAGTTATTATAAAA ACCGCTACTACTACGGTATGGACGT CTGGGGCCAAGGGACCACGGTCAC CGTCTCCACAGCCTCCACCAAGGGC CCATCGGTCTTCCCCCTGGCACCCT CCTCCAAGAGCACCTCTGGGGGCA CAGCGGCCCTGGGCTGCCTGGTCA AGGACTACTTCCCCGAACCGGTGA CGGTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTCCC GGCTGTCCTACAGTCCTCAGGACTC TACTCCCTCAGCAGCGTGGTGACCG TGCCCTCCAGCAGCTTGGGCACCCA GACCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGGAC AAGAAAGTTGAGCCCAAATCTTGT GACAAAACTCACACATGCCCACCG TGCCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCCCC CAAAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACATG CGTGGTGGTGGACGTGAGCCACGA

SEQ ID NO:	Designation	Sequence
		AGACCCTGAGGTCAAGTTCAACTG GTACGTGGACGGCGTGGAGGTGCA TAATGCCAAGACAAAGCCGCGGGA GGAGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCCTG CACCAGGACTGGCTGAATGGCAAG GAGTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCGAG AAAACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGTAC ACCCTGCCCCCATCCCGGGAGGAG ATGACCAAGAACCAGGTCAGCCTG ACCTGCCTGGTCAAAGGCTTCTATC CCAGCGACATCGCCGTGGAGTGGG AGAGCAATGGGCAGCCGGAGAACA ACTACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCCTC TATAGCAAGCTCACCGTGGACAAG AGCAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCAGA AGAGCCTCTCCCTGTCTCCGGGCAA ATAG
1221	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAACTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGAAACAACATTGGAAGTAAAA ATGTACACTGGTACCAGCAGAGGC CAGGCCAGGCCCCTGTGTTGGTCAT CTACAGGGATAGCAACCGGCCCTC TGGGATCCCTGAGCGATTATCTGGC TCCAAAGCGGGGAACACGGCCACC CTGACCATCAGCAGAGCCCACGCC GGGGATGAGGCTGACTATTACTGTC AGGTGTGGGACAGCAGCACTGTGG TTTTCGGCGGAGGGACCGAGCTGA CCGTCCAAGGTCAGCCCAAGGCTG CACCCTCGGTCACTCTGTTCCCGCC CTCCTCTGAGGAGCTTCAAGCCAAC AAGGCCACACTGGTGTGTCTCATCA GTGACTTCTACCCGGGAGCCGTGAC AGTGGCCTGGAAGGCAGATAGCAG CCCCGTCAAGGCGGGAGTGGAAAC CACCACACCCTCCAAACAAAGCAA CAACAAGTACGCGGCCAGCAGCTA

SEQ ID NO:	Designation	Sequence
		TCTGAGCCTGACGCCTGAGCAGTG GAAGTCCCACAGAAGCTACAGCTG CCAGGTCACGCATGAAGGGAGCAC CGTGGAGAAGACAGTGGCCCCTAC AGAATGTTCATAG
1222	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AATTGGTGGAGTCTGGGGGAGGCG TGGTCCAGCCTGGGAGGTCTCTGAG ACTCTCCTGTGCAGTCTCTGGATTC ACGTTCAGTAGCAATGGCATGCACT GGGTCCGCCAGGCTCCAGGCAAGG GGCTGGAGTGGGTGGCAGTTATAT CAAATGATGGAAGTAATAAATATT ATGGAGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCCAA GAACACGCTGTATCTGCAAATGAA CAGCCTGAGAGCTGAGGACACGGC TGTGTATTACTGTGCGAAAGTTTAC TATGGTTCGGGAATTTATTACAGAA ACAACTACTACTACGGTATGGACGT CTGGGGCCAAGGGACCACGGTCAC CGTCTCCTCAGCCTCCACCAAGGGC CCATCGGTCTTCCCCCTGGCACCCT CCTCCAAGAGCACCTCTGGGGGCA CAGCGGCCCTGGGCTGCCTGGTCA AGGACTACTTCCCCGAACCGGTGA CGGTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTCCC GGCTGTCCTACAGTCCTCAGGACTC TACTCCCTCAGCAGCGTGGTGACCG TGCCCTCCAGCAGCTTGGGCACCCA GACCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGGAC AAGAAAGTTGAGCCCAAATCTTGT GACAAAACTCACACATGCCCACCG TGCCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCCCC CAAAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACATG CGTGGTGGTGGACGTGAGCCACGA

SEQ ID NO:	Designation	Sequence
		AGACCCTGAGGTCAAGTTCAACTG GTACGTGGACGGCGTGGAGGTGCA TAATGCCAAGACAAAGCCGCGGGA GGAGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCCTG CACCAGGACTGGCTGAATGGCAAG GAGTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCGAG AAAACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGTAC ACCCTGCCCCCATCCCGGGAGGAG ATGACCAAGAACCAGGTCAGCCTG ACCTGCCTGGTCAAAGGCTTCTATC CCAGCGACATCGCCGTGGAGTGGG AGAGCAATGGGCAGCCGGAGAACA ACTACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCCTC TATAGCAAGCTCACCGTGGACAAG AGCAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCAGA AGAGCCTCTCCCTGTCTCCGGGCAA ATAG
1223	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAGCTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGAAACAACATTGGAAGTAAAA ATGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTATACTGGTCAT CTATAGGAATACCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAACTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAAGTCG GGGATGAGTCTGACTATTTCTGTCA GGTGTGGGACAGCAGCACTGTGGT ATTCGGCGGAGGGACCAAGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1224	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGGTGGTGGAGtctGGGGGAGGCGT GGTCCAGccTGGGAGGTCcCTGAGA CTCTCCTGTGGAGCCTCTGGATTCA CcttCAGtggcTATGGCATgcACTGGGT CcgcCAggcTCCAGGCAAGGGGCTGG AGTGGGTGGCAGTTATATCATATGA TGGAAGTAATAAATACTATGCAGA CTCCGTgAAGGGCCGATTCCCCATC TCAAGAgaCAATTCCAAGAACACGC TGTATCTGCAAATGAACAGcCTGAG AGGTGAGGACACGGCGGTGTATTA CTGTgcGAGAGTTTATTATGGTTCGG GGATTTATTATAAAAACCGCTacTaC TACGGTAtgGACGtctGGGGCCAAGG GACCACGGTcgcCGTCTCCTCAGCCT CCACCAAGGGCCCATCGGTCTTCCC CCTGGCACCCTCCTCCAAGAGCACC TCTGGGGGCACAGCGGCCCTGGGC TGCCTGGTCAAGGACTACTTCCCCG AACCGGTGACGGTGTCGTGGAACT CAGGCGCCCTGACCAGCGGCGTGC ACACCTTCCCGGCTGTCCTACAGTC CTCAGGACTCTACTCCCTCAGCAGC GTGGTGACCGTGCCCTCCAGCAGCT TGGGCACCCAGACCTACATCTGCA ACGTGAATCACAAGCCCAGCAACA CCAAGGTGGACAAGAAAGTTGAGC CCAAATCTTGTGACAAAACTCACAC ATGCCCACCGTGCCCAGCACCTGA ACTCCTGGGGGGACCGTCAGTCTTC CTCTTCCCCCCAAAACCCAAGGACA CCCTCATGATCTCCCGGACCCCTGA GGTCACATGCGTGGTGGTGGACGT GAGCCACGAAGACCCTGAGGTCAA

SEQ ID NO:	Designation	Sequence
		GTTCAACTGGTACGTGGACGGCGT GGAGGTGCATAATGCCAAGACAAA GCCGCGGGAGGAGCAGTACAACAG CACGTACCGTGTGGTCAGCGTCCTC ACCGTCCTGCACCAGGACTGGCTG AATGGCAAGGAGTACAAGTGCAAG GTGTCCAACAAAGCCCTCCCAGCCC CCATCGAGAAAACCATCTCCAAAG CCAAAGGGCAGCCCCGAGAACCAC AGGTGTACACCCTGCCCCCATCCCG GGAGGAGATGACCAAGAACCAGGT CAGCCTGACCTGCCTGGTCAAAGG CTTCTATCCCAGCGACATCGCCGTG GAGTGGGAGAGCAATGGGCAGCCG GAGAACAACTACAAGACCACGCCT CCCGTGCTGGACTCCGACGGCTCCT TCTTCCTCTATAGCAAGCTCACCGT GGACAAGAGCAGGTGGCAGCAGGG GAACGTCTTCTCATGCTCCGTGATG CATGAGGCTCTGCACAACCACTAC ACGCAGAAGAGCCTCTCCCTGTCTC CGGGCAAATAG
1225	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAGCTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGAAACAACATTGGAAGTAAAA ATGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTATACTGGTCAT CTATAGGAATACCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAACTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAAGTCG GGGATGAGTCTGACTATTTCTGTCA GGTGTGGGACAGCAGCACTGTGGT ATTCGGCGGAGGGACCAAGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1226	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGGTGGTGGAGTCTGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGGAGCCTCTGGATT CACCTTCAGTGGCTATGGCATGCAC TGGGTCCGCCAGGCTCCAGGCAAG GGGCTGGAGTGGGTGGCAGTTATA TCATATGATGGAAGTAATAAATACT ATGCAGACTCCGTGAAGGGCCGAT TCACCATCTCAAGAGACAATTCCAA GAACACGCTGTATCTGCAAATGAA CAGCCTGAGAGGTGAGGACACGGC GGTGTATTACTGTGCGAGAGTTTAT TATGGTTCGGGGATTTATTATAAAA ACCGCTACTACTACGGTATGGACGT CTGGGGCCAAGGGACCACGGTCGC CGTCTCCTCAGCCTCCACCAAGGGC CCATCGGTCTTCCCCCTGGCACCCT CCTCCAAGAGCACCTCTGGGGGCA CAGCGGCCCTGGGCTGCCTGGTCA AGGACTACTTCCCCGAACCGGTGA CGGTGTCGTGGAACTCAGGCGCCCT GACCAGCGGCGTGCACACCTTCCC GGCTGTCCTACAGTCCTCAGGACTC TACTCCCTCAGCAGCGTGGTGACCG TGCCCTCCAGCAGCTTGGGCACCCA GACCTACATCTGCAACGTGAATCAC AAGCCCAGCAACACCAAGGTGGAC AAGAAAGTTGAGCCCAAATCTTGT GACAAAACTCACACATGCCCACCG TGCCCAGCACCTGAACTCCTGGGG GGACCGTCAGTCTTCCTCTTCCCCC CAAAACCCAAGGACACCCTCATGA TCTCCCGGACCCCTGAGGTCACATG CGTGGTGGTGGACGTGAGCCACGA

SEQ ID NO:	Designation	Sequence
		AGACCCTGAGGTCAAGTTCAACTG GTACGTGGACGGCGTGGAGGTGCA TAATGCCAAGACAAAGCCGCGGGA GGAGCAGTACAACAGCACGTACCG TGTGGTCAGCGTCCTCACCGTCCTG CACCAGGACTGGCTGAATGGCAAG GAGTACAAGTGCAAGGTGTCCAAC AAAGCCCTCCCAGCCCCCATCGAG AAAACCATCTCCAAAGCCAAAGGG CAGCCCCGAGAACCACAGGTGTAC ACCCTGCCCCCATCCCGGGAGGAG ATGACCAAGAACCAGGTCAGCCTG ACCTGCCTGGTCAAAGGCTTCTATC CCAGCGACATCGCCGTGGAGTGGG AGAGCAATGGGCAGCCGGAGAACA ACTACAAGACCACGCCTCCCGTGCT GGACTCCGACGGCTCCTTCTTCCTC TATAGCAAGCTCACCGTGGACAAG AGCAGGTGGCAGCAGGGGAACGTC TTCTCATGCTCCGTGATGCATGAGG CTCTGCACAACCACTACACGCAGA AGAGCCTCTCCCTGTCTCCGGGCAA ATAG
1227	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGACCTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGAAACAACATTGGAGATAAAA ATGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTGCTGGTCAT CTATAGGAATAACGTCCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAACTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAAGCCG GGGATGAGGCTGACTATTACTGTCA GGTGTGGGACAGCAGCACTGTGGT TTTCGGCGGAGGGACCAAGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1228	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGCTGGTGGAATCTGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGGCT CAACTTCAGTAACTTTGGCATGCAC TGGGTCCGCCAGGCTCCAGGCAAG GGGCTGGACTGGGTGGCAGTTATA TCATATGATGGAGGTAATAAATACT ATGCAGACTCCGTGAAGGGCCGAT TCACCGTCTCCAGAGACAATTCCAA GAACACGCTCTTTCTGCAAATGAAC AGCCTGAGAGCTGAGGACACGGCT CTGTATTACTGTGCGAAAGTTTACT ATGGCTCGGGCAGTTATTATAAAA AGAGGTACTACTACGGTATGGACG TCTGGGGCCAGGGGACCACGGTCA CCGTCTCCTCAGCCTCCACCAAGGG CCCATCGGTCTTCCCCCTGGCACCC TCCTCCAAGAGCACCTCTGGGGGC ACAGCGGCCCTGGGCTGCCTGGTC AAGGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCGCC CTGACCAGCGGCGTGCACACCTTCC CGGCTGTCCTACAGTCCTCAGGACT CTACTCCCTCAGCAGCGTGGTGACC GTGCCCTCCAGCAGCTTGGGCACCC AGACCTACATCTGCAACGTGAATC ACAAGCCCAGCAACACCAAGGTGG ACAAGAAAGTTGAGCCCAAATCTT GTGACAAAACTCACACATGCCCAC CGTGCCCAGCACCTGAACTCCTGGG GGGACCGTCAGTCTTCCTCTTCCCC CCAAAACCCAAGGACACCCTCATG ATCTCCCGGACCCCTGAGGTCACAT GCGTGGTGGTGGACGTGAGCCACG

SEQ ID NO:	Designation	Sequence
		AAGACCCTGAGGTCAAGTTCAACT GGTACGTGGACGGCGTGGAGGTGC ATAATGCCAAGACAAAGCCGCGGG AGGAGCAGTACAACAGCACGTACC GTGTGGTCAGCGTCCTCACCGTCCT GCACCAGGACTGGCTGAATGGCAA GGAGTACAAGTGCAAGGTGTCCAA CAAAGCCCTCCCAGCCCCCATCGA GAAAACCATCTCCAAAGCCAAAGG GCAGCCCCGAGAACCACAGGTGTA CACCCTGCCCCCATCCCGGGAGGA GATGACCAAGAACCAGGTCAGCCT GACCTGCCTGGTCAAAGGCTTCTAT CCCAGCGACATCGCCGTGGAGTGG GAGAGCAATGGGCAGCCGGAGAAC AACTACAAGACCACGCCTCCCGTG CTGGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGACA AGAGCAGGTGGCAGCAGGGGAACG TCTTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGGGC AAATAG
1229	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_LC	ATGGCCTGGGCTCTGCTGCTCCTCA CCCTCCTCACTCAGGGCACAGGGTC CTGGGCCTCCTATGAGCTGACTCAG CCACTCTCAGTGTCAGTGGCCCTGG GACAGACGGCCAGGATTACCTGTG GGGGAAACAACATTGGAAGTAAAA ATGTGCACTGGTACCAGCAGAAGC CAGGCCAGGCCCCTGTGCTGGTCAT CTATAGGGATAGCAACCGGCCCTCT GGGATCCCTGAGCGATTCTCTGGCT CCAAGTCGGGGAACACGGCCACCC TGACCATCAGCAGAGCCCAAGCCG GGGATGAGGCTGACTATTACTGTCA GGTGTGGGACAGCAGCACTGTGGT TTTCGGCGGAGGGGCCAAGCTGAC CGTCCTAGGTCAGCCCAAGGCTGC ACCCTCGGTCACTCTGTTCCCGCCC TCCTCTGAGGAGCTTCAAGCCAACA AGGCCACACTGGTGTGTCTCATCAG TGACTTCTACCCGGGAGCCGTGACA GTGGCCTGGAAGGCAGATAGCAGC CCCGTCAAGGCGGGAGTGGAAACC ACCACACCCTCCAAACAAAGCAAC AACAAGTACGCGGCCAGCAGCTAT

SEQ ID NO:	Designation	Sequence
		CTGAGCCTGACGCCTGAGCAGTGG AAGTCCCACAGAAGCTACAGCTGC CAGGTCACGCATGAAGGGAGCACC GTGGAGAAGACAGTGGCCCCTACA GAATGTTCATAG
1230	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTCAGGTGC AGCTGGTGGAGTCTGGGGGAGGCG TGGTCCAGCCTGGGAGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT CAACTTCAGTAGCTGTGGCATGCAC TGGGTCCGCCAGGCTCCAGGCAAG GGGCTGGAGTGGGTGGCAGTTATA TCATATGATGGAACTAATAAATACT ATGCGGACTCCGTGAAGGGCCGAT TCACCATCTCCAGAGACAATTCCAA GAACACGCTGTATCTGCAAATGAA CAGCCTGAGAGCTGAGGACACGGC TGTGTATTACTGTGCGAAAGTTTAC TATGGTTCGGGTATTTATTATAAAA AGAACTACTACTACGGTATGGACG TCTGGGGCCAAGGGACCACGGTCA CCGTCTCCTCAGCCTCCACCAAGGG CCCATCGGTCTTCCCCCTGGCACCC TCCTCCAAGAGCACCTCTGGGGGC ACAGCGGCCCTGGGCTGCCTGGTC AAGGACTACTTCCCCGAACCGGTG ACGGTGTCGTGGAACTCAGGCGCC CTGACCAGCGGCGTGCACACCTTCC CGGCTGTCCTACAGTCCTCAGGACT CTACTCCCTCAGCAGCGTGGTGACC GTGCCCTCCAGCAGCTTGGGCACCC AGACCTACATCTGCAACGTGAATC ACAAGCCCAGCAACACCAAGGTGG ACAAGAAAGTTGAGCCCAAATCTT GTGACAAAACTCACACATGCCCAC CGTGCCCAGCACCTGAACTCCTGGG GGGACCGTCAGTCTTCCTCTTCCCC CCAAAACCCAAGGACACCCTCATG ATCTCCCGGACCCCTGAGGTCACAT GCGTGGTGGTGGACGTGAGCCACG

SEQ ID NO:	Designation	Sequence
		AAGACCCTGAGGTCAAGTTCAACT GGTACGTGGACGGCGTGGAGGTGC ATAATGCCAAGACAAAGCCGCGGG AGGAGCAGTACAACAGCACGTACC GTGTGGTCAGCGTCCTCACCGTCCT GCACCAGGACTGGCTGAATGGCAA GGAGTACAAGTGCAAGGTGTCCAA CAAAGCCCTCCCAGCCCCCATCGA GAAAACCATCTCCAAAGCCAAAGG GCAGCCCCGAGAACCACAGGTGTA CACCCTGCCCCCATCCCGGGAGGA GATGACCAAGAACCAGGTCAGCCT GACCTGCCTGGTCAAAGGCTTCTAT CCCAGCGACATCGCCGTGGAGTGG GAGAGCAATGGGCAGCCGGAGAAC AACTACAAGACCACGCCTCCCGTG CTGGACTCCGACGGCTCCTTCTTCC TCTATAGCAAGCTCACCGTGGACA AGAGCAGGTGGCAGCAGGGGAACG TCTTCTCATGCTCCGTGATGCATGA GGCTCTGCACAACCACTACACGCA GAAGAGCCTCTCCCTGTCTCCGGGC AAATAG
1231	huCCR8_32360_huIgG1z mAb_HC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTGAGGTGC AGCTGGTGGAGTCTGGGGGAGGCT TGGTAAAGCCTGGGGGGTCCCTGA GACTCTCCTGTGCAGCCTCTGGATT TACTTTCAGTAACGCCCGGATGGGC TGGGTCCGCCAGGCTCCAGGGAAG GGGCTGGAGTGGGTTGGCCGTATT AAAAGCAAAACTGAAGGTGGGACA AGAGACTACGCTGCACCCGTGAAA GGCAGATTCACCATCTCAAGAGAT GATTCAAAAAACACGCTGTATCTGC AAATGAACAGCCTGAAAACCGAGG ACACAGCCGTGTATTATTGTACCTC GTATAGTGGGGTCTGGGGCCAAGG GACAATGGTCACCGTCTCTTCAGCC TCCACCAAGGGCCCATCGGTCTTCC CCCTGGCACCCTCCTCCAAGAGCAC CTCTGGGGGCACAGCGGCCCTGGG CTGCCTGGTCAAGGACTACTTCCCC GAACCGGTGACGGTGTCGTGGAAC TCAGGCGCCCTGACCAGCGGCGTG CACACCTTCCCGGCTGTCCTACAGT

SEQ ID NO:	Designation	Sequence
		CCTCAGGACTCTACTCCCTCAGCAG CGTGGTGACCGTGCCCTCCAGCAGC TTGGGCACCCAGACCTACATCTGCA ACGTGAATCACAAGCCCAGCAACA CCAAGGTGGACAAGAAAGTTGAGC CCAAATCTTGTGACAAAACTCACAC ATGCCCACCGTGCCCAGCACCTGA ACTCCTGGGGGGACCGTCAGTCTTC CTCTTCCCCCCAAAACCCAAGGACA CCCTCATGATCTCCCGGACCCCTGA GGTCACATGCGTGGTGGTGGACGT GAGCCACGAAGACCCTGAGGTCAA GTTCAACTGGTACGTGGACGGCGT GGAGGTGCATAATGCCAAGACAAA GCCGCGGGAGGAGCAGTACAACAG CACGTACCGTGTGGTCAGCGTCCTC ACCGTCCTGCACCAGGACTGGCTG AATGGCAAGGAGTACAAGTGCAAG GTGTCCAACAAAGCCCTCCCAGCCC CCATCGAGAAAACCATCTCCAAAG CCAAAGGGCAGCCCCGAGAACCAC AGGTGTACACCCTGCCCCCATCCCG GGAGGAGATGACCAAGAACCAGGT CAGCCTGACCTGCCTGGTCAAAGG CTTCTATCCCAGCGACATCGCCGTG GAGTGGGAGAGCAATGGGCAGCCG GAGAACAACTACAAGACCACGCCT CCCGTGCTGGACTCCGACGGCTCCT TCTTCCTCTATAGCAAGCTCACCGT GGACAAGAGCAGGTGGCAGCAGGG GAACGTCTTCTCATGCTCCGTGATG CATGAGGCTCTGCACAACCACTAC ACGCAGAAGAGCCTCTCCCTGTCTC CGGGCAAATAG
1232	huCCR8_32360_huIgG1z mAb_LC	ATGGACATGAGGGTGCCCGCTCAG CTCCTGGGGCTCCTGCTGCTGTGGC TGAGAGGTGCGCGCTGTGACATCG TGATGACCCAGTCTCCAGACTCCCT GGCTGTGTCTCTGGGCGAGAGGGC CACCATCAACTGCAAGTCCAGCCA GAGTGTTTTATACAGTTCCAACAAT AAGAACTACTTAGCTTGGTACCATC AGAAACCAGGACAGTCTCCTAAGC TGCTCATTTCCTGGGCATCTACCCG GGAATCCGGGGTCCCTGACCGATTC AGTGGCAGCGGGTCTGGGACAGAT TTCACTCTCACCATCAACAGCCTGC AGGCTGAAGATGTGGCAGTTTATTA

SEQ ID NO:	Designation	Sequence
		CTGTCAACAATATTATAGTATTCCG ATCACTTTCGGCGGAGGGACCAAG GTGGAGATCAAACGAACGGTGGCT GCACCATCTGTCTTCATCTTCCCGC CATCTGATGAGCAGTTGAAATCTGG AACTGCCTCTGTTGTGTGCCTGCTG AATAACTTCTATCCCAGAGAGGCC AAAGTACAGTGGAAGGTGGATAAC GCCCTCCAATCGGGTAACTCCCAGG AGAGTGTCACAGAGCAGGACAGCA AGGACAGCACCTACAGCCTCAGCA GCACCCTGACGCTGAGCAAAGCAG ACTACGAGAAACACAAAGTCTACG CCTGCGAAGTCACCCATCAGGGCCT GAGCTCGCCCGTCACAAAGAGCTT CAACAGGGGAGAGTGTTAG
1233	HCDR1 Consensus	$X_1X_2GX_4H$ X_1 = N, S, D, G, T, or R, X_2 = C, N, Y, S, or F, X_4 = M or F
1234	LCDR2 Consensus	$RX_2X_3X_4RPS$ X_2 = A, N, D, S, or Q, X_3 = S, T, N, I, F, or A, and X_4 = N or V
1235	LCDR1 consensus	KSSQSVLYSSNNX$_1$NYLA; X_1 is K or R
1236	LCVR consensus	DIVMTQSPDSLAVSLGERATINCKSS QSVLYSSNNX$_1$NYLA WYX$_2$QKPGQX3PKLLISWASTRESGV PDRFSGSGSGTDFTLTINSLQAEDVA VYYCQQYYSIPITFGGGTKVEIKR, wherein X_1 is K or R, X_2 is H or Q, and/or X_3 is S or P
1237	huCCR8_32360_huIgG1z mAb(LC:K38R)_HC_no Cterm K	EVQLVESGGGLVKPGGSLRLSCAAS GFTFSNARMGWVRQAPGKGLEWVG RIKSKTEGGTRDYAAPVKGRFTISRD DSKNTLYLQMNSLKTEDTAVYYCTS YSGVWGQGTMVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEP VTVSWNSGALTSGVHTFPAVLQSSG LYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCP APELLGGPSVFLFPPKPKDTLMISRTP EVTCVVVDVSHEDPEVKFNWYVDG VEVHNAKTKPREEQYNSTYRVVSVL TVLHQDWLNGKEYKCKVSNKALPA PIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWE SNGQPENNYKTTPPVLDSDGSFFLYS

SEQ ID NO:	Designation	Sequence
		KLTVDKSRWQQGNVFSCSVMHEAL HNHYTQKSLSLSPG
1238	anti-huCCR8_44379(VH:D72S,VL:N67A_S68A_M99G_W109F_S111A)_huIgG1z (mAb)_HC_no Cterm K	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYDGSNRYYASSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1239	anti-huCCR8_44379(VH:D61A_D72A,VL:N67Q_M99E_W109F_S111A)_huIgG1z (mAb)_HC_no Cterm K	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYAGSNRYYAASVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG

SEQ ID NO:	Designation	Sequence
1240	anti-huCCR8_44379(VH:D61S,VL:N67Q_M99G_W109F_S111A)_huIgG1z (mAb)_HC_no Cterm K	QVQLVESGGGVVQPGRSLRLSCAAS GFTFSNYGFHWVRQTPGKGLEWVA VISYSGSNRYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTALYYCARV YYGSGTYYKNRYYYGMDVWGQGT TVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1241	Hu anti-huCCR8 LIBC315615-1 HuIgG1z mAb_HC_no Cterm K	QVQLVESGGGVAQPGRSLRLSCAAS GFNFSNCGMHWVRQAPGKGLEWVA VISYDGGNKYHADSVKGRFTISRDDS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1242	Hu anti-huCCR8 LIBC317152-1 HuIgG1z mAb_HC_no Cterm K	QVQLVESGGGVAQPGRSLRLSCAAS GFNFSNCGMHWVRQAPGKGLEWVA VISYDGGNKYYADSVKGRFTISRDDS KNTLYLQMDSLRTEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL

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		FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1243	Hu anti-huCCR8 LIBC317471-1 HuIgG1z mAb_HC_no Cterm K	QVQLVESGGGVVQPGRSLRLSCVVS GFNFSNNGMHWVRQAPGKGLEWVA VISNDGSNKYYADSVRGRFTISRDNS KNTLYLQMNSLRAEDTAVYSCAKV YYGSGIYYKNNYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1244	Hu anti-huCCR8 LIBC317977-1 HuIgG1z mAb_HC_no Cterm K	QVQLVESGGGVVQPGRSLRLSCAAS GFNFNTYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KSTLYLQMNSLRAEDTAVYYCARVY YGSGSYYKKNYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG

SEQ ID NO:	Designation	Sequence
1245	Hu anti-huCCR8 LIBC318774-1 HuIgG1z mAb_HC_no Cterm K	QVQVVESGGGVVQPGRSLRLSCAAS GFTLSSYGFHWVRQTPGKGLEWVAV ISYDGSNKYYADSVKGRFTISRDNSK NTLYLQMNSLRGEDTAVYYCARVY YGSGTYYKNRYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1246	Hu anti-huCCR8 LIBC319840-1 HuIgG1z mAb_HC_no Cterm K	QVQLVESGGGVVQPGRSLRLSCVVS GFNFINNGMHWVRQAPGKGLDWVA VISNDGSNKYYPDSVKGRFTISRDNS KNTLYLQMNSLRAEDSAVYYCAKV YYGSGNYYKNNYYYGMDVWGQGT TVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1247	Hu anti-huCCR8 LIBC320212-1 HuIgG1z mAb_HC_no Cterm K	QMQVVESGGGVVQPGRSLRLSCAAS GFTFSSSGMHWVRQAPGKGLEWVA VISHDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLGGEDTAVYYCAKV YYGSGIYYKNRYYYGMDVWGQGTT VIVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL

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		FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1248	Hu anti-huCCR8 LIBC320384-1 HuIgG1z mAb_HC_no Cterm K	QVQLVESGGGVAQPGRSLRLSCAAS GFNFSDCGMHWVRQAPGKGLEWVA VISYDGGNKYYADSVKGRFTISRDDS KNTLYLQTDSLRTEDTAVYYCAKVY YGSGIYYKNRYYYGMDVWGQGTTV TVSSASTKGPSVFPLAPSSKSTSGGTA ALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVVTVPSS SLGTQTYICNVNHKPSNTKVDKKVE PKSCDKTHTCPPCPAPELLGGPSVFLF PPKPKDTLMISRTPEVTCVVVDVSHE DPEVKFNWYVDGVEVHNAKTKPRE EQYNSTYRVVSVLTVLHQDWLNGK EYKCKVSNKALPAPIEKTISKAKGQP REPQVYTLPPSREEMTKNQVSLTCLV KGFYPSDIAVEWESNGQPENNYKTTP PVLDSDGSFFLYSKLTVDKSRWQQG NVFSCSVMHEALHNHYTQKSLSLSP G
1249	Hu anti-huCCR8 LIBC320689-1 HuIgG1z mAb_HC_no Cterm K	QVQVVESGGGVVQPGRSLRLSCAAS GFTFSSYGMHWVRQAPGKGLEWVA VISFDGNNKYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGSYYKNRYYYGMDVWGQGT TVTVSTASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG

SEQ ID NO:	Designation	Sequence
1250	Hu anti-huCCR8 LIBC321408-1 HuIgG1z mAb_HC_no Cterm K	QVQLVESGGGVVQPGRSLRLSCAVS GFTFSSNGMHWVRQAPGKGLEWVA VISNDGSNKYYGDSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYRNNYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1251	Hu anti-huCCR8 LIBC321824-1 HuIgG1z mAb_HC_no Cterm K	QVQVVESGGGVVQPGRSLRLSCGAS GFTFSGYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFPISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGIYYKNRYYYGMDVWGQGTT VAVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1252	Hu anti-huCCR8 LIBC321845-1 HuIgG1z mAb_HC_no Cterm K	QVQVVESGGGVVQPGRSLRLSCGAS GFTFSGYGMHWVRQAPGKGLEWVA VISYDGSNKYYADSVKGRFTISRDNS KNTLYLQMNSLRGEDTAVYYCARV YYGSGIYYKNRYYYGMDVWGQGTT VAVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL

SEQ ID NO:	Designation	Sequence
		FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1253	Hu anti-huCCR8 LIBC322176-1 HuIgG1z mAb_HC_no Cterm K	QVQLVESGGGVVQPGRSLRLSCAAS GLNFSNFGMHWVRQAPGKGLDWVA VISYDGGNKYYADSVKGRFTVSRDN SKNTLFLQMNSLRAEDTALYYCAKV YYGSGSYYKKRYYYGMDVWGQGT TVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG
1254	Hu anti-huCCR8 LIBC323412-1 HuIgG1z mAb_HC_no Cterm K	QVQLVESGGGVVQPGRSLRLSCAAS GFNFSSCGMHWVRQAPGKGLEWVA VISYDGTNKYYADSVKGRFTISRDNS KNTLYLQMNSLRAEDTAVYYCAKV YYGSGIYYKKNYYYGMDVWGQGTT VTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALT SGVHTFPAVLQSSGLYSLSSVVTVPS SSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPELLGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTVLHQDWLNG KEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLS PG

CLAIMS

We claim:

1. An antibody that binds to human C-C chemokine receptor type 8 (CCR8), or an antigen-binding fragment thereof, wherein said antibody or antigen-binding fragment thereof comprises:

(a) a heavy chain complementarity-determining region (HCDR) 1 amino acid sequence of SEQ ID NO: 1;

(b) an HCDR2 amino acid sequence of SEQ ID NO: 2,

(c) an HCDR3 amino acid sequence of SEQ ID NO: 3,

(d) a light chain complementarity-determining region (LCDR) 1 amino acid sequence of KSSQSVLYSSNNX$_1$NYLA (SEQ ID NO: 1235), wherein X$_1$ is K or R,

(e) an LCDR2 amino acid sequence of SEQ ID NO: 5, and

(f) an LCDR3 amino acid sequence of SEQ ID NO: 6.

2. The antibody or antigen binding fragment of claim 1, which comprises an LCDR1 amino acid sequence of SEQ ID NO: 4.

3. The antibody or antigen binding fragment of claim 1 or claim 2, which comprises a heavy chain variable region (HCVR) amino acid sequence of SEQ ID NO: 13, and a light chain variable region (LCVR) comprising the amino acid sequence: DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNX$_1$NYLAWYX$_2$QKPGQX$_3$PKLLIS WASTRESGVPDRFSGSGSGTDFTLTINSLQAEDVAVYYCQQYYSIPITFGGGTKVEIK R (SEQ ID NO: 1236), wherein X$_1$ is K or R, X$_2$ is H or Q, and/or X$_3$ is S or P.

4. The antibody or antigen-binding fragment of any one of claims 1-3, which comprises a heavy chain variable region (HCVR) amino acid sequence of SEQ ID NO: 13 and a light chain variable region (LCVR) amino acid sequence of SEQ ID NO: 14 or SEQ ID NO: 363.

5. The antibody or antigen-binding fragment of any one of claims 1-4, which comprises a heavy chain (HC) amino acid sequence of SEQ ID NO: 15 or SEQ ID NO: 573 and a light chain (LC) amino acid sequence of SEQ ID NO: 16 or SEQ ID NO: 365.

6. The antibody or antigen-binding fragment of any one of claims 1-5, which comprises two HCs and two LCs, wherein both HCs comprise an amino acid sequence of SEQ ID NO: 15 or SEQ ID NO: 573, and both LCs comprise an amino acid sequence of SEQ ID NO: 16.

7. The antibody or antigen-binding fragment of any one of claims 1-5, which comprises two HCs and two LCs, and wherein both HCs comprise an amino acid sequence of SEQ ID NO: 15 or SEQ ID NO: 573, and both LCs comprise an amino acid sequence of SEQ ID NO: 365.

8. An antibody that binds to human CCR8, or an antigen-binding fragment thereof, wherein the antibody or antigen-binding fragment thereof comprises (a) an HCDR1 amino acid sequence of SEQ ID NO: 839, (b) an HCDR2 amino acid sequence of SEQ ID NO: 840, (c) an HCDR3 amino acid sequence of SEQ ID NO: 841, (d) an LCDR1 amino acid sequence of SEQ ID NO: 842, (e) an LCDR2 amino acid sequence of SEQ ID NO: 843, and (f) an LCDR3 amino acid sequence of SEQ ID NO: 844.

9. The antibody or antigen-binding fragment of claim 8, which comprises an HCVR amino acid sequence of SEQ ID NO: 1017 and an LCVR amino acid sequence of SEQ ID NO: 1018.

10. The antibody or antigen-binding fragment of claim 8 or claim 9, which comprises an HC amino acid sequence of SEQ ID NO: 1125 or SEQ ID NO: 1237 and an LC amino acid sequence of SEQ ID NO: 1126.

11. The antibody or antigen-binding fragment of any one of claims 8-10, which comprises two HCs and two LCs, wherein both HCs comprise an amino acid sequence of SEQ ID NO: 1125 or SEQ ID NO: 1227, and both LCs comprise an amino acid sequence of SEQ ID NO: 1126.

12. An antibody that binds to human CCR8, or an antigen-binding fragment thereof, wherein the antibody comprises:

(a) an HCDR1 amino acid sequence of $X_1X_2GX_4H$, (SEQ ID NO: 1233), wherein (i) X_1 is N, S, D, G, T, or R, (ii) X_2 is C, N, Y, S, or F, and (iii) X_4 is M or F;

(b) an HCDR2 amino acid sequence of SEQ ID NOs: 648, 654, 660, 666, 672, 678, 684, 690, 696, 702, 708, 714, 720, 726, 732, 738, 744, 750, 756, 762, 768, 774,

780, 786, 792, 798, 804, 810, 816, 822, 828, 834, 840, 846, 852, 858, 867, 873, 879, 885, 891, 897, 903, 909, 915, 921, 927, 933, 939, or 945, or a variant thereof that comprises 1-4 amino acid substitutions or is at least 90% identical to any one of the foregoing HCDR2 amino acid sequences;

(c) an HCDR3 amino acid sequence of SEQ ID NOs: 649, 655, 661, 667, 673, 679, 685, 691, 697, 703, 709, 715, 721, 727, 733, 739, 745, 751, 757, 763, 769, 775, 781, 787, 793, 799, 805, 811, 817, 823, 829, 835, 847, 853, 859, 868, 874, 880, 886, 892, 898, 904, 910, 916, 922, 928, 934, 940, or 946 or a variant thereof that comprises 1-4 amino acid substitutions or is at least 90% identical to any one of the foregoing HCDR3 amino acid sequences;

(d) an LCDR1 amino acid sequence of SEQ ID NOs: 650, 656, 662, 668, 674, 680, 686, 692, 698, 704, 710, 716, 722, 728, 734, 740, 746, 752, 758, 764, 770, 776, 782, 788, 794, 800, 806, 812, 818, 824, 830, 836, 848, 854, 860, 863, 869, 875, 881, 887, 893, 899, 905, 911, 917, 923, 929, 935, or 941 or a variant thereof that comprises 1-4 amino acid substitutions or is at least 90% identical to any one of the foregoing LCDR1 amino acid sequences;

(e) an LCDR2 amino acid sequence of $RX_2X_3X_4RPS$ (SEQ ID NO: 1234), wherein (i) X_2 is A, N, D, S, or Q, (ii) X_3 is S, T, N, I, F, or A, and (iii) X_4 is N or V; and

(f) an LCDR3 amino acid sequence of SEQ ID NOs: 652, 658, 664, 670, 676, 682, 688, 694, 700, 706, 712, 718, 724, 730, 736, 742, 748, 754, 760, 766, 772, 778, 784, 790, 796, 802, 808, 814, 820, 826, 832, 838, 850, 856, 862, 865, 871, 877, 883, 889, 895, 901, 907, 913, 919, 925, 931, 937, or 943 or a variant thereof that comprises 1-4 amino acid substitutions or is at least 90% identical to any one of the foregoing LCDR3 amino acid sequences.

13. The antibody or antigen-binding fragment of claim 12, which comprises an HCDR1 amino acid sequence of SEQ ID NOs: 647, 653, 659, 665, 671, 677, 683, 689, 695, 701, 707, 713, 719, 725, 731, 737, 743, 749, 755, 761, 767, 773, 779, 785, 791, 797, 803, 809, 815, 821, 827, 833, 845, 851, 857, 866, 872, 878, 884, 890, 896, 902, 908, 914, 920, 926, 932, 938, or 944.

14. The antibody or antigen-binding fragment of claim 12 or claim 13, which comprises an LCDR2 amino acid sequence of SEQ ID NOs: 651, 657, 663, 669, 675, 681,

687, 693, 699, 705, 711, 717, 723, 729, 735, 741, 747, 753, 759, 765, 771, 777, 783, 789, 795, 801, 807, 813, 819, 825, 831, 837 849, 855, 861, 864, 870, 876, 882, 888, 894, 900, 906, 912, 918, 924, 930, 936, or 942

15. The antibody or antigen-binding fragment of any one of claims 12-14, which comprises a HCVR amino acid sequence comprising any one of SEQ ID NOs: 953, 955, 957, 959, 961, 963, 965, 967, 969, 971, 973, 975, 977, 979, 981, 983, 985, 987, 989, 991, 993, 995, 997, 999, 1001, 1003, 1005, 1007, 1009, 1011, 1013, 1015, 1019, 1021, 1023, 1026, 1028, 1030, 1032, 1034, 1036, 1038, 1040, 1042, 1044, 1046, 1048, 1050, or 1052, or an amino acid sequence that is at least 90% identical to any one of the foregoing HCVR amino acid sequences.

16. The antibody or antigen-binding fragment of any one of claims 12-15, which comprises a LCVR amino acid sequence comprising any one of SEQ ID NOs: 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000, 1002, 1004, 1006, 1008, 1010, 1012, 1014, 1016, 1020, 1022, 1024, 1025, 1027, 1029, 1031, 1033, 1035, 1037, 1039, 1041, 1043, 1045, 1047, 1049, or 1051, or an amino acid sequence that is at least 90% identical to any one of the foregoing LCVR amino acid sequences.

17. The antibody of or antigen-binding fragment claim 15 or claim 16, which comprises:

(a) a HCVR comprising an amino acid sequence of SEQ ID NO: 1019 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1020;

(b) a HCVR comprising an amino acid sequence of SEQ ID NO: 1021 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1022;

(c) a HCVR comprising an amino acid sequence of SEQ ID NO: 1023 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1024;

(d) a HCVR comprising an amino acid sequence of SEQ ID NO: 1026 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1025;

(e) a HCVR comprising an amino acid sequence of SEQ ID NO: 1028 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1027;

(f) a HCVR comprising an amino acid sequence of SEQ ID NO: 1030 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1029;

(g) a HCVR comprising an amino acid sequence of SEQ ID NO: 1032 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1031;

(h) a HCVR comprising an amino acid sequence of SEQ ID NO: 1034 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1033;

(i) a HCVR comprising an amino acid sequence of SEQ ID NO: 1036 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1035;

(j) a HCVR comprising an amino acid sequence of SEQ ID NO: 1038 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1037;

(k) a HCVR comprising an amino acid sequence of SEQ ID NO: 1040 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1039;

(l) a HCVR comprising an amino acid sequence of SEQ ID NO: 1042 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1041;

(m) a HCVR comprising an amino acid sequence of SEQ ID NO: 1044 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1043;

(n) a HCVR comprising an amino acid sequence of SEQ ID NO: 1046 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1045;

(o) a HCVR comprising an amino acid sequence of SEQ ID NO: 1048 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1047;

(p) a HCVR comprising an amino acid sequence of SEQ ID NO: 1050 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1049; or

(q) a HCVR comprising an amino acid sequence of SEQ ID NO: 1052 and a LCVR comprising an amino acid sequence of SEQ ID NO: 1051.

18. The antibody or antigen-binding fragment of any one of claims 12-17, which comprises a HC amino acid sequence of SEQ ID NOs: 1127, 1129, 1131, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1150, 1152, 1154, 1156, 1158, 1160, 1238-1254, or an amino acid sequence that is at least 90% identical to any one of the foregoing HC amino acid sequences.

19. The antibody or antigen-binding fragment of any one of claims 12-18, which comprises a LC amino acid sequence of SEQ ID NOs: 1128, 1130, 1132, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, or 1159, or an amino acid sequence that is at least 90% identical to any one of the foregoing LC amino acid sequences.

20. The antibody or antigen-binding fragment of claim 18 or claim 19, which comprises:

(a) an HC amino acid sequence of SEQ ID NO: 1127 or SEQ ID NO: 1238 and a LC amino acid sequence of SEQ ID NO: 1128;

(b) an HC amino acid sequence of SEQ ID NO: 1129 or SEQ ID NO: 1239 and a LC amino acid sequence of SEQ ID NO: 1130;

(c) an HC amino acid sequence of SEQ ID NO: 1131 or SEQ ID NO: 1240 and a LC amino acid sequence of SEQ ID NO: 1132;

(d) an HC amino acid sequence of SEQ ID NO: 1134 or SEQ ID NO: 1241 and a LC amino acid sequence of SEQ ID NO: 1133;

(e) an HC amino acid sequence of SEQ ID NO: 1136 or SEQ ID NO: 1242 and a LC amino acid sequence of SEQ ID NO: 1135;

(f) an HC amino acid sequence of SEQ ID NO: 1138 or SEQ ID NO: 1243 and a LC amino acid sequence of SEQ ID NO: 1137;

(g) an HC amino acid sequence of SEQ ID NO: 1140 or SEQ ID NO: 1244 and a LC amino acid sequence of SEQ ID NO: 1139;

(h) an HC amino acid sequence of SEQ ID NO: 1142 or SEQ ID NO: 1245 and a LC amino acid sequence of SEQ ID NO: 1141;

(i) an HC amino acid sequence of SEQ ID NO: 1144 or SEQ ID NO: 1246 and a LC amino acid sequence of SEQ ID NO: 1143;

(j) an HC amino acid sequence of SEQ ID NO: 1146 or SEQ ID NO: 1247 and a LC amino acid sequence of SEQ ID NO: 1145;

(k) an HC amino acid sequence of SEQ ID NO: 1148 or SEQ ID NO: 1248 and a LC amino acid sequence of SEQ ID NO: 1147;

(l) an HC amino acid sequence of SEQ ID NO: 1150 or SEQ ID NO: 1249 and a LC amino acid sequence of SEQ ID NO: 1149;

(m) an HC amino acid sequence of SEQ ID NO: 1152 or SEQ ID NO: 1250 and a LC amino acid sequence of SEQ ID NO: 1151;

(n) an HC amino acid sequence of SEQ ID NO: 1154 or SEQ ID NO: 1251 and a LC amino acid sequence of SEQ ID NO: 1153;

(o) an HC amino acid sequence of SEQ ID NO: 1156 or SEQ ID NO: 1252 and a LC amino acid sequence of SEQ ID NO: 1155;

(p) an HC amino acid sequence of SEQ ID NO: 1158 or SEQ ID NO: 1253 and a LC amino acid sequence of SEQ ID NO: 1157; or

(q) an HC amino acid sequence of SEQ ID NO: 1160 or SEQ ID NO: 1254 and a LC amino acid sequence of SEQ ID NO: 1159.

21. The antibody of or antigen-binding fragment claim 15 or claim 16, which is a single chain variable fragment (scFv) comprising an amino acid sequence of any one of SEQ ID NOs: 1093-1124.

22. The antibody or antigen-binding fragment of any one of claims 1-21, which is an antibody.

23. The antibody or antigen-binding fragment of any one of claims 1-21, which is an antigen-binding fragment of an antibody.

24. A nucleic acid sequence encoding the antibody or antigen-binding fragment of any one of claims 1-23.

25. A nucleic acid sequence encoding a heavy chain amino acid sequence of SEQ ID NOs: 1127, 1129, 1131, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1150, 1152, 1154, 1156, 1158, 1160, or 1238-1254.

26. A nucleic acid sequence encoding a light chain amino acid sequence of SEQ ID NOs: 1128, 1130, 1132, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, or 1159.

27. A vector comprising the nucleic acid sequence of any one of claims 24-26.

28. A mammalian cell comprising the nucleic acid sequence of any one of claims 24-26 or the vector of claim 27.

29. A pharmaceutical composition comprising the antibody or antigen-binding fragment of any one of claims 1-23 and a pharmaceutically acceptable carrier.

30. A method of treating cancer in a patient comprising administering an effective amount of the antibody of any one of claims 1-23 or the composition of claim 29 to the patient.

31. The method of claim 30, wherein the cancer is a solid tumor.

32. The method of claim 30, wherein the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, triple-

negative breast cancer, colorectal cancer, pancreatic cancer, or metastatic castrate-resistant prostate cancer.

33. The method of any one of claims 30-32, which further comprises administering an effective amount of a PD-1 antagonist antibody to the patient.

34. The method of claim 33, wherein the PD-1 antagonist antibody is a monoclonal antibody.

35. The method of claim 33 or 34, wherein the PD-1 antagonist antibody is pembrolizumab, nivolumab, or zeluvalimab.

36. A process for producing an antibody comprising two HCs and two LCs, wherein the process comprises cultivating the mammalian cell of claim 28 under conditions such that the antibody is expressed and recovering the expressed antibody, and wherein:

(a) both HCs comprise an amino acid sequence of SEQ ID NOs: 15, 573, 1125, 1127, 1129, 1131, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1150, 1152, 1154, 1156, 1158, 1160, 1238-1254, or an amino acid sequence that is at least 90% identical to any one of the foregoing HC amino acid sequences; and

(b) both LCs comprise an amino acid sequence of SEQ ID NOs: 16, 365, 1126, 1128, 1130, 1132, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, or 1159, or an amino acid sequence that is at least 90% identical to any one of the foregoing LC amino acid sequences.

37. An antibody obtainable by the process of claim 36.

38. The antibody of any one of claims 1-23 or 37, which is afucosylated.

39. The antibody of any one of claims 1-23 or 37 for use in therapy.

40. The antibody of any one of claims 1-23 or 37 for use in treating cancer.

41. The antibody of claim 40, wherein the cancer is a solid tumor.

42. The antibody of 40 or 41, wherein the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, triple-negative breast cancer, colorectal cancer, pancreatic cancer, or metastatic castrate-resistant prostate cancer.

43. The antibody of claim 41, wherein the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, or triple-negative breast cancer.

44. The use of the antibody of any one of claims 1-23 or 37 for the manufacture of a medicament for the treatment of cancer.

45. The use of claim 44, wherein the cancer is a solid tumor.

46. The use of claim 44, wherein the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, triple-negative breast cancer, colorectal cancer, pancreatic cancer, or metastatic castrate-resistant prostate cancer.

47. The use of claim 44, wherein the cancer is non-small cell lung cancer, gastric cancer, head and neck squamous cell carcinoma, hepatocellular carcinoma, or triple-negative breast cancer.

48. A method of treating cancer in a patient, comprising administering to the patient an effective amount of a Treg depleting antibody and one or more of a bispecific T-cell engager molecule, an agonist of a T cell co-stimulatory receptor, and an antagonist of the PD-1/PD-L1 pathway.

49. The method of claim 48, comprising administering an effective amount of a Treg depleting antibody and a bispecific T-cell engager molecule.

50. The method of claim 49, further comprising administering an antagonist of the PD-1/PD-L1 pathway.

51. The method of claim 49 or 50, further comprising administering an agonist of a T cell co-stimulatory receptor.

52. The method of any one of claims 48-51, wherein the Treg depleting antibody is an anti-CCR8 antibody.

53. The method of any one of claims 48-51, wherein the Treg depleting antibody is the anti-CCR8 antibody of any one of claims 1-23 or 37.

54. The method of any one of claims 48-51, wherein the Treg depleting antibody is an anti-CTLA-4 antibody.

55. The method of any one of claims 48 or 50-54, wherein the antagonist of the PD-1/PD-L1 pathway is an PD-1 antagonist antibody.

56. The method of claim 55, wherein the PD-1 antagonist antibody is pembrolizumab, nivolumab, or zeluvalimab.

57. The method of any one of claims 48 or 51-56, wherein the agonist of an immune cell co-stimulatory receptor is a 4-1BB agonist antibody.

58. A method of treating cancer in a patient comprising administering to the patient an effective amount of an antibody or antigen-binding fragment thereof that binds human CCR8 at an epitope, wherein the epitope comprises at least one residue of SEQ ID NO: 82.

59. The method of claim 58, wherein the epitope comprises at least two residues of SEQ ID NO: 82.

60. The method of claim 58 or claim 59, wherein the epitope comprises at least three residues of SEQ ID NO: 82.

61. The method of any one of claims 58-60, wherein the epitope comprises at least four residues of SEQ ID NO: 82.

62. The method of any one of claims 58-61, wherein the epitope comprises a threonine at position 4 of SEQ ID NO: 82.

63. The method of any one of claims 58-62, wherein the antibody does not block ligand binding to CCR8.

64. A method of treating cancer in a patient comprising administering to the patient an effective amount of an antibody or antigen-binding fragment thereof that binds human CCR8 at an epitope, wherein the epitope consists of threonine at position 4 of SEQ ID NO: 82.

65. The method of any one of Claims 58-64, wherein the epitope is determined by anti-CCR8 antibody or antigen-binding fragment thereof binding to the T4R mutation in cynomolgus monkey CCR8.

66. The anti-CCR8 antibody or antigen-binding fragment thereof of Claim 65, wherein the epitope is determined in a cell based affinity assay, wherein antibody binding to cells expressing cynomolgus monkey CCR8 containing a T4R mutation is compared to antibody binding to cells expressing wild-type cynomolgus monkey CCR8.

67. The method of any one of Claims 58-64, wherein the epitope is determined by epitope binning, binding to CCR8 peptide-nanobody complexes, and/or by screening binding to CCR8 by phage display.

68. The method of any one of claims 64-68, wherein the antibody does not block ligand binding to CCR8.

69. An anti-CCR8 antibody or antigen-binding fragment thereof, that binds human CCR8 at an epitope, wherein the epitope comprises at least one residue of SEQ ID NO: 82.

70. The anti-CCR8 antibody or antigen-binding fragment thereof of Claim 69, wherein the epitope comprises at least two residues of SEQ ID NO: 82.

71. The anti-CCR8 antibody or antigen-binding fragment thereof of Claim 69 or 70, wherein the epitope comprises at least three residues of SEQ ID NO: 82.

72. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-71, wherein the epitope comprises at least four residues of SEQ ID NO: 82.

73. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-72, wherein the epitope comprises at least five residues of SEQ ID NO: 82.

74. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-73, wherein the epitope comprises at least six residues of SEQ ID NO: 82.

75. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-74, wherein the epitope comprises at least seven residues of SEQ ID NO: 82.

76. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-75, wherein the epitope comprises at least eight residues of SEQ ID NO: 82.

77. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-76, wherein the epitope comprises at least nine residues of SEQ ID NO: 82.

78. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-77, wherein the epitope comprises at least ten residues of SEQ ID NO: 82.

79. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-78, wherein the epitope comprises at least eleven residues of SEQ ID NO: 82.

80. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-79, wherein the epitope comprises twelve residues of SEQ ID NO: 82.

81. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-80, wherein the epitope comprises a threonine at position 4 of SEQ ID NO: 82.

82. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-81, wherein the anti-CCR8 antibody does not block the binding of CCL1 to CCR8.

83. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-82, wherein the epitope is determined by epitope binning.

84. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-82, wherein the epitope is determined by binding to CCR8 peptide-nanobody complexes.

85. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-82, wherein the epitope is determined by screening antibody binding to CCR8 by phage display.

86. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-81, wherein the epitope is determined by anti-CCR8 antibody or antigen-binding fragment thereof binding to the T4R mutation in cynomolgus monkey CCR8.

87. The anti-CCR8 antibody or antigen-binding fragment thereof of Claim 86, wherein the epitope is determined in a cell based affinity assay, wherein antibody binding to

cells expressing cynomolgus monkey CCR8 containing a T4R mutation is compared to antibody binding to cells expressing wild-type cynomolgus monkey CCR8.

88. The anti-CCR8 antibody or antigen-binding fragment thereof of Claim 86 or Claim 87, wherein the antibody or antigen-binding fragment demonstrates reduced or no detectable binding to CCR8 comprising a T4R mutation.

89. The anti-CCR8 antibody or antigen-binding fragment thereof of any one of Claims 69-85, wherein the antibody or antigen-binding fragment thereof does not block ligand binding to CCR8.

90. The anti-CCR8 antibody or antigen-binding fragment thereof of Claim 89, wherein the ligand is CCL1.

91. The anti-CCR8 antibody or antigen-binding fragment thereof, or the method of any one of Claims 58-90, wherein the anti-CCR8 antibody or antigen-binding fragment thereof is an antibody.