Human IgG1 Showing Interchain and Intrachain Disulfide Bonds

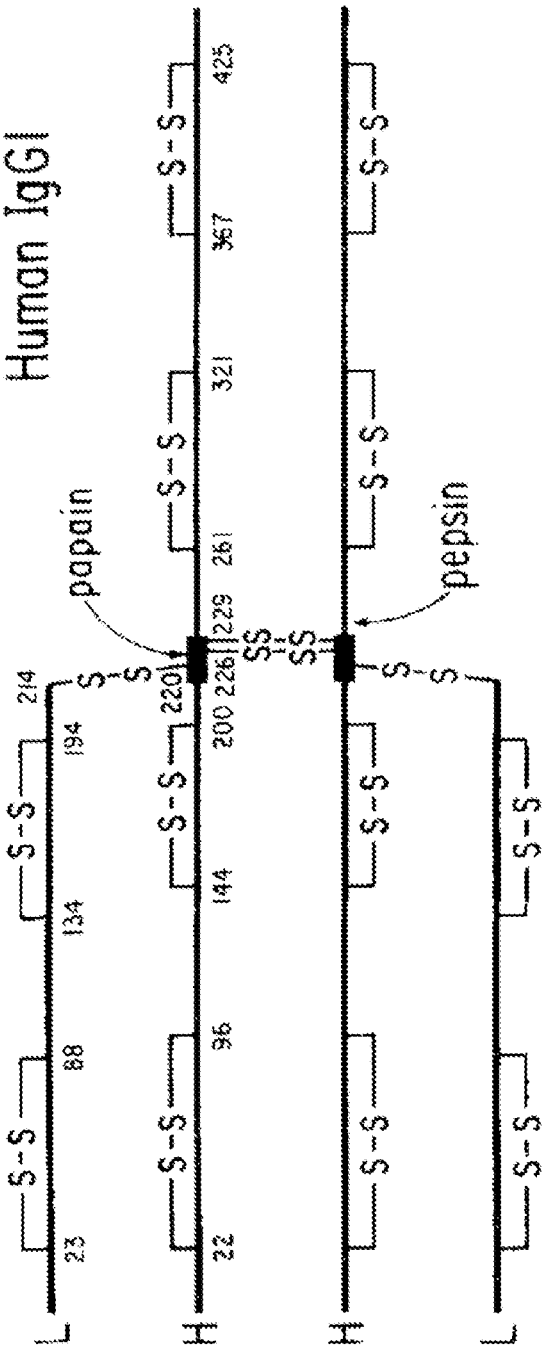


FIG. 1

Amino Acid Sequences of Exemplary Humanized anti-DLL3 Antibody Light Chain Variable Regions

mAb	FR1	CDRL1	FR2	CDRL2	FR3	CDRL3	FR4	SEQ ID NO.
hSC16.13	DIQMTQSPSSLSASVGDRVTITC	SASSSVSYMY	WYQQKPGKAPKLLIY	LTSNLAS	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	QQWRSNPFT	FGQGTKLEIK	519
hSC16.15	AIQLTQSPSSLSASVGDRVTITC	RASENIYYNLA	WYQQKPGKAPKLLIY	TANSLED	GVPSRFSGSGSGTDFTLTISSLQPEDFATYFC	KQAYDVPPT	FGGGTKLEIK	520
hSC16.25	EIVLTQSPDFQSVTPKEKVTITC	SASSSVSYMH	WYQQKPDQSPKLLIK	DSSKLAS	GVPSRFSGSGSGTDFTLTINSLEAEDAATYYC	QQWSSNPLT	FGQGTKLEIK	521
hSC16.34	DIQMTQSPSSLSASVGDRVTITC	KASQSVSNDVA	WYQQKPGKVPKLLIY	YASNRYS	GVPSRFSGSGSGTDFTLTISSLQPEDVATYFC	QQDYSSPWT	FGGGTKVEIK	522
hSC16.56	EIVMTQSPATLSVSPGERATLSC	KASQSVSNDVV	WYQQKPGQAPRLLIY	YASNRYT	GIPARFSGSGSGTEFTLTISSLQSEDFAVYYC	QQDYTSPWT	FGQGTKLEIK	523

FIG. 2A

Amino Acid Sequences of Exemplary Humanized anti-DLL3 Antibody Heavy Chain Variable Regions

mAb	FR1	CDRH1	FR2	CDRH2	FR3	CDRH3	FR4	SEQ ID NO.
hSC16.13	QITLKESGPTLVKPTQTLTLTCTFSGFSLS	TSGMGVG	WIRQPPGKALEWLA	HIWWDDVKRYSPSLKS	RLTITKDTSKNQVVLTMTNMDPVDTATYYCAR	IVSFDNDVVSAMDY	WGQGTLVTVSS	524
hSC16.15	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	RYWIH	WIRQAPGQGLEWMG	YINPTTVYTEFNQNFKD	RVTMTRDTSTSTVYMELSSLRSEDTAVYYCAR	GGSNFFDY	WGQGTTVTVSS	525
hSC16.25	QITLKESGPTLVKPTQTLTLTCTFSGFSLS	TSGMGVG	WIRQPPGKALEWLT	DIWWDDNKYYNPSLKS	RLTITKDTSKNQVVLTMTNMDPVDTATYYCAR	RVNYYYDPYYAMDY	WGQGTLVTVSS	526
hSC16.34	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	NYGMN	WVRQAPGQRLEWMG	WINTYTGDPTYADDFKG	RVTITRDTSASTAYMELSSLRSEDTAVYYCAR	IGGNSPSDY	WGQGTTVTVSS	527
hSC16.56	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	NYGMN	WVRQAPGQGLEWMG	WINTYTGEPTYADDFKG	RVTMTTDTSTSTAYMELRSLRSDDTAVYYCAR	IGDSSPSDY	WGQGTLVTVSS	528

FIG. 2B

Amino Acid Sequences of Exemplary Humanized SEZ6 Modulator Light Chain Variable Regions

Name	FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4	SEQ ID NO
hSC17.16	DIQMTQSPSSLSASVGDRVTITC	RASANINSNLV	WYQQKPGKAPKLLIY	AATNLAD	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	QHFWGTPRT	FGGGTKLEIK	170
hSC17.17	EIVLTQSPATLSLSPGERATLSC	SASSSVSYMH	WYQQKPGQAPRLLIY	DTSKLPS	GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC	QQWSSTPPT	FGQGTKLEIK	172
hSC17.24	DIVMTQSPDSLAVSLGERATINC	KSSQSLLYSSNQKSYLA	WYQQKPGQPPKLLIY	WASTRES	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYYC	KQSYNLRT	FGGGTKVEIK	174
hSC17.28	EIVLTQSPDFQSVTPKEKVTITC	RASQSIGTSIH	WYQQKPDQSPKLLIK	YASESIS	GVPSRFSGSGSGTDFTLTINSLEAEDAATYYC	QQSNSWPLT	FGQGTKLEIK	176
hSC17.34	DIQMTQSPSSLSASVGDRVTITC	KASQDINSYLS	WFQQKPGKAPKSLIY	RANRLVD	GVPSRFSGSGSGTDYTLTISSLQPEDFATYYC	LQYDEFPPT	FGQGTKLEIK	178
hSC17.46	AIQMTQSPSSLSASVGDRVTITC	KASQSVNNDVA	WYQQKPGKAPKLLIY	YASNRYT	GVPSRFSGSGSGTDFTLTISSLQPEDFATYFC	QQDYSSPRT	FGQGTKLEIK	180
hSC17.151	EIVLTQSPATLSLSPGERATLSC	RASESVDSYGNSFMH	WYQQKPGQAPRLLIY	RASNLES	GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC	QQSHEDPYT	FGQGTKLEIK	182
hSC17.155	DIVMTQSPDSLAVSLGERATINC	KSSQSLLYSSNQKNYLA	WYQQKPGQPPKLLIY	WASTRKS	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYYC	HQYYSYPLT	FGQGTKLEIK	184
hSC17.156	DIVMTQTPLSLPVTPGEPASISC	RSSQSIVHSNGNTYLE	WYLQKPGQSPQLLIY	KVSNRFS	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	FQGSHVPPT	FGGGTKLEIK	186
hSC17.161	DIVMTQSPDSLAVSLGERATINC	ESSQSLLYNSNQKNYLA	WYQQKPGQPPKLLIY	WASTRES	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYYC	QQYFNYPLT	FGQGTKLEIK	188
hSC17.200	EIVLTQSPATLSLSPGERATLSC	RASQSVDYNGISYMH	WYQQKPGQAPRLLIY	AASNVQS	GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC	QQSIEDPPT	FGGGTKVEIK	190
hSC17.200vL1	EIVLTQSPATLSLSPGERATLSC	RASQSVDYDGISYMH	WYQQKPGQAPRLLIY	AASNVQS	GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC	QQSIEDPPT	FGGGTKVEIK	192

FIG. 3A

Amino Acid Sequences of Exemplary Humanized SEZ6 Modulator Heavy Chain Variable Regions

Name	FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4	SEQ ID NO
hSC17.16	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	DYNMY	WVRQAPGQGLEWMG	EINPNNGGTAYNQKFRG	KVTMTRDTSISTAYMELSRLRSDDTAVYYCAR	YDKGFDY	WGQGTTVTVSS	171
hSC17.17	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	DYNMH	WVRQAPGQGLEWMG	EINPNIGGTGYNQKFKG	RVTMTRDTSISTAYMELSRLRSDDTAVYYCAR	TYSYYSYEFAY	WGQGTLVTVSS	173
hSC17.24	EVQLVQSGAEVKKPGATVKISCKVSGYTFT	DHTIH	WVRQAPGKGLEWIG	YIYPRDGSTKYNEEFKG	RVTITADTSTDTAYMELSSLRSEDTAVYYCAR	SYSNYFDY	WGQGTTVTVSS	175
hSC17.28	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	RSYIH	WVRQAPGQGLEWMG	YISSGSGGTTYNQKFKG	RVTSTRDTSISTAYMELSRLRSDDTAVYYCAR	GGVRYFDV	WGQGTTVTVSS	177
hSC17.34	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	DYNMD	WVRQAPGQRLEWIG	YIYPDNGGAGYNQKFKG	RVTITVDTSASTAYMELSSLRSEDTAVYYCSR	SITTAWFAY	WGQGTLVTVSS	179
hSC17.46	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	SYWIN	WVRQAPGQGLEWIG	NIFPDTTTTNYNEKFKG	RVTLTRDTSISTAYMELSRLRSDDTAVYYCAR	EYYDGTYDAMDY	WGQGTLVTVSS	181
hSC17.151	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	SYWMH	WVRQAPGQGLEWMG	AIYPGKSDTTYNQKFKG	RVTMTRDTSTSTVYMELSSLRSEDTAVYYCAR	SGKGYFAY	WGQGTLVTVSS	183
hSC17.155	QVQLVQSGAEVKKPGASVKVSCKASGYTFN	SYWMH	WVRQAPGQGLEWMG	EIHPNNGSTNYNEKFKG	RVTMTRDTSTSTVYMELSSLRSEDTAVYYCAR	WTLFTY	WGQGTLVTV	185
hSC17.156	QVTLKESGPVLVKPTETLTLTCTVSGFSLS	TSGMGVS	WIRQPPGKALEWLA	HIFWDDDKWYNPSLKS	RLTISKDTSKSQVVLTMTNMDPVDTATYYCAT	FYGLYFAY	WGQGTLVTVSS	187
hSC17.161	QVQLVQSGAEVKKPGASVKVSCKASGFTFS	DAWMD	WVRQAPGQRLEWMG	EIRSKPNNHATYYAESVKG	RVTITRDTSASTAYMELSSLRSEDTAVYYCAR	TGTSY	WGQGTLVTVSS	189
hSC17.200	EVQLVQSGAEVKKPGESLKISCKGSGYSFT	SSWIN	WVRQMPGKGLEWMG	RIYPGEGDTNYSGNFEG	QVTISADKSISTAYLQWSSLKASDTAMYYCTR	GLVMDY	WGQGTLVTVSS	191
hSC17.155vH1	QVQLVQSGAEVKKPGASVKVSCKASGYTFD	SYWMH	WVRQAPGQGLEWMG	EIHPNNGSTNYNEKFKG	RVTMTRDTSTSTVYMELSSLRSEDTAVYYCAR	WTLFTY	WGQGTLVTV	193
hSC17.155vH2	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	SYWMH	WVRQAPGQGLEWMG	EIHPNNGSTNYNEKFKG	RVTMTRDTSTSTVYMELSSLRSEDTAVYYCAR	WTLFTY	WGQGTLVTV	194
hSC17.155vH3	QVQLVQSGAEVKKPGASVKVSCKASGYTFN	YYWMH	WVRQAPGQGLEWMG	EIHPNNGSTNYNEKFKG	RVTMTRDTSTSTVYMELSSLRSEDTAVYYCAR	WTLFTY	WGQGTLVTV	195
hSC17.155vH4	QVQLVQSGAEVKKPGASVKVSCKASGYTFN	SYWMH	WVRQAPGQGLEWMG	EIHPNDGSTNYNEKFKG	RVTMTRDTSTSTVYMELSSLRSEDTAVYYCAR	WTLFTY	WGQGTLVTV	196
hSC17.155vH5	QVQLVQSGAEVKKPGASVKVSCKASGYTFN	SYWMH	WVRQAPGQGLEWMG	EIHPNGGSTNYNEKFKG	RVTMTRDTSTSTVYMELSSLRSEDTAVYYCAR	WTLFTY	WGQGTLVTV	197
hSC17.155vH6	QVQLVQSGAEVKKPGASVKVSCKASGYTFN	SYWMH	WVRQAPGQGLEWMG	EIHPNSGSTNYNEKFKG	RVTMTRDTSTSTVYMELSSLRSEDTAVYYCAR	WTLFTY	WGQGTLVTV	198
hSC17.161vH1	EVQLVESGGGLVQPGGSLRLSCAASGFTFS	DAWMD	WVRQAPGKGLEWVG	EIRSKPNNHATYYAESVKG	RFTISRDDSKNSLYLQMNSLKTEDTAVYYCAR	TGTSY	WGQGTLVTVSS	199

FIG. 3B

Amino Acid Sequences of Exemplary Humanized CD324 Modulator Heavy and Light Chain Variable Regions

mAb	Chain	FW1	CDR1	FW2	CDR2	FW3	CDR3	FW4	SEQ ID NO.
SC10.17	light	DVLMTQTPLSLPVSLGDQASISC	RSSQSIVHSDGNTYLE	WYLRKPGQSPRLLIY	KVSNRFS	GVPDRFSGSGSGTDFTLKISRVEAEDLGVYYC	FQGSHAPWT	FGGGTKLEIK	529
SC10.17	heavy	DVQLVESGGGLVQPGGSRKLSCAASGFTFS	SYGMH	WVRQAPETGLEWVA	YITTRSSTIYYAATVKG	RFTISRDNARNTLFLQMTSLRSEDTAMYYCTR	EPLTGYYAMDY	WGQGTSVTVSS	530
hSC10.17	light	DVVMTQSPLSLPVTLGQPASISC	RSSQSIVHSDGNTYLE	WYQQRPGQSPRRLIY	KVSNRFS	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	FQGSHAPWT	FGGGTKVEIK	531
hSC10.17	heavy	EVQLVESGGGLVQPGGSLRLSCAASGFTFS	SYGMH	WVRQAPGKGLEWVA	YITTRSSTIYYADSVKG	RFTISRDNAKNSLYLQMNSLRAEDTAVYYCTR	EPLTGYYAMDY	WGQGTSVTVSS	532

FIG. 4

Amino Acid Sequences of Light and Heavy anti-DLL3 Engineered Antibody Chains

HSC16.56SS1– HC

SEQ ID NO: 509

QVQLVQSGAEVKKPGASVKVSCKASGYTFT**NYGMN**WVRQAPGQGLEWMG**WINTYTGEPTYADDFKG**RVTMTTDTSTSTAYMELRSLRSDDTAVYYCAR**IGDSSPSDY**WGQGTLVTVSS
ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKS**S**DKTHTCPPCPAPELLGGPSVFLFP
PKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCL
VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

HSC16.56SS1– LC

SEQ ID NO: 507

EIVMTQSPATLSVSPGERATLSC**KASQSVSNDVV**WYQQKPGQAPRLLIY**YASNRYT**GIPARFSGSGSGTEFTLTISSLQSEDFAVYYC**QQDYTSPWT**FGQGTKLEIKRTVAAPSVFIFPPSDEQL
KSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGE**C**

HSC16.56SS2– HC

SEQ ID NO: 510

QVQLVQSGAEVKKPGASVKVSCKASGYTFT**NYGMN**WVRQAPGQGLEWMG**WINTYTGEPTYADDFKG**RVTMTTDTSTSTAYMELRSLRSDDTAVYYCAR**IGDSSPSDY**WGQGTLVTVSS
ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSDKTHTCPPCPAPELLGGPSVFLFPP
KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLV
KGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

HSC16.56SS2– LC

SEQ ID NO: 507

EIVMTQSPATLSVSPGERATLSC**KASQSVSNDVV**WYQQKPGQAPRLLIY**YASNRYT**GIPARFSGSGSGTEFTLTISSLQSEDFAVYYC**QQDYTSPWT**FGQGTKLEIKRTVAAPSVFIFPPSDEQL
KSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGE**C**

FIG. 5A

Amino Acid Sequences of Light and Heavy anti-DLL3 Engineered Antibody Chains

HSC16.56SS3– HC

SEQ ID NO: 508

QVQLVQSGAEVKKPGASVKVSCKASGYTFT**NYGMN**WVRQAPGQGLEWMG**WINTYTGEPTYADDFKG**RVTMTTDTSTSTAYMELRSLRSDDTAVYYCAR**IGDSSPSDY**WGQGTLVTVSS
ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKS**C**DKTHTCPPCPAPELLGGPSVFLFP
PKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCL
VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

HSC16.56SS3– LC

SEQ ID NO: 511

EIVMTQSPATLSVSPGERATLSC**KASQSVSNDVV**WYQQKPGQAPRLLIY**YASNRYT**GIPARFSGSGSGTEFTLTISSLQSEDFAVYYC**QQDYTSPWT**FGQGTKLEIKRTVAAPSVFIFPPSDEQL
KSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGE

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HSC16.56SS4– HC

SEQ ID NO: 508

QVQLVQSGAEVKKPGASVKVSCKASGYTFT**NYGMN**WVRQAPGQGLEWMG**WINTYTGEPTYADDFKG**RVTMTTDTSTSTAYMELRSLRSDDTAVYYCAR**IGDSSPSDY**WGQGTLVTVSS
ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKS**C**DKTHTCPPCPAPELLGGPSVFLFP
PKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCL
VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

HSC16.56SS4– LC

SEQ ID NO: 512

EIVMTQSPATLSVSPGERATLSC**KASQSVSNDVV**WYQQKPGQAPRLLIY**YASNRYT**GIPARFSGSGSGTEFTLTISSLQSEDFAVYYC**QQDYTSPWT**FGQGTKLEIKRTVAAPSVFIFPPSDEQL
KSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGE**S**

FIG. 5B

Amino Acid Sequences of Light and Heavy anti-SEZ6 Engineered Antibody Chains

HSC17.200SS1 – HC

SEQ ID NO: 515

EVQLVQSGAEVKKPGESLKISCKGSGYSFT**SSWIN**WVRQMPGKGLEWMG**RIYPGEGDTNYSGNFEG**QVTISADKSISTAYLQWSSLKASDTAMYYCTR**GLVMDY**WGQGTLVTVSSASTK
GPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKS**S**DKTHTCPPCPAPELLGGPSVFLFPPKP
KDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVK
GFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

HSC17.200SS1 – LC

SEQ ID NO: 513

EIVLTQSPATLSLSPGERATLSC**RASQSVDYNGISYMH**WYQQKPGQAPRLLIY**AASNVQS**GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC**QQSIEDPPT**FGGGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGE**C**

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HSC17.200SS2 – HC

SEQ ID NO: 516

EVQLVQSGAEVKKPGESLKISCKGSGYSFT**SSWIN**WVRQMPGKGLEWMG**RIYPGEGDTNYSGNFEG**QVTISADKSISTAYLQWSSLKASDTAMYYCTR**GLVMDY**WGQGTLVTVSSASTK
GPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSDKTHTCPPCPAPELLGGPSVFLFPPKPK
DTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKG
FYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

HSC17.200SS2 – LC

SEQ ID NO: 513

EIVLTQSPATLSLSPGERATLSC**RASQSVDYNGISYMH**WYQQKPGQAPRLLIY**AASNVQS**GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC**QQSIEDPPT**FGGGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGE**C**

FIG. 6A

Amino Acid Sequences of Light and Heavy anti-SEZ6 Engineered Antibody Chains

HSC17.200SS3 – HC

SEQ ID NO: 514

EVQLVQSGAEVKKPGESLKISCKGSGYSFT**SSWIN**WVRQMPGKGLEWMG**RIYPGEGDTNYSGNFEG**QVTISADKSISTAYLQWSSLKASDTAMYYCTR**GLVMDY**WGQGTLVTVSSASTK
GPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKS**C**DKTHTCPPCPAPELLGGPSVFLFPPKP
KDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVK
GFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

HSC17.200SS3 – LC

SEQ ID NO: 517

EIVLTQSPATLSLSPGERATLSC**RASQSVDYNGISYMH**WYQQKPGQAPRLLIY**AASNVQS**GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC**QQSIEDPPT**FGGGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGE

HSC17.200SS4 – HC

SEQ ID NO: 514

EVQLVQSGAEVKKPGESLKISCKGSGYSFT**SSWIN**WVRQMPGKGLEWMG**RIYPGEGDTNYSGNFEG**QVTISADKSISTAYLQWSSLKASDTAMYYCTR**GLVMDY**WGQGTLVTVSSASTK
GPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKS**C**DKTHTCPPCPAPELLGGPSVFLFPPKP
KDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVK
GFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

HSC17.200SS4 – LC

SEQ ID NO: 518

EIVLTQSPATLSLSPGERATLSC**RASQSVDYNGISYMH**WYQQKPGQAPRLLIY**AASNVQS**GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC**QQSIEDPPT**FGGGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGE**S**

FIG. 6B

Amino Acid Sequences of Heavy and Light anti-CD324 Engineered Antibody Chains

hSC10.17ss3 Heavy Chain

```
1
EVQLVESGGG LVQPGGSLRL SCAASGFTFS SYGMHWVRQA PGKGLEWVAY
51
ITTRSSTIYY ADSVKGRFTI SRDNAKNSLY LQMNSLRAED TAVYYCTREP
101
LTGYYAMDYW GQGTSVTVSS ASTKGPSVFP LAPSSKSTSG GTAALGCLVK
151
DYFPEPVTVS WNSGALTSGV HTFPAVLQSS GLYSLSSVVT VPSSSLGTQT
201                    *
YICNVNHKPS NTKVDKKVEP KSCDKTHTCP PCPAPELLGG PSVFLFPPKP
251
KDTLMISRTP EVTCVVVDVS HEDPEVKFNW YVDGVEVHNA KTKPREEQYN
301
STYRVVSVLT VLHQDWLNGK EYKCKVSNKA LPAPIEKTIS KAKGQPREPQ
351
VYTLPPSRDE LTKNQVSLTC LVKGFYPSDI AVEWESNGQP ENNYKTTPPV
401
LDSDGSFFLY SKLTVDKSRW QQGNVFSCSV MHEALHNHYT QKSLSLSPG
```

SEQ ID NO: 543

hSC10.17ss3 Light Chain

```
1
DVVMTQSPLS LPVTLGQPAS ISCRSSQSIV HSDGNTYLEW YQQRPGQSPR
51
RLIYKVSNRF SGVPDRFSGS GSGTDFTLKI SRVEAEDVGV YYCFQGSHAP
101
WTFGGGTKVE IKRTVAAPSV FIFPPSDEQL KSGTASVVCL LNNFYPREAK
151
VQWKVDNALQ SGNSQESVTE QDSKDSTYSL SSTLTLSKAD YEKHKVYACE
201                *
VTHQGLSSPV TKSFNRGES
```

SEQ ID NO: 544

FIG. 7

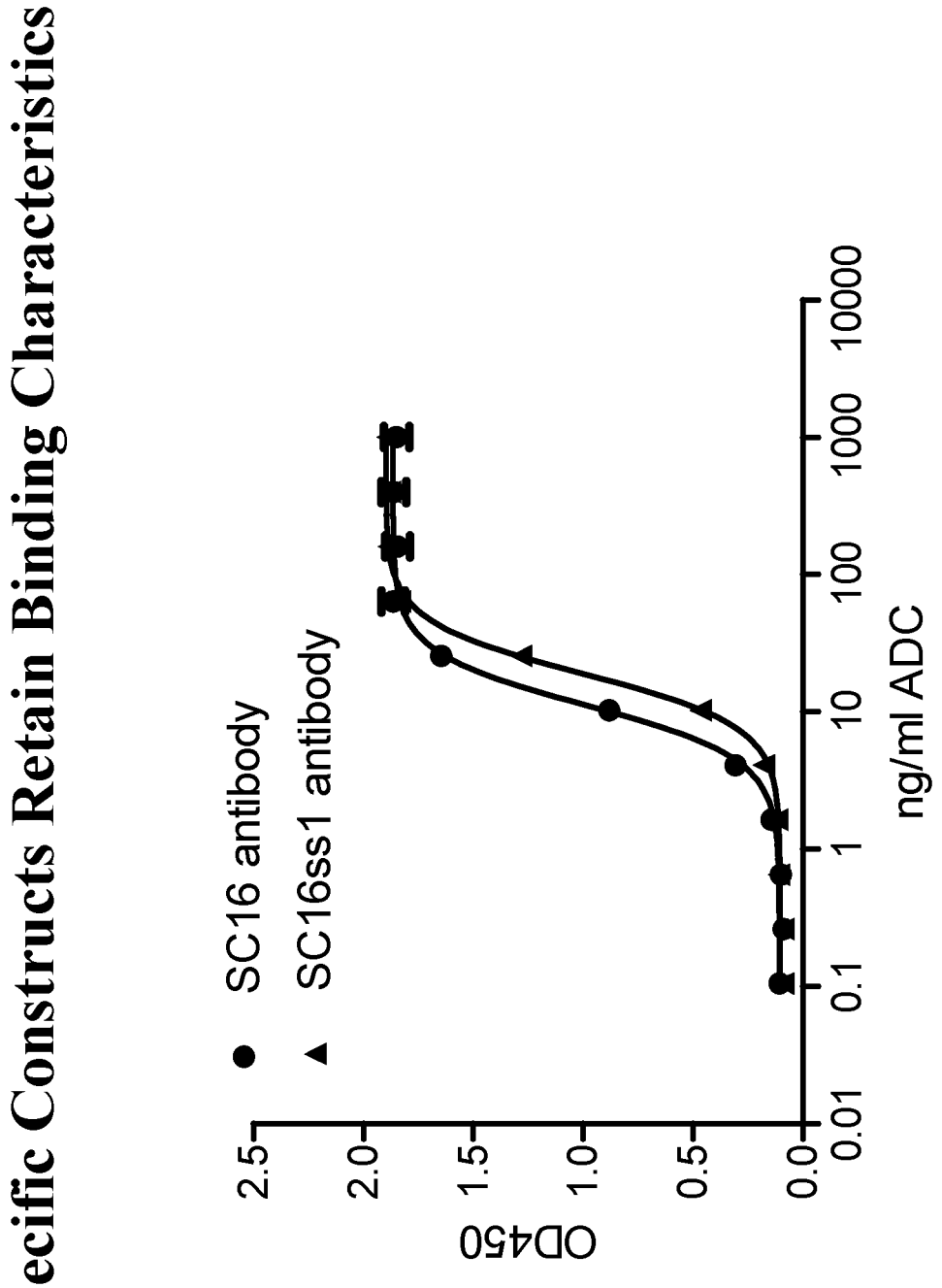

Site-Specific Constructs Retain Binding Characteristics
SC16 antibody
SC16ss1 antibody
OD450
2.5
2.0
1.5
1.0
0.5
0.0
0.01
0.1
1
10
100
1000
10000
ng/ml ADC

FIG. 8

Site-Specific Conjugation of ss1 or ss2 Antibodies
Engineered Antibody
Partial Reduction, Complete Reduction/Re-oxidation, or Selective Reduction
HS
SH
Conjugation
ADC
= Unpaired Cysteine
= Linker-Drug

FIG. 9

RP Analysis of Site-Specific Conjugation Comprising DTT or TCEP

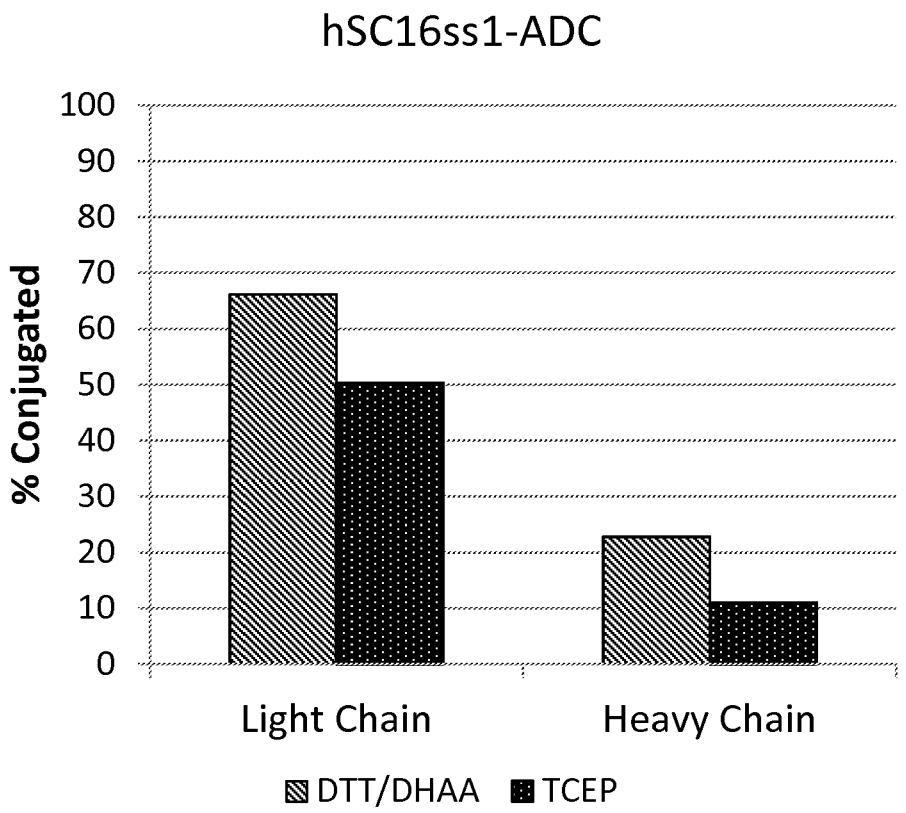


FIG. 10A

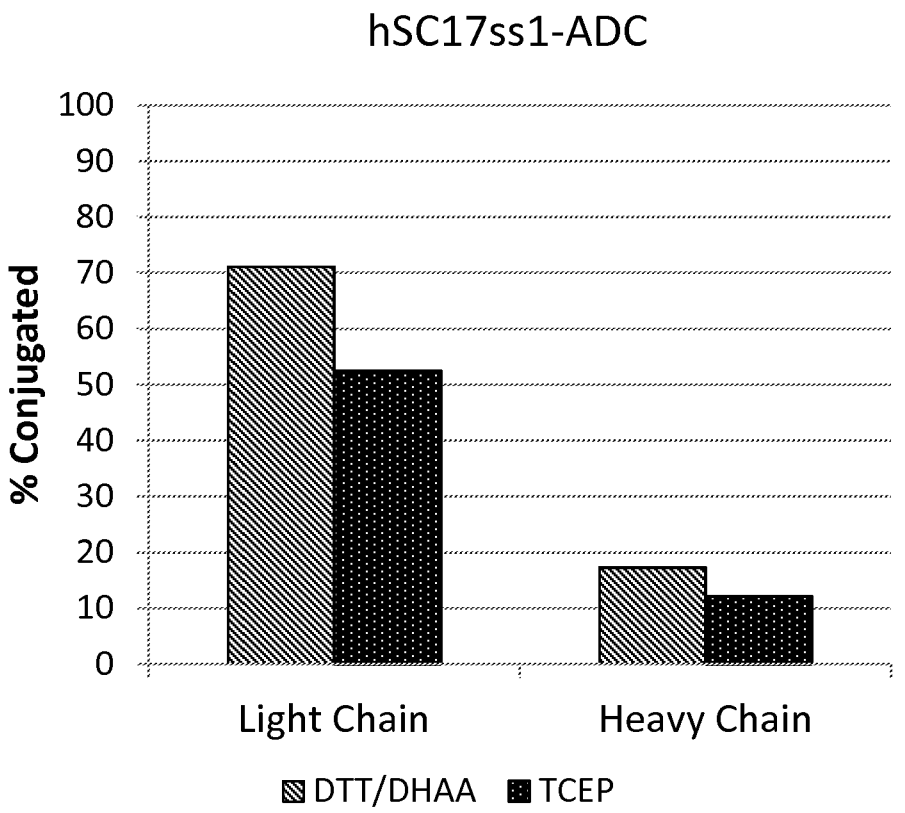


FIG. 10B

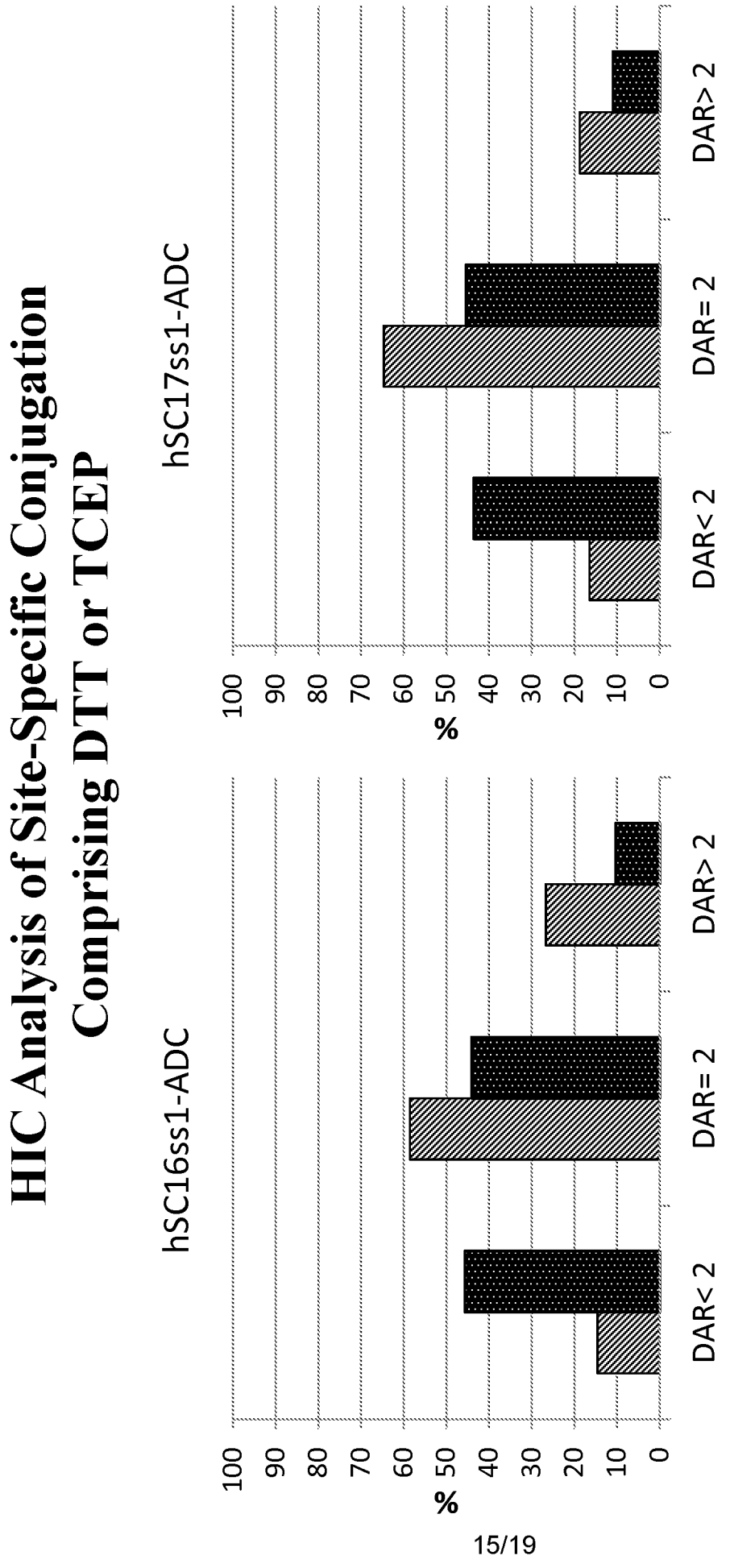


FIG. 11A

FIG. 11B

RP Analysis of Site-Specific Conjugation Comprising a Stabilization Agent, DTT or TCEP

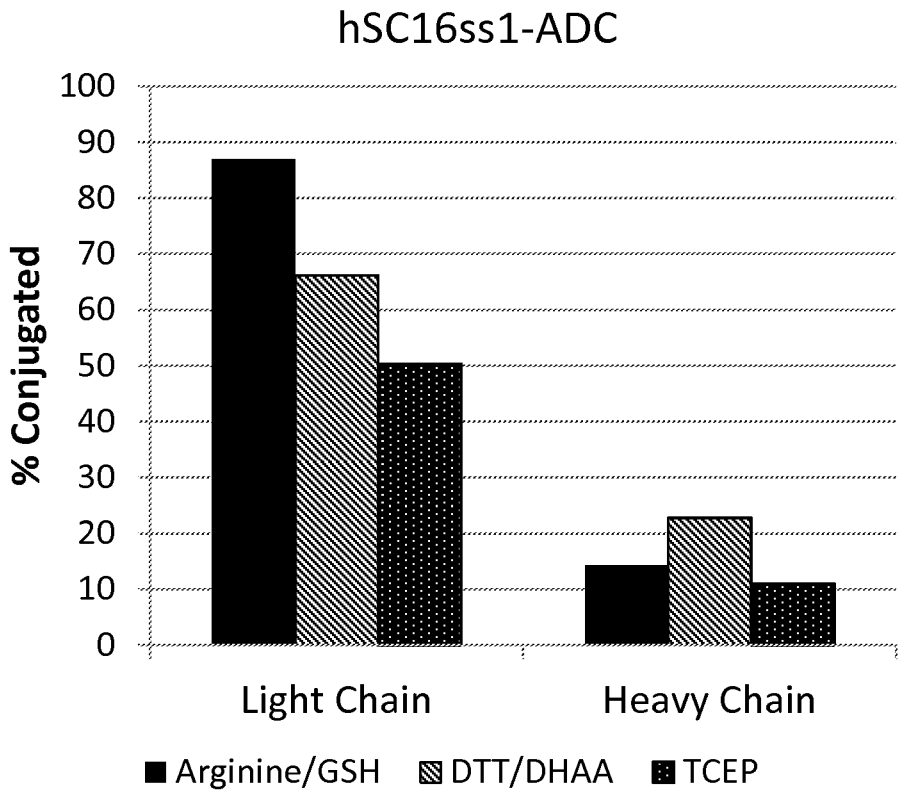


FIG. 12A

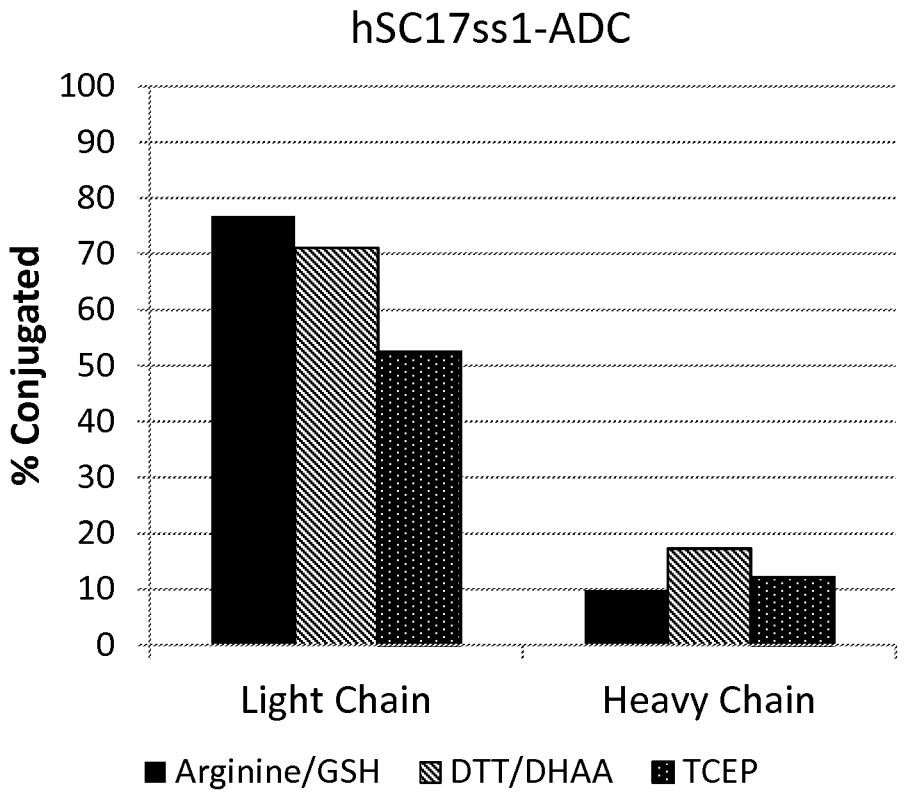


FIG. 12B

HIC Analysis of Site-Specific Conjugation Comprising a Stabilization Agent, DTT or TCEP

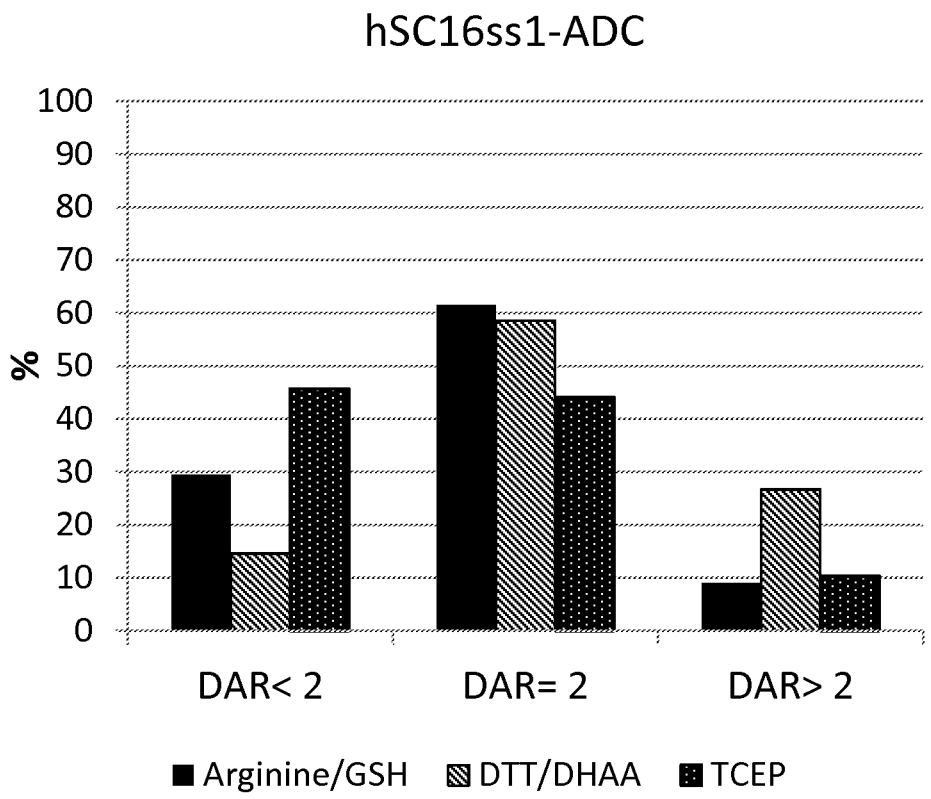


FIG. 13A

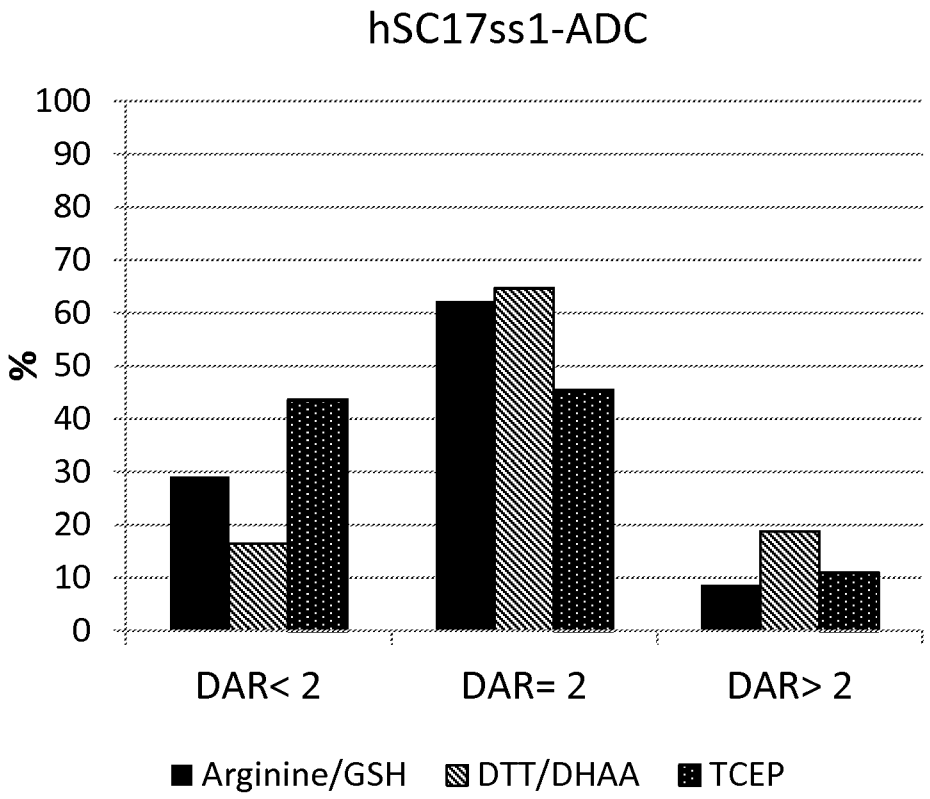


FIG. 13B

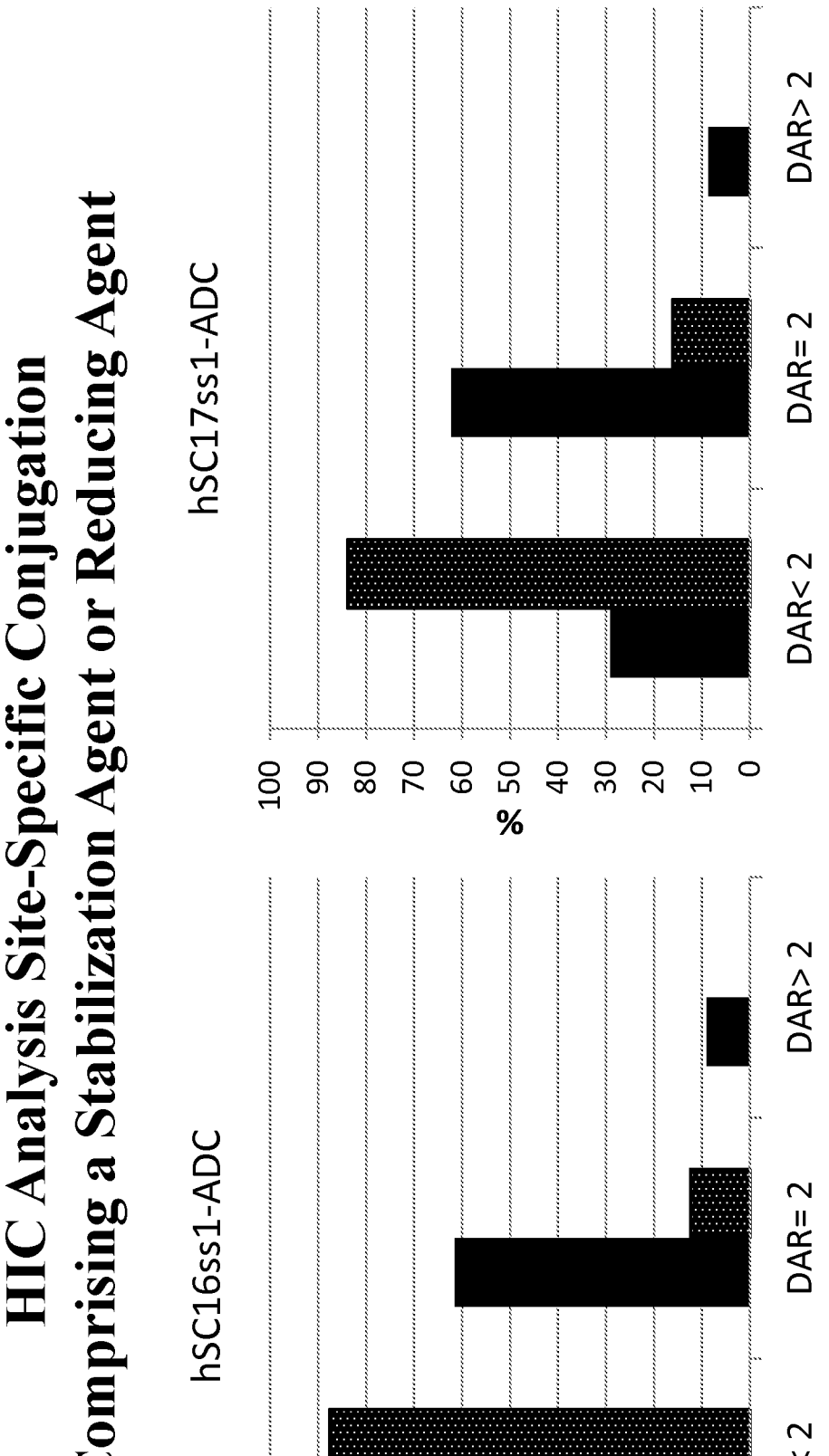


FIG. 14A

FIG. 14B

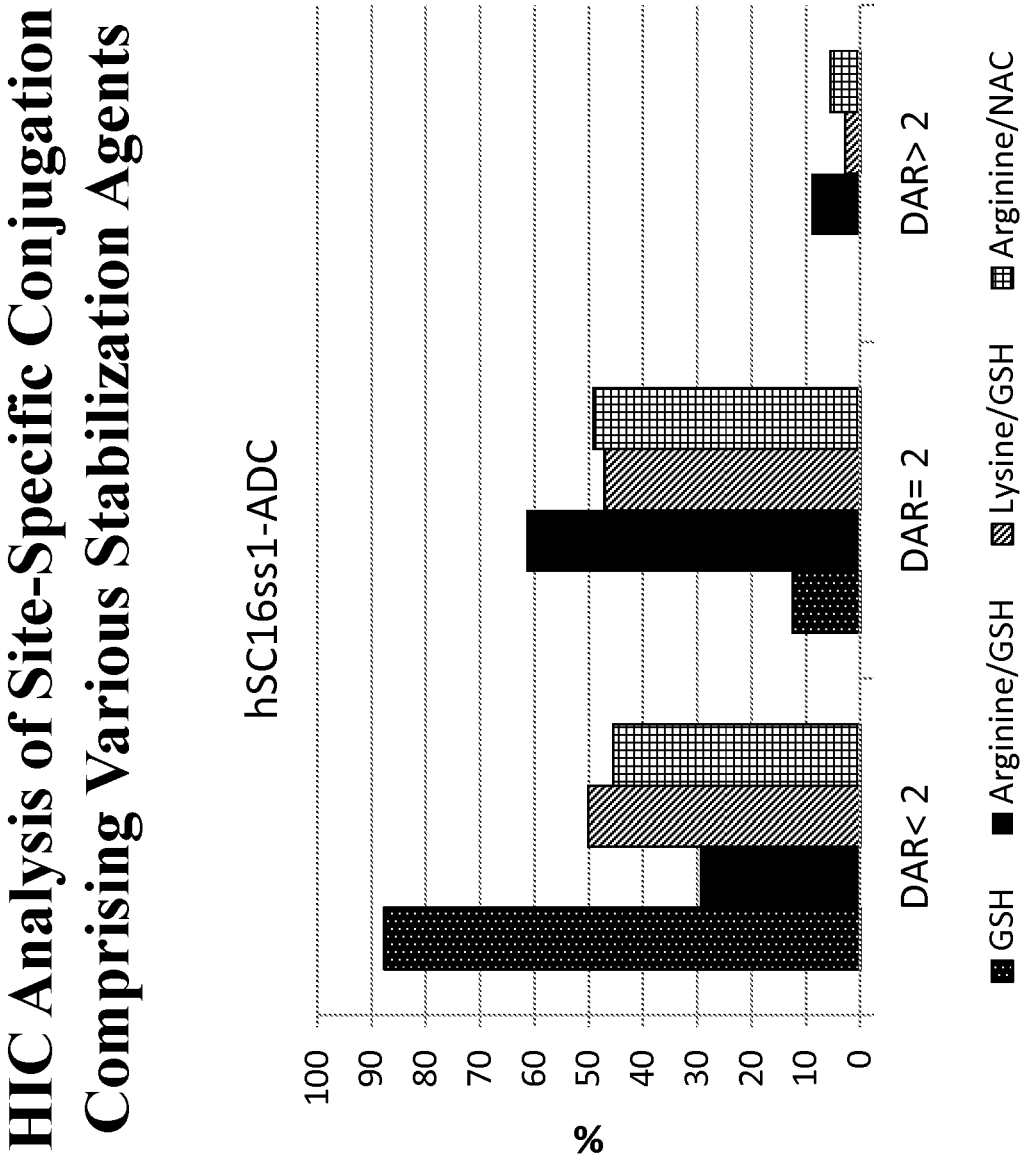

HIC Analysis of Site-Specific Conjugation Comprising Various Stabilization Agents
hSC16ss1-ADC
100
90
80
70
60
50
40
30
20
10
0
%
DAR< 2
DAR= 2
DAR> 2
GSH
Arginine/GSH
Lysine/GSH
Arginine/NAC

FIG. 15