

WHAT IS CLAIMED IS:

1. An antibody or antigen-binding fragment which specifically binds to Claudin-18 (CLDN 18), wherein the antibody or antigen-binding fragment comprises:
 - i. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 18, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 20, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 22, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 27, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 29, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 31;
 - ii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 36, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 38, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 40, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 45, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 47, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 49;
 - iii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 54, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 56, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 58, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 63, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 65, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 67;
 - iv. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 72, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 74, and a VH-CDR 3 having an amino acid sequence of GDY, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 81, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 83, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 85;
 - v. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 90, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 92, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 94, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 99, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 101, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 103;
 - vi. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 108, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 110, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 112, a VL-CDR 1 having an amino acid sequence of SEQ ID

- NO: 117, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 119, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 121;
- vii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 126, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 128, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 130, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 135, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 137, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 139;
- viii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 144, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 146, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 148, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 153, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 155, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 157;
- ix. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 163, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 165, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 167, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 172, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 174, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 176;
- x. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 181, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 183, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 185, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 190, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 192, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 194;
- xi. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 198, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 200, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 202, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 207, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 209, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 211;
- xii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 216, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 218, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 220, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 225, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 227, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 229;

- xiii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 234, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 236, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 238, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 243, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 245, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 247;
- xiv. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 252, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 254, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 256, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 261, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 263, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 265;
- xv. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 270, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 272, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 274, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 279, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 281, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 283;
- xvi. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 288, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 290, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 292, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 297, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 299, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 301;
- xvii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 306, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 308, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 310, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 315, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 317, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 319;
- xviii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 324, a VH-CDR 2 having an amino acid sequence selected from the group consisting of SEQ ID NOs: 326, 726 and 727, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 328, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 333 or 728, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 335, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 337;

- xix. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 342, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 344, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 346, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 351, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 353, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 355;
- xx. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 360, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 362, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 364, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 369, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 371, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 373;
- xxi. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 378, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 380, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 382, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 387, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 389, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 391;
- xxii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 396, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 398, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 400, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 405, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 407, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 409;
- xxiii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 414, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 416, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 418, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 423, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 425, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 427;
- xxiv. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 432, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 434, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 436, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 441, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 443, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 445;
- xxv. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 450, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 452, and a VH-CDR 3 having an amino acid

sequence of SEQ ID NO: 454, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 459, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 461, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 463;

- xxvi. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 468, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 470, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 472, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 477, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 479, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 481;
- xxvii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 486, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 488, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 490, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 495, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 497, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 499;
- xxviii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 504, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 506, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 508, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 513, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 515, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 517;
- xxix. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 522, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 524, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 526, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 531, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 533, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 535;
- xxx. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 540, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 542, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 544, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 549, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 551, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 553;
- xxxi. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 558, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 560, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 562, a VL-CDR 1 having an amino acid sequence of SEQ ID

NO: 567, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 569, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 571;

- xxxii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 576, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 578, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 580, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 585, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 587, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 589;
- xxxiii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 594, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 596, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 598, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 603, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 605, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 607;
- xxxiv. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 612, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 614, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 616, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 621, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 623, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 625;
- xxxv. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 630, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 632, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 634, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 639, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 641, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 643;
- xxxvi. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 648, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 650, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 652, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 657, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 659, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 661;
- xxxvii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 666, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 668, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 670, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 675, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 677, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 679; or

xxxviii. a VH-CDR 1 having an amino acid sequence of SEQ ID NO: 684, a VH-CDR 2 having an amino acid sequence of SEQ ID NO: 686, and a VH-CDR 3 having an amino acid sequence of SEQ ID NO: 688, a VL-CDR 1 having an amino acid sequence of SEQ ID NO: 693, a VL-CDR 2 having an amino acid sequence of SEQ ID NO: 695, and a VL-CDR 3 having an amino acid sequence of SEQ ID NO: 697.

2. The antibody or antigen-binding fragment of claim 1, comprising a pair of heavy chain variable region and light chain variable region sequences selected from the group consisting of: SEQ ID NOs: 25/34, SEQ ID NOs: 43/52, SEQ ID NOs: 61/70, SEQ ID NOs: 79/88, SEQ ID NOs: 97/106, SEQ ID NOs: 115/124, SEQ ID NOs: 133/142, SEQ ID NOs: 151/160, SEQ ID NOs: 205/214, SEQ ID NOs: 223/232, SEQ ID NOs: 241/250, SEQ ID NOs: 259/268, SEQ ID NOs: 277/286, SEQ ID NOs: 295/304, SEQ ID NOs: 313/322, SEQ ID NOs: 331/340, SEQ ID NOs: 349/358, SEQ ID NOs: 367/376, SEQ ID NOs: 385/394, SEQ ID NOs: 403/412, SEQ ID NOs: 421/430, SEQ ID NOs: 439/448, SEQ ID NOs: 457/466, SEQ ID NOs: 475/484, SEQ ID NOs: 493/502, SEQ ID NOs: 511/520, SEQ ID NOs: 529/538, SEQ ID NOs: 547/556, SEQ ID NOs: 565/574, SEQ ID NOs: 583/592, SEQ ID NOs: 601/610, SEQ ID NOs: 619/628, SEQ ID NOs: 637/646, SEQ ID NOs: 655/664, SEQ ID NOs: 673/682, SEQ ID NOs: 691/161, SEQ ID NOs: 170/179, SEQ ID NOs: 188/76, or a pair of homologous sequences thereof having at least 80%, 85%, 90%, 95%, 97%, 98%, or 99% sequence identity yet retains specific binding affinity to CLDN 18.

3. The antibody or antigen-binding fragment of claim 1, comprising:

- a) a heavy chain variable region comprising an amino acid sequence selected from the group consisting of SEQ ID NO: 704, SEQ ID NO: 705, SEQ ID NO: 706 and SEQ ID NO: 707, and a light chain variable region comprising an amino acid sequence selected from the group consisting of SEQ ID NO: 708, SEQ ID NO: 709 and SEQ ID NO: 710; or
- b) a heavy chain variable region comprising an amino acid sequence selected from the group consisting of SEQ ID NO: 711, SEQ ID NO: 712, SEQ ID NO: 713 and SEQ ID NO: 714, and a light chain variable region comprising an amino acid sequence selected from the group consisting of SEQ ID NO: 715, SEQ ID NO: 716 and SEQ ID NO: 717; or
- c) a heavy chain variable region comprising an amino acid sequence selected from the group consisting of SEQ ID NO: 718, SEQ ID NO: 719, SEQ ID NO: 720, SEQ ID NO: 721 and SEQ ID NO: 722, and a light chain variable region comprising an amino acid

sequence selected from the group consisting of SEQ ID NO: 723, SEQ ID NO: 724 and SEQ ID NO: 725.

4. The antibody or antigen-binding fragment of any of the preceding claims, further comprising one or more amino acid residue substitutions or modifications that yet retains specific binding affinity to CLDN 18.
5. The antibody or antigen-binding fragment of any of the preceding claims, the antibody or antigen-binding fragment is a monoclonal antibody or antigen-binding fragment thereof, a polyclonal antibody or antigen-binding fragment thereof, a bispecific antibody or antigen-binding fragment thereof, a chimeric antibody or antigen-binding fragment thereof, a humanized antibody or antigen-binding fragment thereof, a recombinant antibody or antigen-binding fragment thereof, a human antibody or antigen-binding fragment thereof, a labeled antibody or antigen-binding fragment thereof, a bivalent antibody or antigen-binding fragment thereof, or an anti-idiotypic antibody or antigen-binding fragment thereof, or the antibody or antigen-binding fragment is a camelized single domain antibody, a diabody, a scFv, an scFv dimer, a dsFv, a (dsFv)₂, a dsFv-dsFv', an Fv fragment, a Fab, a Fab', a F(ab')₂, a ds-diabody, a nanobody, a domain antibody, or a bivalent domain antibody.
6. The antibody or antigen-binding of any of the preceding claims, further comprising an immunoglobulin constant region.
7. The antibody or antigen-binding fragment of claim 6, wherein the immunoglobulin constant region comprises an Fc region having an amino acid sequence selected from the group consisting of SEQ ID NOs: 700-703.
8. The antibody or antigen-binding fragment of any of the preceding claims, wherein the binding affinity or the max MFI of the antibody or antigen-binding fragment to a cell expressing CLDN 18.2 is higher than or comparable with IMAB362.
9. The antibody or antigen-binding fragment of any one of the preceding claims, wherein the antibody or antigen-binding fragment binds to the CLDN 18.2 protein with an EC₅₀ of less than about 10 nM, less than about 8 nM, less than about 6 nM, less than about 4 nM, or less than about 2 nM.
10. The antibody or antigen-binding fragment of any of the preceding claims, being linked to one or more conjugate moieties.

11. The antibody or antigen-binding fragment of claim 10, wherein the conjugate moiety comprises an active agent, a radioactive isotope, a detectable label, a pharmacokinetic modifying moiety, or a purifying moiety.
12. A chimeric antigen receptor, comprising the antibody or antigen-binding fragment of any one of claims 1-11, a transmembrane region and an intracellular signal region.
13. An isolated polynucleotide encoding the antibody or antigen-binding fragment of any one of claims 1-11 or the chimeric antigen receptor of claim 12.
14. The isolated polynucleotide of claim 13, comprising a nucleotide sequence selected from a group consisting of: SEQ ID NOs: 24, 42, 60, 78, 96, 114, 132, 150, 204, 222, 240, 258, 276, 294, 312, 330, 348, 366, 384, 402, 420, 438, 456, 474, 492, 510, 528, 546, 564, 582, 600, 618, 636, 654, 672, 690, 169, 187, or a homologous sequence thereof having at least 80% sequence identity.
15. The isolated polynucleotide of claim 14, further comprising a nucleotide sequence selected from a group consisting of: SEQ ID NOs: 33, 51, 69, 87, 105, 123, 141, 159, 213, 231, 249, 267, 285, 303, 321, 339, 357, 375, 393, 411, 429, 447, 465, 483, 501, 519, 537, 555, 573, 591, 609, 627, 645, 663, 681, 699, 178, 196, or a homologous sequence thereof having at least 80% sequence identity.
16. A vector comprising the polynucleotide of any of claims 14-15.
17. A host expression system comprising the vector of claim 16 or having the polynucleotide of any of claims 14-15 integrated into genome thereof.
18. A virus comprising the vector of claim 16.
19. A method of expressing the antibody or antigen-binding fragment of any one of claims 1-11 or the chimeric antigen receptor of claim 12, comprising culturing the host expression system of claim 17 under conditions in which the antibody or antigen-binding fragment of any one of claims 1-11 or the chimeric antigen receptor of claim 12 is expressed.
20. An antibody-drug conjugate comprising the antibody or antigen-binding fragment thereof of any one of claims 1-11, linked to one or more therapeutic agents directly or via a linker.
21. The antibody-drug conjugate of claim 20, wherein the one or more therapeutic agents comprise cytotoxic agent, such as Monomethylauristatin F (MMAF).

22. A modified immune cell targeting cells expressing CLDN 18.2, comprising the antibody or antigen-binding fragment thereof of any one of claims 1-11 or the chimeric antigen receptor of claim 12, the polynucleotide of any of claims 13-15, the vector of claim 16 or the virus of claim 18.
23. The modified immune cell of claim 22, wherein the immune cell is T lymphocyte, NK cell, monocyte, macrophage or NKT lymphocyte.
24. A pharmaceutical composition comprising the antibody or antigen-binding fragment of any one of claims 1-11, the chimeric antigen receptor of claim 12, the polynucleotide of any of claims 13-15, the vector of claim 16, the virus of claim 18, or the modified immune cell of any one of claims 22-23, and one or more pharmaceutically acceptable carriers.
25. A kit comprising:
- a container, and the pharmaceutical composition of claim 24; or
 - a container, and the antibody or antigen-binding fragment of any one of claims 1-11, the chimeric antigen receptor of claim 12, the polynucleotide of any of claims 13-15, the vector of claim 16, the virus of claim 18, or the modified immune cell of any one of claims 22-23.
26. A method for inducing the death of a cell expressing CLDN 18.2, comprising contacting the cell expressing CLDN 18.2 with the antibody or antigen-binding fragment of any one of claims 1-11, the chimeric antigen receptor of claim 12, the polynucleotide of any of claims 13-15, the vector of claim 16, the virus of claim 18, the modified immune cell of claim 22 or 23, the antibody-drug conjugate of claim 20, the pharmaceutical composition of claim 24, or the kit of claim 25, *in vitro*.
27. The antibody or antigen-binding fragment of any one of claims 1-11, the chimeric antigen receptor of claim 12, the polynucleotide of any of claims 13-15, the vector of claim 16, the virus of claim 18, the modified immune cell of claim 22 or 23, the antibody-drug conjugate of claim 20, the pharmaceutical composition of claim 24, or the kit of claim 25 for use in a method for treating or preventing a CLDN-related condition in a subject.
28. The antibody or antigen-binding fragment of any one of claims 1-11, the chimeric antigen receptor of claim 12, the polynucleotide of any of claims 13-15, the vector of claim 16, the virus of claim 18, the modified immune cell of claim 22 or 23, the antibody-drug conjugate of claim 20, the pharmaceutical composition of claim 24, or the kit of claim 25 for use in a

method for diagnosing a CLDN-related condition, wherein the antibody or antigen-binding fragment, the chimeric antigen receptor, the polynucleotide, the vector, the virus, the modified immune cell, the antibody-drug conjugate, the pharmaceutical composition, or the kit is to be used to detect the CLDN.

29. The antibody or antigen-binding fragment of any one of claims 1-11, the chimeric antigen receptor of claim 12, the polynucleotide of any of claims 13-15, the vector of claim 16, the virus of claim 18, the modified immune cell of claim 22 or 23, the antibody-drug conjugate of claim 20, the pharmaceutical composition of claim 24, or the kit of claim 25 for use in a method for inducing the death of a cell expressing CLDN 18.2, wherein the antibody or antigen-binding fragment, the chimeric antigen receptor, the polynucleotide, the vector, the virus, the modified immune cell, the antibody-drug conjugate, the pharmaceutical composition, or the kit is to be contacted with the cell expressing CLDN 18.2.