Figure 1A

Antibody Heavy chain Protein features

Sequence Name	FR1	CDR1	FR2	CDR2
Ab1	QSVEESGGRLVTPGTPLTLTCTVSGFSLS	SYWMT	WVRQAPGKGLEYIG	IISSSGSTYYATWAKG
Ab2	QSVEESGGRLVTPGTPLTLTCTVSGFSLS	SYAMS	WVRQAPGKGLEWIG	IIDAIDNTYYASWAKG
Ab3	QSVEESGGRLVTPGGSLTLTCTASGFSLS	SYYMS	WVRQAPGKGLEWIG	IIYPSGSTYYASWAKG
Ab4	QSVEESGGRLVTPGTPLTLTCTVSGIDLS	SYAMI	WVRQAPEKGLEYIG	YIGGIDSTYYASWAKG
Ab5	QSVEESGGRLVTPGTPLTLTCTVSGFSLS	SYAMS	WVRQAPGKGLEWIG	IISNSGTTYYASWAKG
Ab6	QEQLEESGGDLVKPEGSLTLTCTASGFSFS	SNYWIC	WVRQAPGKGLEWIG	CIRDGGGTYYASWAKG
Ab7	EVQLVESGGGLVQPGGSLRLSCAASGFTVS	SNYWIC	WVRQAPGKGLEWIG	CIRDGGGTYYASSAKG
Ab8	QEQLVESGGGLVQPEGSLTLTCTASGFSFT	SDYYMC	WVRQAPGKGLEWIG	CISTGDGSTYYASWAKG
Ab9	QSVEESGGRLVTPGTPLTLTCTVSGIDLS	SYAMG	WVRQAPGKGLEYIG	IIVSYGPTYYASWAKG
Ab10	QEQLEESGGDLVKPEGSLTLTCTASGFSFS	SSYWIC	WVRQAPGKGLEWIA	CIRAGGGNYYANWAKG
Ab11	EVQLVESGGGLVQPGGSLRLSCAASGFTVS	SSYWIC	WVRQAPGKGLEWIA	CIRAGGGNYYANSAKG
Ab12	EVQLVESGGGLVQPGGSLRLSCAASGFTVS	SSYWIC	WVRQAPGKGLEWIA	CIRAGGGNYYANSAKG
Ab13	QSVEESGGRLVTPGTPLTLTCTVSGIDLS	TYGVG	WVRQAPGKGLEYIG	IISSSGSTYYASWAKG
Ab14	QEQLEESGGDLVKPEGSLTLTCTGSGFSFS	SIAYMC	WIRQAPGKGLEWIG	CIGSGSGNTYYANWAKG
Ab15	QEQLEESGGDLVKPEGSLTLTCTASGFSFS	SSYWIC	WVRQAPGKGLEWIA	CIDAGNSGSTYYASWAKG
Ab16	QEQLVESGGGLVQPEGSLTLTCTASGFSFS	SDYWIC	WVRQAPGKGLEWIG	CIRDGGGSYYANWAKG
Ab17	QEQLEESGGDLVKPEGSLTLTCTASGFSFS	SSYWIC	WVRQAPGKGLEWIG	CIRPGSADYYASWAKG
Ab18	EVQLVESGGGLVQPGGSLRLSCAASGFTVS	SNYWIC	WVRQAPGKGLEWIG	CIRDGGGTYYASSAKG
Ab19	EVQLVESGGGLVQPGGSLRLSCAASGIDLS	SYAMG	WVRQAPGKGLEYIG	IIVSYGPTYYASWAKG
Ab20	EVQLVESGGGLVQPGGSLRLSCAASGIDLS	SYAMG	WVRQAPGKGLEYIG	IIVSYGPTYYASWAKG
Ab21	QSVEESGGRLVTPGTPLTLTCTVSGFSLS	SYAMN	WVRQAPGKGLEWIG	AIRSSGATFFASWVNG
Ab22	EVQLVESGGGLVQPGGSLRLSCAASGFSLS	SYAMN	WVRQAPGKGLEWIG	AIRSSGATFFASSVNG
Ab23	QSLEESGGDLVKPGASLTLTCKASGFSFS	SGYYMC	WVRQAPGKGLEWIA	CIYAGSGGSTFFANWAKG
Ab24	QSLEESGGDLVKPGASLTLTCKASGFSFS	SGYYMC	WVRQAPGKGLEWIA	CIYAGSGGSTFFANWAKG

Figure 1B

Antibody Heavy chain Protein features

Sequence Name	FR3	CDR3	FR4
Ab1	RFTISKTSSTTVDLEITSPTTEDTATYFCAR	DSAFSSGLEFNI	WGPGTLVTVSS
Ab2	RFTISKTSTTVDLKMTSLTTGDTATYFCAR	ASILGYSIATGFNI	WGPGTLVTVSS
Ab3	RFTISKTSTTVDLKITSPTVEDTATYFCAR	GGAYATLNL	WGPGTLVTVSS
Ab4	RFTISKTSTTVDLKMTSPTTEDTATYFCGR	WSGTSGYNTI	WGPGTLVTVSS
Ab5	RFTISKTSTTVDLKITSPTTEDTATYFCAR	GIYWYWRVFNL	WGPGTLVTVSS
Ab6	RLTISMTSSTTVTLQLNSLTAADTATYFCAS	DINDGWLGQFNL	WGPGTLVTVSS
Ab7	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAS	DINDGWLGQFNL	WGQGTLVTVSS
Ab8	RFTISKPSSTTVTLQMTRLTAADTATYFCAR	DRYYSYAYGAYVYASDL	WGPGTLVTVSS
Ab9	RFTISKTSTTVDLKITSPTAEDTATYFCAR	DLDANSSGYYGCFNI	WGQGTLVTVSS
Ab10	RFTISRTSSTTVTLQMTSLTAADTATYFCAS	DINDGWLGQFNL	WGPGTLVTVSS
Ab11	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAS	DINDGWLGQFNL	WGQGTLVTVSS
Ab12	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAS	DINDGWLGQFNL	WGQGTLVTVSS
Ab13	RFTISKTSSTTVDLKMTSLTTEDTATYFCAR	DWSSTTGYYGYFNM	WGPGTLVTVSS
Ab14	RFTISKSSSTTVTLQMTSLTAADTATYFCAS	DTNNGWLGQFNL	WGQGTLVTVSS
Ab15	RFTISKASSTTVTLQMTSLTAADTATYFCAS	DLNDGWLGQFNL	WGPGTLVTVSS
Ab16	RLTISMTSSTTVGLKMTSLTAADTATYFCAS	DINDGWLGQFNL	WGPGTLVTVSS
Ab17	RFTISRASSSTVTLQMTSLTAADTATYFCAS	DINDGWLGQFNL	WGPGTLVTVSS
Ab18	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAS	DINDGWLGQFNL	WGQGTLVTVSS
Ab19	RFTISRDNSKNTVYLQMNSLRAEDTATYFCAR	DLDAQSSGYYGAFNI	WGQGTLVTVSS
Ab20	RFTISRDNSKSTVYLQMNSLRAEDTATYFCAR	DLDAQSSGYYGAFNI	WGQGTLVTVSS
Ab21	RFTISKTSTTVDLKITSPTPEDTATYFCAR	DTNDGWYINRLDL	WGPGTLVTVSS
Ab22	RFTISRDNSKNTVYLQMNSLRAEDTAVYYCAR	DTNDGWYINRLDL	WGQGTLVTVSS
Ab23	RFTISKTSSTTVTLQMTSLTAADTATYFCAR	DGGYAGYGYAFFNL	WGPGTLVTVSS
Ab24	RFTISKTSSTTVTLQMTSLTAADTATYFCAR	DGGYAGYGYAFFNL	WGPGTLVTVSS

Figure 1C

Antibody Heavy chain Protein features

Name	Sequence
	Constant region
Ab1	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab2	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab3	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab4	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab5	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab6	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab7	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab8	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab9	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab10	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab11	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab12	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab13	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab14	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab15	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab16	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab17	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab18	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab19	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab20	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab21	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab22	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab23	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL
Ab24	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSL

Figure 1D

Antibody Heavy chain Protein features

Name	Sequence Constant region
Ab1	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab2	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab3	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab4	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab5	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab6	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab7	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab8	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab9	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab10	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab11	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab12	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab13	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab14	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab15	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab16	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab17	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab18	GTQTYICNVNHKPSNTKVDARVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab19	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab20	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab21	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab22	GTQTYICNVNHKPSNTKVDARVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab23	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH
Ab24	GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH

Figure 1E

Antibody Heavy chain Protein features

Name	Sequence Constant region
Ab1	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab2	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab3	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab4	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab5	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab6	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab7	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab8	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab9	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab10	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab11	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab12	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab13	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab14	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab15	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab16	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab17	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab18	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab19	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab20	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab21	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab22	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab23	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP
Ab24	EDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP

Figure 1F

Antibody Heavy chain Protein features

Name	Sequence Constant region
Ab1	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab2	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab3	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab4	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab5	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab6	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab7	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab8	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab9	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab10	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab11	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab12	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab13	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab14	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab15	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab16	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab17	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab18	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab19	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab20	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab21	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab22	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab23	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
Ab24	REPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ

Figure 1G

Antibody Heavy chain Protein features

Name	Constant region	Sequence
Ab1	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:1)
Ab2	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:41)
Ab3	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:81)
Ab4	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:121)
Ab5	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:161)
Ab6	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:201)
Ab7	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:241)
Ab8	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:281)
Ab9	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:321)
Ab10	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:361)
Ab11	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:401)
Ab12	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:441)
Ab13	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:481)
Ab14	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:521)
Ab15	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:561)
Ab16	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:601)
Ab17	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:641)
Ab18	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:681)
Ab19	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:721)
Ab20	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:761)
Ab21	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:801)
Ab22	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:841)
Ab23	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:881)
Ab24	QGNVFSCSVMHEALHNHYTQKSLSLSPGK	(SEQ_ID_NO:921)

Figure 2A

Antibody Light chain Protein features

Sequence Name	FR1	CDR1	FR2	CDR2
Ab1	AYDLTQTPASVEVAVGGTVTIKC	QASQSVYSNWLS	WYQQKPGQPPKLLIY	DASDLAS
Ab2	AYDMTQTPASVEVAVGGTVTIKC	QASQSISSHLA	WYQQKSGQPPKLLIY	RASTLES
Ab3	AVLTQTPSPVSAAVGGTVTISC	QSSQSVYHNNLLS	WYQQKPGQPPKLLIY	DASKLTS
Ab4	DVVMTQTPASVEAAVGGTVTIKC	QASQSIYSNLA	WYQQKPGQPPKLLIY	GASNLAS
Ab5	AVLTQTPSPVSAAVGGTVTINC	QASQSVYNNLLS	WYQQKPGQPPKLLIY	DASNLAS
Ab6	ADIVMTQTPASVEVAVGGTVTIKC	QASQSISAYLA	WYQQKPGQPPKLLIY	RAYTLAS
Ab7	ADIVMTQSPSSLSASVGDRVTIKC	QASQSISAYLA	WYQQKPGKVPKLLIY	RAYTLAS
Ab8	ADIVMTQTPASVSEPVGGTVTINC	QASESIRNYLS	WYQQKPGQRPKLLIY	GASTLAS
Ab9	AVVLTQTPASVSAAVGGTVTIKC	QASQSISTALA	WYQQKPGQPPKLLIY	AASPLAS
Ab10	ANIVMTQTPASVEAAVGGTVTIKC	QASQSISNYLA	WYQQKPGQPPKLLIY	RTSTLAS
Ab11	ANIVMTQSPSSLSASVGDRVTITC	QASQSISNYLA	WYQQKPGKVPKLLIY	RTSTLAS
Ab12	ANIVMTQSPSSLSASVGDRVTIKC	QASQSISNYLA	WYQQKPGKVPKLLIY	RTSTLAS
Ab13	AFELTQTPSPVSAAVGGTVTIKC	QASQSISTALA	WYQQKPGQPPKLLIY	GASNLES
Ab14	ADIVMTQTPASVSAAVGGTVTINC	QASQSISSYLA	WYQQKPGQPPKLLIY	RASTLAS
Ab15	ANIVMTQTPSPVSGAVGGTVTIKC	QASQSISDYLA	WYQQKPGQPPKLLIY	RASTLAS
Ab16	ADIVMTQTPASVEAAVGGTVTIKC	QASQSISSYLA	WYQQKPGQPPKLLIY	RASTLAS
Ab17	ADVVMTQTPASVEAAVGGTVTIKC	QASLSIADYLA	WYLQKPGQPPKLLIY	RASTLAS
Ab18	ADIVMTQSPSSLSASVGDRVTIKC	QASQSISAYLA	WYQQKPGKVPKLLIY	RAYTLAS
Ab19	DIQMTQSPSTLSASVGDRVTITC	QASQSISTALA	WYQQKPGKAPKLLIY	AASPLAS
Ab20	DIQMTQSPSTLSASVGDRVTITC	QASQSISTALA	WYQQKPGKAPKLLIY	AASPLAS
Ab21	AAVLTQTPSPVSAAVGGTVSISC	QSSKSVYSNYLS	WFQQKPGQPPKFLIY	KASTLAS
Ab22	AVLTQSPSTLSASVGDRVTITC	QSSKSVYSNYLS	WFQQKPGKAPKFLIY	KASTLAS
Ab23	DVVMTQTPASVSEPVGGTVTIKC	QASERIYSGLA	WYQQKPGQPPKLLIY	GASTLAS
Ab24	DVVMTQTPASVSEPVGGTVTIKC	QASERIYSGLA	WYQQKPGQPPKLLIY	GASTLAS

Figure 2B

Antibody Light chain Protein features

Sequence Name	FR3	CDR3	FR4
Ab1	GVPSRFKGSGSGTQFTLTISGVQCDDAATYYC	QQGQSSSDIDNT	FGGGTEVVVK
Ab2	GVSSRFKGSGSGTEFTLTISDLECADAATYYC	QQGYGVSDVDNG	FGGGTEVVVK
Ab3	GVSSRFSGSGSGTQFTLTISGVQCDDAATYYC	LGGYDDDADNG	FGGGTEVVVK
Ab4	GVSSRFKGSRSGTEYTLTISDLECADAATYYC	QCTGGGDSGNT	FGGGTEVVVK
Ab5	GVPDRFSGSGSGTQFTLTISGVQCDDAATYYC	LGGYDDDADNA	FGGGTEVVVK
Ab6	GVPSRFKGSGSGTQFTLTISDLECADAATYYC	QSYYSVTTNTYGNT	FGGGTEVVVK
Ab7	GVPSRFSGSGSGTDFTLTISSLQPEDVATYYC	QSYYSVTTNTYGNT	FGGGTKVEIK
Ab8	GVPSRFKGSGSGTDFTLTISDLECADAATYYC	QSNYGISSRSYVNG	FGGGTEVVVK
Ab9	GVSSRFKSSGSGTEFTLTISDLECADAATYYC	QSYYGSSNIA	FGGGTELEIL
Ab10	GVPSRFKGSGSGTQFTLTISDLECADAATYYC	QSYYSVTTVAYGNT	FGGGTEVVVK
Ab11	GVPSRFSGSGSGTDFTLTISSLQPEDVATYYC	QSYYSVTTVAYGNT	FGGGTKVEIK
Ab12	GVPSRFSGSGSGTDFTLTISSLQPEDVATYYC	QSYYSVTTVAYGNT	FGGGTKVEIK
Ab13	GVPSRFSGSGSGTQFTLTISDLECADAAIYYC	QSSYGSSTLA	FGGGTEVVVK
Ab14	GVPSRFKGSGSGTQFTLTISDLECADAATYYC	QGYYSVTTNTYGNT	FGGGTEVVVK
Ab15	GVPSRFRGSGSGTEYTLTITDLECADAATYYC	QSYYSVTTNTYGNT	FGGGTEVVVK
Ab16	GVPSRFSGSGSGTEFTLTISDLECADAATYYC	QSYYSVTTVTYGNT	FGGGTEVVVK
Ab17	GVPSRFKGSGSGTEYTLTISDLECADAATYYC	QSYYSVTTNTYGNT	FGGGTEVVVK
Ab18	GVPSRFSGSGSGTDFTLTISSLQPEDVATYYC	QSYYSVTTNTYGNT	FGGGTKVEIK
Ab19	GVPSRFSGSGSGTEFTLTISSLQPDDFATYYC	QSYYGSSNIA	FGGGTKVEIK
Ab20	GVPSRFSGSGSGTEFTLTISSLQPDDFATYYC	QSYYGSSNIA	FGGGTKVEIK
Ab21	GVPSRFKGSGSGTQFTLTISDVQCDDAATYYC	AGGDTNISDNA	FGGGTEVVVK
Ab22	GVPSRFSGSGSGTEFTLTISSLQPDDFATYYC	AGGDTNIADNA	FGGGTKVEIK
Ab23	GVPSRFKGSGSGTDFTLTISDLECDDAAIYYC	QCTYYGSSYPNV	FGGGTEVVVK
Ab24	GVPSRFKGSGSGTDFTLTISDLECDDAAIYYC	QATYYGSSYPNV	FGGGTEVVVK

Figure 2C

Antibody Light chain Protein features

Sequence Name	Constant region
Ab1	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab2	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab3	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab4	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab5	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab6	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab7	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab8	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab9	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab10	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab11	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab12	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab13	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab14	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab15	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab16	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab17	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab18	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab19	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab20	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab21	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab22	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab23	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK
Ab24	RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSK

Figure 2D

Antibody Light chain Protein features

Name	Sequence	
	Constant region	
Ab1	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:21)
Ab2	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:61)
Ab3	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:101)
Ab4	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:141)
Ab5	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:181)
Ab6	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:221)
Ab7	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:261)
Ab8	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:301)
Ab9	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:341)
Ab10	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:381)
Ab11	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:421)
Ab12	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:461)
Ab13	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:501)
Ab14	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:541)
Ab15	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:581)
Ab16	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:621)
Ab17	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:661)
Ab18	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:701)
Ab19	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:741)
Ab20	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:781)
Ab21	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:821)
Ab22	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:861)
Ab23	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:901)
Ab24	ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	(SEQ_ID_NO:941)

Figure 3A

Antibody Heavy chain DNA features

Sequence Name	FR1
Ab1	cagtcggtgtggaggagtccgggggtcgcctggtcacgcctgggacaccccctgacactcacctgcacagtcctctggat
Ab2	cagtcggtgtggaggagtccgggggtcgcctgggtcacgcctgggacaccccctgacactcacctgcacagtcctctggat
Ab3	cagtcggtgtggaggagtccgggggtcgcctggaggatccccctgacactcacctgcacagcctctggat
Ab4	cagtcggtgtggaggagtccgggggtcgcctgggtcacgcctgggacaccccctgacactcacctgcacagtcctctggaa
Ab5	cagtcggtgtggaggagtccgggggtcgcctgggtcacgcctgggacaccccctgacactcacctgcacagtcctctggat
Ab6	caggagcagctggaggagtccgggggagacctggtcaagcctgagggatccctgacactcacctgcacagcctctg
Ab7	gaggtgcagcttgtggaggagtctgggggaggctggtccagcctgggggtccctgagactctcctgtgcagcctctg
Ab8	caggagcagctggtggagtccgggggaggcctggtccagcctgagggatccctgacactcacctgcacagcttctg
Ab9	cagtcggtgtggaggagtccgggggtcgcctggtaacgcctgggacaccccctgacactcacctgcacagtcctctggaa
Ab10	caggagcagctggaggagtccgggggagacctggtcaagcctgagggatccctgacactcacctgcacagcctctg
Ab11	gaggtgcagcttgtggaggagtctgggggaggctggtccagcctgggggtccctgagactctcctgtgcagcctctg
Ab12	gaggtgcagcttgtggaggagtctgggggaggcttggtccagcctgggggtccctgagactctcctgtgcagcctctg
Ab13	cagtcggtggaggagtccgggggtcgcctggtcacgcctgggacaccccctgacactcacctgcacagtcctctggaa
Ab14	caggagcagctggaggagtccgggggagacctggtcaagcctgagggatccctgacactcacctgcacagcctctg
Ab15	caggagcagctggaggagtccgggggagacctggtcaagcctgagggatccctgacactcacctgcacagcctctg
Ab16	caggagcagctggtggagtccgggggaggcctggtccagcctgagggatccctgacactcacctgcacagcctctg
Ab17	caggagcagctggaggagtccgggggagacctggtcaagcctgagggatccctgacactcacctgcacagcctctg
Ab18	gaggtgcagcttgtggaggagtctgggggaggctggtccagcctgagggatccctgacactcacctgcagcctctg
Ab19	gaggtgcagcttgtggaggagtctgggggaggctggtccagcctgggggtccctgagactctcctgtgcagcctctg
Ab20	gaggtgcagcttgtggaggagtctgggggaggcttggtccagcctgggggtccctgagactctcctgtgcagcctctg
Ab21	cagtcggtggaggagtccgggggtcgcctggtcacgcctgggacaccccctgacactcacctgcacagtctctggat
Ab22	gaggtgcagctggtggagtctgggggaggcttggtccagcctgggggtccctgagactctcctgtgcagcctctg
Ab23	cagtcgttggaggagtccgggggagacctggtcaagcctgggggcatcccctgacactcacctgcaaagcctctggat
Ab24	cagtcgttggaggagtccgggggagacctggtcaagcctgggggcatcccctgacactcacctgcaaagcctctggat

Figure 3B

Antibody Heavy chain DNA features

Sequence Name	FR1	CDR1	FR2
Ab1	tctccctcagt	agctactggatgact	tgggtccgccaggctccagggaagggctggaatacatcgga
Ab2	tctccctcagt	agctatgcaatgagc	tgggtccgccaggctccagggaagggctggaatggatcgga
Ab3	tctccctcagt	agctactacatgagc	tgggtccgccaggctccagggaagggctggaatggatcgga
Ab4	tcgacctcagt	agctatgcaatgatc	tgggtccgtcaggctcccagaaaagggctggaatacatcgga
Ab5	tctccctcagt	agctatgcaatgagc	tgggtccgccaggctcccagggaagggctggaatggatcgga
Ab6	gattctccttcagt	agcaactactggatatgc	tgggtccgccaggctccagggaagggactggagtggatcgga
Ab7	gattcaccgtcagt	agcaactactggatatgc	tgggtccgtcaggctcccagggaagggctggagtggatcgga
Ab8	gattctccttcact	agcgactattacatgtgc	tgggtccgccaggctcccagggaagggctggagtggatcgga
Ab9	tcgacctcagt	agctatgcaatgggc	tgggtccgccaggctcccagggaagggctggaatacatcgga
Ab10	gattctccttcagt	agcagttactggatatgc	tgggtccgccaggctcccagggaagggctggagtggatcgca
Ab11	gattcaccgtcagt	agcagttactggatatgc	tgggtccgtcaggctcccagggaagggctggagtggatcgca
Ab12	gattcaccgtcagt	agcagttactggatatgc	tgggtccgtcaggctcccagggaagggctggagtggatcgca
Ab13	tcgacctcagt	acctatggagtgggc	tgggtccgccaggctcccagggaagggctggaatacatcgga
Ab14	gattctccttcagt	agcatcgccttacatgtgc	tggatccgccaggctcccagggaagggctggagtggatcgga
Ab15	gattctccttcagt	agcagctactggatatgc	tgggtccgccaggctcccagggaagggactggagtggatcgca
Ab16	gattctccttttagt	agtgattactggatatgc	tgggtccgccaggctcccagggaagggcctggagtggatcgga
Ab17	gattctccttcagt	agcagctactggatatgc	tgggtccgccaggctcccagggaagggactggagtggatcgga
Ab18	gattcaccgtcagt	agcaactactggatatgc	tgggtccgtcaggctcccagggaagggctggagtggatcgga
Ab19	gaatcgacctcagt	agctatgcaatgggc	tgggtccgtcaggctcccagggaagggctggagtacatcgga
Ab20	gaatcgacctcagt	agctatgcaatgggc	tgggtccgtcaggctcccagggaagggctggagtacatcgga
Ab21	tctccctcagt	agttatgcaatgaat	tgggtccgccaggctcccagggaagggctggagtggatcggg
Ab22	gattctccctcagt	agttatgcaatgaat	tgggtccgccaggctcccagggaagggctggagtggatcggg
Ab23	tctccttcagt	agcggctactacatgtgc	tgggtccgccaggctcccagggaagggctggagtggatcgca
Ab24	tctccttcagt	agcggctactacatgtgc	tgggtccgccaggctcccagggaagggctggagtggatcgca

Figure 3C

Antibody Heavy chain DNA features

Sequence Name	CDR2	FR3
Ab1	atcattagtagtagtggtagcacatactacgcgacctgggcgaaaggc	cgattcaccatctccaaaacct
Ab2	atcattgatgctattgataacacatactacgcgagctgggcgaaaggc	cgattcaccatctccaaaacct
Ab3	atcatttatcctagtggtagcacatactacgcgagctgggcgaaaggc	cgattcaccatctccaaaacct
Ab4	tatattggtggtattgatagcacatactacgcgagctgggcgaaaggc	cgattcaccatctccaaaacct
Ab5	atcattagtaatagtggtaccacatactacgcgagctgggcgaaaggc	cgattcaccatctccaaaacct
Ab6	tgcattcgtgatggtggtggcacttactacgcgagctgggcgaaaggc	cgactcaccatctccatgacct
Ab7	tgcattcgtgatggtggtggcacttactacgctagctctgctaaaggc	cgattcaccatctccagagaca
Ab8	tgcatttctactggtgatggcagcacatactacgcgagctgggcgaaaggc	cgattcaccatctccaaaccct
Ab9	atcattgttagttatgggcccacatactacgcgagctgggcgaaaggc	cgattcaccatctccaaaacct
Ab10	tgcattcgtgctggtggtgggaattactacgcgaactgggcgaaaggc	cgattcaccatctccagaacct
Ab11	tgcattcgtgctggtggtgggaattactacgctaactctgctaaaggc	cgattcaccatctccagagaca
Ab12	tgcattcgtgctggtggtgggaattactacgctaactctgctaaaggc	cgattcaccatctccagagaca
Ab13	atcattagtagtagtggtagcacatactacgcgagctgggcgaaaggc	cgattcaccatctccaaaacct
Ab14	tgcattggttctggtagtgggaacacttactacgcgaactgggcgaaaggc	cgattcaccatctccaaaagct
Ab15	tgcattgatgctggtaatagtggtagcacttactacgcgagctgggcgaaaggc	cgattcaccatctccaaggcct
Ab16	tgcattcgtgatggtggtgggagttactacgcgaactgggcgaaaggc	cgactcaccatctccatgacct
Ab17	tgcattcgtcctggtagtgcggattactacgcgagctgggcgaaaggc	cgattcaccatctccagagcct
Ab18	tgcattcgtgatggtggtggcacttactacgctagctctgctaaaggc	cgattcaccatctccagagaca
Ab19	atcattgttagttatgggcccacatactacgctagctgggctaaaggc	cgattcaccatctccagagaca
Ab20	atcattgttagttatgggcccacatactacgctagctgggctaaaggc	cgattcaccatctccagagaca
Ab21	gccattcgtagtagtggtgccacattcttcgcgagctgggtgaatggc	cgtttcaccatctccaaaacct
Ab22	gccattcgtagtagtggtgccacattcttcgcgagctccgtgaatggc	agattcaccatctccagagaca
Ab23	tgcatttatgctggtagtggtggtagcactttcttcgcgaactgggcgaaaggc	cgattcaccatctccaaaacct
Ab24	tgcatttatgctggtagtggtggtagcactttcttcgcgaactgggcgaaaggc	cgattcaccatctccaaaacct

Figure 3D

Antibody Heavy chain DNA features

Sequence Name	FR3
Ab1	cgtcgaccacggtggatctggaaatcaccagtccgacaaccgaggacacggccacctatttctgtgccaga
Ab2	cgaccacggtggatctgaaaatgaccagtctgacaaccgggacacggccacctatttctgtgccaga
Ab3	cgaccacggtggatctgaaaatcaccagtccgacagtcgaggacacggccacctatttctgtgccaga
Ab4	cgaccacggtggatctgaaaatgaccagtccgacaaccgaggacacggccacctatttctgtggccaga
Ab5	cgaccacggtggatctgaaaatcaccagtccgacaaccgaggacacggccacctatttctgtgccaga
Ab6	cgtcgaccacggtgactctgcaactgaacagtctgacagccgcggacacggccacctatttttgtgcgagc
Ab7	atccaagaacacaccctgtatcttcaaatgaacagcctgagagctgaggacactgctgtgtattactgtgctagc
Ab8	cgtcgaccacggtgactctgcaaatgaccaggctgacagccgcggacacggccacctatttctgtgcgaga
Ab9	cgaccacggtggatctgaaaatcaccagtccgacgggccgaggacacggccacctatttctgtgccaga
Ab10	cgtcgaccacggtgactctgcaaatgaccagtctgacagccgcggacacggccacctatttttgtgcgagc
Ab11	atccaagaacacaccctgtatcttcaaatgaacagcctgagagctgaggacactgctgtgtattactgtgctagc
Ab12	atccaagaacacaccctgtatcttcaaatgaacagcctgagagctgaggacactgctgtgtattactgtgctagc
Ab13	cgtcgaccacggtggatctgaaaatgaccagtctgacaaccgaggacacggccacctatttctgtgccaga
Ab14	cgtcgaccacggtgactctgcaaatgaccagtctgacagccgcggacacggccacttatttctgtgcgagc
Ab15	cgtcgaccacggtgactctgcaaatgaccagtctgacagccgcggacacggccacctatttttgtgcgagc
Ab16	cgtcgaccacggtgggtctgaaaatgaccagtctgacagccgcgggacacggccacgtatttttgtgcgagc
Ab17	cgtcgtccacggtgactctgcaaatgaccagtctgacagccgcggacacggccacctatttttgtgcgagc
Ab18	atccaagaacacaccctgtatcttcaaatgaacagcctgagagctgaggacactgctgtgtattactgtgctagc
Ab19	atccaagaacaccgtgtatcttcaaatgaacagcctgagagctgaggacactgccacctatttctgtgccaga
Ab20	atccaagtccaccgtgtatcttcaaatgaacagcctgagagctgaggacactgccacctatttctgtgccaga
Ab21	cgaccacggtggatctgaaaatcaccagtccgacacccgaggacacggccacctatttctgtgccaga
Ab22	atccaagaacacggtgtatcttcaaatgaacagcctgagagccgaggacacggctgtgtattactgtgcgaga
Ab23	cgtcgaccacggtgactctgcaaatgaccagtctgacagccgcgggacacggccacctatttctgtgcgaga
Ab24	cgtcgaccacggtgactctgcaaatgaccagtctgacagccgcgggacacggccacctatttctgtgcgaga

Figure 3E

Antibody Heavy chain DNA features

Sequence Name	CDR3	FR4
Ab1	gactctgcttttagttctggtttggaattcaacatc	tggggcccgggcaccctcgtcaccg
Ab2	gcctctattcttggttatagtattgctacgggctttaacatc	tggggcccagggaccctcgtcaccg
Ab3	ggaggtgcttatgctactcttaacttg	tggggcccgggcaccctcgtcaccg
Ab4	tggtccggtactagtggttataataccatc	tggggcccgggcaccctcgtcaccg
Ab5	ggaatatattggtactggagagtttttaacttg	tggggcccggggaccctcgtcaccg
Ab6	gatattaatgatgggtggcttggccaattcaacttg	tggggcccaggcaccctcgtcaccg
Ab7	gatatcaatgatgggtggcttggccaattcaacttg	tggggccaagggaccctcgtcaccg
Ab8	gatcgatactatagttatgcttatggtgcttatgtttatgctagcgacttg	tggggcccaggcaccctcgtcaccg
Ab9	gatctggatgctaatagtagtggttattatggatgctttaacatc	tggggccaggggaccctcgtcaccg
Ab10	gatattaatgatgggtggcttggccaattcaacttg	tggggcccgggcaccctggtcaccg
Ab11	gatatcaatgatgggtggcttggccaattcaacttg	tggggccaagggaccctcgtcaccg
Ab12	gatatcaatgatgggtggcttggccaattcaacttg	tggggccaagggaccctcgtcaccg
Ab13	gattggtctagtactactggttattatgggtattttaatatg	tggggcccgggcaccctcgtcaccg
Ab14	gatactaataatgggtggcttggccaattcaacttg	tggggccagggcaccctcgtcaccg
Ab15	gatcttaatgatgggtggcttggccaattcaacttg	tggggcccgggcaccctcgtcaccg
Ab16	gatattaatgatgggtggcttggccaattcaacttg	tggggcccagggaccctcgtcaccg
Ab17	gatattaatgatgggtggcttggccaattcaacttg	tggggcccaggcaccctggtcaccg
Ab18	gatatcaatgatgggtggcttggccaattcaacttg	tggggccaagggaccctcgtcaccg
Ab19	gatctggatgctcaaagtagtggttactatggagcttttaacatc	tggggccaagggaccctcgtcaccg
Ab20	gatctggatgctcaaagtagtggttactatggagcttttaacatc	tggggccaagggaccctcgtcaccg
Ab21	gatactaatgatggttggtatattaatcggttggatctc	tggggcccgggcaccctcgtcaccg
Ab22	gatactaatgatggttggtatattaatcggttggatctc	tggggccaagggaccctcgtcaccg
Ab23	gatggtggttatgctggctatggttatgctttctttaacttg	tggggcccggggaccctcgtcaccg
Ab24	gatggtggttatgctggctatggttatgctttctttaacttg	tggggcccggggaccctcgtcaccg

Figure 3F
Antibody Heavy chain DNA features

Sequence Name	FR4	Constant region
Ab1	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab2	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab3	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab4	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab5	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab6	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab7	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab8	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab9	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab10	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab11	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab12	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab13	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab14	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab15	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab16	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab17	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab18	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab19	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab20	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab21	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab22	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab23	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag
Ab24	tctcgagc	gcctccaccaagggcccatcggtcttccccctggcaccctcctccaagagcacctctgggggcacag

Figure 3G
Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab2	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab3	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab4	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab5	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab6	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab7	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab8	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab9	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab10	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab11	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab12	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab13	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab14	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab15	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab16	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab17	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab18	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab19	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab20	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab21	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab22	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab23	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca
Ab24	cggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgacca

Figure 3H

Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab2	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab3	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab4	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab5	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab6	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab7	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab8	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab9	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab10	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab11	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab12	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab13	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab14	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab15	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab16	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab17	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab18	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab19	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab20	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab21	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab22	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab23	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct
Ab24	gcggcgtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccct

Figure 3I

Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab2	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab3	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab4	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab5	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab6	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab7	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab8	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab9	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab10	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab11	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab12	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab13	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab14	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab15	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab16	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab17	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab18	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacgcgagag
Ab19	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab20	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab21	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab22	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacgcgagag
Ab23	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag
Ab24	ccagcagcttgggcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagag

Figure 3J

Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab2	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab3	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab4	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab5	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab6	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab7	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab8	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab9	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab10	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab11	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab12	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab13	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab14	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab15	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab16	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab17	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab18	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab19	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab20	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab21	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab22	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab23	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag
Ab24	ttgagcccaaatcttgtgacaaaactcacacatgcccaccgtgcccagcacctgaactcctgggggggaccgtcag

Figure 3K
Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab2	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab3	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab4	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab5	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab6	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab7	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab8	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab9	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab10	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab11	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab12	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab13	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab14	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab15	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab16	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab17	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab18	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab19	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab20	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab21	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab22	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab23	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg
Ab24	tcttcctcttcccccaaaacccaaggacacccctcatgatctcccggaccccctgaggtcacatgcgtggtgg

Figure 3L

Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab2	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab3	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab4	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab5	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab6	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab7	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab8	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab9	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab10	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab11	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab12	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab13	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab14	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab15	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab16	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab17	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab18	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab19	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab20	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab21	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab22	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab23	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa
Ab24	acgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaa

Figure 3M

Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab2	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab3	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab4	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab5	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab6	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab7	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab8	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab9	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab10	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab11	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab12	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab13	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab14	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab15	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab16	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab17	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab18	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab19	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab20	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab21	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab22	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab23	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga
Ab24	agccgcgggaggagcagtacgccagcacgtaccgtgtggtcagcgtcctcaccgtcctgcaccaggactggctga

Figure 3N
Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab2	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab3	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab4	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab5	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab6	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab7	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab8	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab9	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab10	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab11	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab12	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab13	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab14	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab15	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab16	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab17	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab18	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab19	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab20	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab21	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab22	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab23	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca
Ab24	atggcaaggagtacaagtgcaaggtctccaacaaagccctcccagccccatcgagaaaaccatctccaaagcca

Figure 30

Antibody Heavy chain DNA features

Name	Sequence Constant region
Ab1	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab2	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab3	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab4	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab5	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab6	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab7	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab8	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab9	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab10	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab11	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab12	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab13	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab14	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab15	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab16	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab17	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab18	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab19	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab20	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab21	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab22	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab23	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc
Ab24	aagggcagccccgagaaccacaggtgtacaccctgccccatcccgggaggagatgaccaagaaccaggtcagcc

Figure 3P

Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab2	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab3	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab4	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab5	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab6	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab7	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab8	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab9	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab10	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab11	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab12	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab13	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab14	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab15	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab16	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab17	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab18	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab19	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab20	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab21	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab22	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab23	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca
Ab24	tgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaaca

Figure 3Q

Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab2	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab3	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab4	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab5	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab6	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab7	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab8	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab9	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab10	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab11	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab12	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab13	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab14	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab15	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab16	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab17	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab18	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab19	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab20	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab21	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab22	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab23	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga
Ab24	actacaagaccacgcctcccgtgctggactccgacggctccttcttcctctacagcaagctcaccgtggacaaga

Figure 3R
Antibody Heavy chain DNA features

Sequence Name	Constant region
Ab1	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab2	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab3	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab4	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab5	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab6	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab7	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab8	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab9	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab10	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab11	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab12	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab13	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab14	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab15	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab16	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab17	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab18	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab19	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab20	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab21	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab22	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab23	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga
Ab24	gcaggtggcagcagggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaaga

Figure 3S

Antibody Heavy chain DNA features

Name	Constant region Sequence	
Ab1	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:11)
Ab2	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:51)
Ab3	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:91)
Ab4	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:131)
Ab5	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:171)
Ab6	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:211)
Ab7	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:251)
Ab8	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:291)
Ab9	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:331)
Ab10	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:371)
Ab11	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:411)
Ab12	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:451)
Ab13	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:491)
Ab14	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:531)
Ab15	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:571)
Ab16	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:611)
Ab17	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:651)
Ab18	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:691)
Ab19	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:731)
Ab20	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:771)
Ab21	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:811)
Ab22	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:851)
Ab23	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:891)
Ab24	gcctctccctgtctccgggtaaa	(SEQ_ID_NO:931)

Figure 4A

Antibody Light chain DNA features

Sequence Name	FR1
Ab1	gcctatgatctgacccagactccagcctctgtggaggtagctgtgggaggcacagtcaccatcaagtgc
Ab2	gcctatgatatgacccagactccagcctctgtggaggtagctgtgggaggcacagtcaccatcaagtgc
Ab3	gccgtgctgacccagacaccatcacccgtgtctgcagctgtgggaggcacagtcaccatcagttgc
Ab4	gatgttgtgatgacccagactcccgtgggaggcagctgtgggaggcacagtcaccatcaagtgc
Ab5	gccgtgctgacccagacaccatcgcctgtgtctgcagctgtgggaggcacagtcaccatcaattgc
Ab6	gctgacattgtgatgacccagactcccagcctctgtgggaggtagctgtgggaggcacagtcaccatcaagtgc
Ab7	gctgacattgtgatgacccagtctcccatcctccctgtctgcatctgtaggagacagagtcaccatcaagtgc
Ab8	gctgacattgtgatgacccagactcccagcctccgtgtctgaacctgtgggaggcacagtcaccatcaattgc
Ab9	gccgtcgtgctgacccagactccagcctccgtgtctgcagctgtgggtggcacagtcaccatcaagtgc
Ab10	gccaacattgtgatgacccagactcccagcctccgtgtgggaggcacagtcaccatcaagtgc
Ab11	gccaacattgtgatgacccagtctcccatcctccctgtctgcatctgtaggagacagagtcaccatcacttgc
Ab12	gccaacattgtgatgacccagtctcccatcctccctgtctgcatctgtaggagacagagtcaccatcaagtgc
Ab13	gcattcgaattgacccagactcccatccccccgtgtctgcagctgtgggaggcacagtcaccatcaagtgc
Ab14	gctgacattgtgatgacccagactcccagcctccggtgtctgcagctgtgggaggcacagtcaccatcaattgc
Ab15	gccaacatcgtgatgacccagactcccatccccccgtgtctggagctgtgggaggcacagtcaccatcaagtgc
Ab16	gctgacattgtgatgacccagactcccagcctccgtgtggaggcagctgtgggaggcacagtcaccatcaagtgc
Ab17	gccgatgttgtgatgacccagactcccagcctccgtgtggaggcagctgtgggaggcacagtcaccatcaagtgc
Ab18	gctgacattgtgatgacccagtctcccatcctccctgtctgcatctgtaggagacagagtcaccatcaagtgc
Ab19	gacatccagatgacccagtctcctccacccctgtctgcatctgtaggagacagagtcaccatcacttgt
Ab20	gacatcccagatgacccagtctcctccacccctgtctgcatctgtaggagacagagtcaccatcacttgt
Ab21	gccgccgtgctgacccagactcccatctcccgtgtctgcagctgtgggaggcacagtcagcatcagttgc
Ab22	gccgtgctgacccagtctcctccacccctgtctgcatctgtaggagacagagtcaccatcacttgc
Ab23	gatgttgtgatgacccagactccagcctcccgtgtctgaacctgtgggaggcacagtcaccatcaagtgc
Ab24	gatgttgtgatgacccagactcccagcctcccgtgtctgaacctgtgggaggcacagtcaccatcaagtgc

Figure 4B

Antibody Light chain DNA features

Sequence Name	CDR1	FR2
Ab1	caggccagtcagagtgtttatagtaactggttatcc	tggtatcagcagaaaccagggcagcctcccaagctcc
Ab2	caggccagtcagagcattagtagccacttagcc	tggtatcagcagaaatcagggcagcctcccaagctcc
Ab3	cagtccagtcagagtgtttatcataacaacctcttatcc	tggtatcagcagaaaccaggtcagcctcccaagctct
Ab4	caggccagtcagagcatttatagcaatttagcc	tggtatcagcagaaaccagggcagcctcccaagctcc
Ab5	caggccagtcagagtgtttataacaacctcttatcc	tggtatcagcagaaaccagggcagcctcccaagctcc
Ab6	caggccagtcagagcattagtgcgtacttagcc	tggtatcagcagaaaccagggcagcctcccaagctcc
Ab7	caggccagtcagagcattagtgcttacttagcc	tggtatcagcagaaaccagggaaagtccctaagctcc
Ab8	caggccagtgaaagcattaggaactacttatcc	tggtatcaacagaaaccagggcagcgtcccaagctcc
Ab9	caggccagtcagagcattagcactgcattagcc	tggtatcagcagaaaccagggcagcctcccaagctcc
Ab10	caggccagtcagagcattagtaattacttagcc	tggtatcagcagaaaccagggcagcctcccaagctcc
Ab11	caggccagtcagagcattagtaattacttagcc	tggtatcagcagaaaccagggaaagtccctaagctcc
Ab12	caggccagtcagagcattagtaattacttagcc	tggtatcagcagaaaccagggaaagtccctaagctcc
Ab13	caggccagtcagagcattagcactgcattagcc	tggtatcagcagaaaccagggcagcctcccaagctcc
Ab14	caggccagtcagagcattagtagctacttagcc	tggtatcagcagaaaccagggcagcctcccaagctcc
Ab15	caggccagtcagagcattagtgactacttagcc	tggtatcagcagaaaccagggcagcctcccaaactcc
Ab16	caggccagtcagagcattagtagctacttagcc	tggtatcagcagaaaccagggcagcctcccaagctcc
Ab17	caggccagtctgagcattgctgactacttagcc	tggtatctccagaaaccagggcagcctcccaagctcc
Ab18	caggccagtcagagcattagtgcttacttagcc	tggtatcagcagaaaccagggaaagtccctaagctcc
Ab19	caggccagtcagagcattagcactgcattagcc	tggtatcagcagaaaccaggaaaagcccctaagctcc
Ab20	caggccagtcagagcattagcactgcattagcc	tggtatcagcagaaaccaggaaaagcccctaagctcc
Ab21	cagtccagtaagagtgtttatagtaactacttatcc	tggtttcagcagaaaccagggcagcctcccaagttcc
Ab22	cagtccagtaagagtgtttatagtaactacttatcc	tggtttcagcagaaaccagggaaagcccctaagttcc
Ab23	caggccagtgagaggatttatagtggtttggcc	tggtatcagcagaaaccagggcagcctcccaagctcc
Ab24	caggccagtgagaggatttatagtggtttggcc	tggtatcagcagaaaccagggcagcctcccaagctcc

Figure 4C

Antibody Light chain DNA features

Sequence Name	FR2	CDR2	FR3
Ab1	tgatctat	gatgcatccgatctggcatct	ggggtcccatcgcggttcaaaggcagtggatctgggacacagttca
Ab2	tgatctac	agggcatcccactctggaatct	ggggtcttcatcaaggttcaaaggcagtggatctgggacagagttca
Ab3	tgatctac	gatgcatccaaactgacatct	ggggtctcatcgcggttcagcggcagtggatctgggacacagttca
Ab4	tgatctat	ggtgcatccaatctggcatct	ggggtcttcatcgcggttcaaaggcagtcgatctgggacagagtaca
Ab5	tgatctat	gatgcatcccaatctggcatct	ggggtcccagataggttcagcggcagtggatctgggacacagttca
Ab6	tgatctac	agggcatacactctggcatct	ggggtcccatcgcggttcaaaggcagtggatctgggacacagttca
Ab7	tgatctat	agggcatacactctggcatct	ggggtcccatctcgttttcagtggcagtggatctgggacagatttca
Ab8	tgatctat	ggtgcatcccactctggcatct	ggggtcccatcgcggttcaaaggcagtggatctgggacagatttca
Ab9	tgatctat	gctgcatccccctctggcatct	ggggtcttcatcgcggttcaagagcagtggatctgggacagagttca
Ab10	tgatctac	aggacatccactctggcatct	ggggtcccatcgcggttcaaaggcagtggatccgggacacagttca
Ab11	tgatctat	aggacatccactctggcatct	ggggtcccatctcgtttcagtggcagtggatctgggacagatttca
Ab12	tgatctat	aggacatccactctggcatct	ggggtcccatctcgtttcagtggcagtggatctgggacagatttca
Ab13	tgatctat	ggtgcatcccaatctggaatct	ggggtcccatcgcggttcagcggcagtggatctgggacacagttca
Ab14	tgatctac	agggcatcccactctggcatct	ggggtcccatcgcggttcaaaggcagtggatctgggacacagttca
Ab15	tgatctac	agggcatcccactctggcatct	ggggtcccatcgcggttcagaggcagtggatctgggacagagtaca
Ab16	tgatctac	agggcatcccactctggcctct	ggggtcccatcgcggttcagcggcagtggatctgggacagagttca
Ab17	tgatctac	agggcatcccactctggcatct	ggggtcccatcgcggttcaagggcagtggatctgggacagagtaca
Ab18	tgatctat	agggcatacactctggcatct	ggggtcccatctcgtttcagtggcagtggatctgggacagatttca
Ab19	tgatctat	gctgcatcccccctctggcatct	ggagtcccatcaaggttcagcggcagtggatctgggaacagaattca
Ab20	tgatctat	gctgcatccccctctggcatct	ggagtcccatcaaggttcagcggcagtggatctgggaacagaattca
Ab21	tgatctac	aaggcatcccactctggcatct	ggggtcccatcgcggttcaaaggcagtggatctgggacacagttca
Ab22	tgatctat	aaggcatcccactctggcatct	ggggtcccatcaaggttcagcggcagtggatctgggacagaattca
Ab23	tgatctat	ggtgcatcccactctggcatct	ggggtcccatcgcggttcaaaggcagtggatctgggacagatttca
Ab24	tgatctat	ggtgcatcccactctggcatct	ggggtcccatcgcggttcaaaggcagtggatctgggacagatttca

Figure 4D

Antibody Light chain DNA features

Sequence Name	FR3	CDR3
Ab1	ctctcaccatcagcggcgtgcagtgtgacgatgctgccacttactactgt	cagcaggggcagagtagtagtgata
Ab2	ctctcaccatcagcgacctggagtgtgccgatgctgccacttactactgt	caacagggttatggtgttagtgatg
Ab3	ctctcaccataagcggcgtgcagtgtgacgatgctgccacttactactgt	ctaggcggttatgatgatgatgctg
Ab4	ctctcaccatcagtgacctggagtgtgccgatgctgccacctactactgt	cagtgcactggtggtggtgatagcg
Ab5	ctctcaccatcagcggcgtgcagtgtgacgatgctgccacttactactgt	ctaggcggttatgatgatgatgctg
Ab6	ctctcaccatcagcgacctggagtgtgccgatgctgccacttactactgt	caaagctattattccgttactacta
Ab7	ctctcaccatcagcagcctgcagcctgaagatgttgcaacttattactgt	caaagctactattccgttactacta
Ab8	ctctcaccatcagcgacctggagtgtgccgatgctgccacttactactgt	caaagcaattatggtattagtagtc
Ab9	ctctcaccatcagcgacctggagtgtgccgatgctgccacttattactgt	caaagctattatggtagtagcaata
Ab10	ctctcaccatcagcgacctggagtgtgccgatgctgccacttactactgt	caaagctattattccgttactactg
Ab11	ctctcaccatcagcagcctgcagcctgaagatgttgcaacttattactgt	caaagctactattccgttactactg
Ab12	ctctcaccatcagcagcctgcagcctgaagatgttgcaacttattactgt	caaagctactattccgttactactg
Ab13	ctctcaccatcagcgacctggagtgtgccgatgctgccatttactactgt	caaagctcttatggtagtagtactt
Ab14	ctctcaccatcagcgacctggagtgtgccgatgctgccacttactactgt	caaggctattattccgttactacta
Ab15	ctctcaccatcaccgacctggagtgtgccgatgctgccacttactactgt	caaagctattattccgttactacta
Ab16	ctctcaccatcagcgacctggagtgtgccgatgctgccacttactactgt	caaagctattattccgttactactg
Ab17	ctctcaccatcagcgacctggagtgtgccgatgctgccacttactactgt	caaagctattattccgttactacta
Ab18	ctctcaccatcagcagcctgcagcctgaagatgttgcaacttattactgt	caaagctactattccgttactacta
Ab19	ctctcaccatcagcagcctgcagcctgatgattttgcaacttactactgt	caaagctattatggtagtagcaaca
Ab20	ctctcaccatcagcagcctgcagcctgatgattttgcaacttactactgt	caaagctattatggtagtagcaaca
Ab21	ctctcaccatcagcgacgtgcagtgtgacgatgctgccacttactactgt	gcaggcggtgatactaatattagtg
Ab22	ctctcaccatcagcagcctgcagcctgatgattttgcaacttattactgc	gcaggcggtgatactaatattgctg
Ab23	ctctcaccatcagcgacctggagtgtgacgatgctgccatttactactgt	caatgtacttattatggttctagtt
Ab24	ctctcaccatcagcgacctggagtgtgacgatgctgccatttactactgt	caagctacttattatggttctagtt

Figure 4E

Antibody Light chain DNA features

Sequence Name	CDR3	FR4	Constant region
Ab1	ttgataatact	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab2	ttgataatggt	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab3	ataatggt	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab4	gtaatact	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab5	ataatgct	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab6	atacttatggaaatact	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab7	atacttatggaaatact	ttcggcggagggaaccaaggtggaaatcaaa	cgtacggtggctgcaccatcttgtcttca
Ab8	gtagttatgttaatggt	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab9	ttgct	ttcggcggagggaccgagctggagatccta	cgtacggtagcggccccatcttgtcttca
Ab10	ttgcttatggaaatact	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab11	ttgcttatggaaatact	ttcggcggagggaaccaaggtggaaatcaaa	cgtacggtggctgcaccatcttgtcttca
Ab12	ttgcttatggaaatact	ttcggcggagggaaccaaggtggaaatcaaa	cgtacggtggctgcaccatcttgtcttca
Ab13	tggct	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab14	atacttatggaaatact	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab15	atacttatggaaatact	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab16	ttacttatggaaatact	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab17	atacttatggaaatact	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab18	atacttatggaaatact	ttcggcggagggaaccaaggtggaaatcaaa	cgtacggtggctgcaccatcttgtcttca
Ab19	ttgct	ttcggcggagggaaccaaggtggaaatcaaa	cgtacggtggctgcaccatcttgtcttca
Ab20	ttgct	ttcggcggagggaaccaaggtggaaatcaaa	cgtacggtggctgcaccatcttgtcttca
Ab21	ataatgct	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab22	ataatgct	ttcggcggagggaaccaaggtggaaatcaaa	cgtacggtagcggccccatcttgtcttca
Ab23	atcctaatgtt	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca
Ab24	atcctaatgtt	ttcggcggagggaccgaggtggtggtcaaa	cgtacggtagcggccccatcttgtcttca

Figure 4F
Antibody Light chain DNA features

Sequence Name	Constant region
Ab1	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab2	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab3	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab4	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab5	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab6	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab7	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab8	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab9	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab10	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab11	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab12	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab13	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab14	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab15	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab16	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab17	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab18	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab19	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab20	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab21	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab22	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab23	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca
Ab24	tcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatccca

Figure 4G

Antibody Light chain DNA features

Sequence Name	Constant region
Ab1	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab2	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab3	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab4	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab5	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab6	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab7	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab8	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab9	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab10	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab11	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab12	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab13	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab14	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab15	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab16	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab17	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab18	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab19	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab20	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab21	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab22	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab23	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg
Ab24	gagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcagg

Figure 4H

Antibody Light chain DNA features

Sequence Name	Constant region
Ab1	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab2	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab3	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab4	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab5	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab6	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab7	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab8	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab9	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab10	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab11	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab12	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab13	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab14	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab15	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab16	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab17	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab18	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab19	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab20	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab21	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab22	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab23	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct
Ab24	acagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtct

Figure 4I

Antibody Light chain DNA features

Sequence Name	Constant region
Ab1	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab2	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab3	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab4	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab5	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab6	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab7	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab8	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab9	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab10	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab11	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab12	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab13	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab14	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab15	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab16	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab17	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab18	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab19	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab20	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab21	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab22	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab23	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt
Ab24	acgcctgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgt

Figure 4J

Antibody Light chain DNA features

Sequence Name	Constant region
Ab1	(SEQ_ID_NO:31)
Ab2	(SEQ_ID_NO:71)
Ab3	(SEQ_ID_NO:111)
Ab4	(SEQ_ID_NO:151)
Ab5	(SEQ_ID_NO:191)
Ab6	(SEQ_ID_NO:231)
Ab7	(SEQ_ID_NO:271)
Ab8	(SEQ_ID_NO:311)
Ab9	(SEQ_ID_NO:351)
Ab10	(SEQ_ID_NO:391)
Ab11	(SEQ_ID_NO:431)
Ab12	(SEQ_ID_NO:471)
Ab13	(SEQ_ID_NO:511)
Ab14	(SEQ_ID_NO:551)
Ab15	(SEQ_ID_NO:591)
Ab16	(SEQ_ID_NO:631)
Ab17	(SEQ_ID_NO:671)
Ab18	(SEQ_ID_NO:711)
Ab19	(SEQ_ID_NO:751)
Ab20	(SEQ_ID_NO:791)
Ab21	(SEQ_ID_NO:831)
Ab22	(SEQ_ID_NO:871)
Ab23	(SEQ_ID_NO:911)
Ab24	(SEQ_ID_NO:951)

Figure 5

Antibody Heavy chain Protein features

Sequence Name	Variable region coordinates	SEQ ID NO:	CDR1 coordinates	SEQ ID NO:	CDR2 coordinates	SEQ ID NO:	CDR3 coordinates	SEQ ID NO:
Ab1	1-118	2	30-34	4	49-64	6	96-107	8
Ab2	1-119	42	30-34	44	49-64	46	95-108	48
Ab3	1-114	82	30-34	84	49-64	86	95-103	88
Ab4	1-115	122	30-34	124	49-64	126	95-104	128
Ab5	1-116	162	30-34	164	49-64	166	95-105	168
Ab6	1-120	202	31-36	204	51-66	206	98-109	208
Ab7	1-121	242	31-36	244	51-66	246	99-110	248
Ab8	1-126	282	31-36	284	51-67	286	99-115	288
Ab9	1-120	322	30-34	324	49-64	326	95-109	328
Ab10	1-120	362	31-36	364	51-66	366	98-109	368
Ab11	1-121	402	31-36	404	51-66	406	99-110	408
Ab12	1-121	442	31-36	444	51-66	446	99-110	448
Ab13	1-120	482	30-34	484	49-64	486	96-109	488
Ab14	1-121	522	31-36	524	51-67	526	99-110	528
Ab15	1-122	562	31-36	564	51-68	566	100-111	568
Ab16	1-120	602	31-36	604	51-66	606	98-109	608
Ab17	1-120	642	31-36	644	51-66	646	98-109	648
Ab18	1-121	682	31-36	684	51-66	686	99-110	688
Ab19	1-123	722	31-35	724	50-65	726	98-112	728
Ab20	1-123	762	31-35	764	50-65	766	98-112	768
Ab21	1-118	802	30-34	804	49-64	806	95-107	808
Ab22	1-121	842	31-35	844	50-65	846	98-110	848
Ab23	1-123	882	30-35	884	50-67	886	99-112	888
Ab24	1-123	922	30-35	924	50-67	926	99-112	928

Figure 6

Antibody Heavy chain Protein features

Sequence Name	FR1 coordinates	SEQ ID NO:	FR2 coordinates	SEQ ID NO:	FR3 coordinates	SEQ ID NO:	FR4 coordinates	SEQ ID NO:	Constant region coordinates	SEQ ID NO:
Ab1	1-29	3	35-48	5	65-95	7	108-118	9	119-448	10
Ab2	1-29	43	35-48	45	65-94	47	109-119	49	120-449	50
Ab3	1-29	83	35-48	85	65-94	87	104-114	89	115-444	90
Ab4	1-29	123	35-48	125	65-94	127	105-115	129	116-445	130
Ab5	1-29	163	35-48	165	65-94	167	106-116	169	117-446	170
Ab6	1-30	203	37-50	205	67-97	207	110-120	209	121-450	210
Ab7	1-30	243	37-50	245	67-98	247	111-121	249	122-451	250
Ab8	1-30	283	37-50	285	68-98	287	116-126	289	127-456	290
Ab9	1-29	323	35-48	325	65-94	327	110-120	329	121-450	330
Ab10	1-30	363	37-50	365	67-97	367	110-120	369	121-450	370
Ab11	1-30	403	37-50	405	67-98	407	111-121	409	122-451	410
Ab12	1-30	443	37-50	445	67-98	447	111-121	449	122-451	450
Ab13	1-29	483	35-48	485	65-95	487	110-120	489	121-450	490
Ab14	1-30	523	37-50	525	68-98	527	111-121	529	122-451	530
Ab15	1-30	563	37-50	565	69-99	567	112-122	569	123-452	570
Ab16	1-30	603	37-50	605	67-97	607	110-120	609	121-450	610
Ab17	1-30	643	37-50	645	67-97	647	110-120	649	121-450	650
Ab18	1-30	683	37-50	685	67-98	687	111-121	689	122-451	690
Ab19	1-30	723	36-49	725	66-97	727	113-123	729	124-453	730
Ab20	1-30	763	36-49	765	66-97	767	113-123	769	124-453	770
Ab21	1-29	803	35-48	805	65-94	807	108-118	809	119-448	810
Ab22	1-30	843	36-49	845	66-97	847	111-121	849	122-451	850
Ab23	1-29	883	36-49	885	68-98	887	113-123	889	124-453	890
Ab24	1-29	923	36-49	925	68-98	927	113-123	929	124-453	930

Figure 7

Antibody Light chain Protein features

Sequence Name	Variable region coordinates	SEQ ID NO:	CDR1 coordinates	SEQ ID NO:	CDR2 coordinates	SEQ ID NO:	CDR3 coordinates	SEQ ID NO:
Ab1	1-111	22	24-35	24	51-57	26	90-101	28
Ab2	1-110	62	24-34	64	50-56	66	89-100	68
Ab3	1-110	102	23-35	104	51-57	106	90-100	108
Ab4	1-109	142	24-34	144	50-56	146	89-99	148
Ab5	1-109	182	23-34	184	50-56	186	89-99	188
Ab6	1-113	222	25-35	224	51-57	226	90-103	228
Ab7	1-113	262	25-35	264	51-57	266	90-103	268
Ab8	1-113	302	25-35	304	51-57	306	90-103	308
Ab9	1-108	342	24-34	344	50-56	346	89-98	348
Ab10	1-113	382	25-35	384	51-57	386	90-103	388
Ab11	1-113	422	25-35	424	51-57	426	90-103	428
Ab12	1-113	462	25-35	464	51-57	466	90-103	468
Ab13	1-108	502	24-34	504	50-56	506	89-98	508
Ab14	1-113	542	25-35	544	51-57	546	90-103	548
Ab15	1-113	582	25-35	584	51-57	586	90-103	588
Ab16	1-113	622	25-35	624	51-57	626	90-103	628
Ab17	1-113	662	25-35	664	51-57	666	90-103	668
Ab18	1-113	702	25-35	704	51-57	706	90-103	708
Ab19	1-108	742	24-34	744	50-56	746	89-98	748
Ab20	1-108	782	24-34	784	50-56	786	89-98	788
Ab21	1-110	822	24-35	824	51-57	826	90-100	828
Ab22	1-109	862	23-34	864	50-56	866	89-99	868
Ab23	1-110	902	24-34	904	50-56	906	89-100	908
Ab24	1-110	942	24-34	944	50-56	946	89-100	948

Figure 8

Antibody Light chain Protein features

Sequence Name	FR1 coordinates	SEQ ID NO:	FR2 coordinates	SEQ ID NO:	FR3 coordinates	SEQ ID NO:	FR4 coordinates	SEQ ID NO:	Constant region coordinates	SEQ ID NO:
Ab1	1-23	23	36-50	25	58-89	27	102-111	29	112-218	30
Ab2	1-23	63	35-49	65	57-88	67	101-110	69	111-217	70
Ab3	1-22	103	36-50	105	58-89	107	101-110	109	111-217	110
Ab4	1-23	143	35-49	145	57-88	147	100-109	149	110-216	150
Ab5	1-22	183	35-49	185	57-88	187	100-109	189	110-216	190
Ab6	1-24	223	36-50	225	58-89	227	104-113	229	114-220	230
Ab7	1-24	263	36-50	265	58-89	267	104-113	269	114-220	270
Ab8	1-24	303	36-50	305	58-89	307	104-113	309	114-220	310
Ab9	1-23	343	35-49	345	57-88	347	99-108	349	109-215	350
Ab10	1-24	383	36-50	385	58-89	387	104-113	389	114-220	390
Ab11	1-24	423	36-50	425	58-89	427	104-113	429	114-220	430
Ab12	1-24	463	36-50	465	58-89	467	104-113	469	114-220	470
Ab13	1-23	503	35-49	505	57-88	507	99-108	509	109-215	510
Ab14	1-24	543	36-50	545	58-89	547	104-113	549	114-220	550
Ab15	1-24	583	36-50	585	58-89	587	104-113	589	114-220	590
Ab16	1-24	623	36-50	625	58-89	627	104-113	629	114-220	630
Ab17	1-24	663	36-50	665	58-89	667	104-113	669	114-220	670
Ab18	1-24	703	36-50	705	58-89	707	104-113	709	114-220	710
Ab19	1-23	743	35-49	745	57-88	747	99-108	749	109-215	750
Ab20	1-23	783	35-49	785	57-88	787	99-108	789	109-215	790
Ab21	1-23	823	36-50	825	58-89	827	101-110	829	111-217	830
Ab22	1-22	863	35-49	865	57-88	867	100-109	869	110-216	870
Ab23	1-23	903	35-49	905	57-88	907	101-110	909	111-217	910
Ab24	1-23	943	35-49	945	57-88	947	101-110	949	111-217	950

Figure 9
Antibody Heavy chain DNA features

Sequence Name	Variable region coordinates	SEQ ID NO:	CDR1 coordinates	SEQ ID NO:	CDR2 coordinates	SEQ ID NO:	CDR3 coordinates	SEQ ID NO:
Ab1	1-354	12	88-102	14	145-192	16	286-321	18
Ab2	1-357	52	88-102	54	145-192	56	283-324	58
Ab3	1-342	92	88-102	94	145-192	96	283-309	98
Ab4	1-345	132	88-102	134	145-192	136	283-312	138
Ab5	1-348	172	88-102	174	145-192	176	283-315	178
Ab6	1-360	212	91-108	214	151-198	216	292-327	218
Ab7	1-363	252	91-108	254	151-198	256	295-330	258
Ab8	1-378	292	91-108	294	151-201	296	295-345	298
Ab9	1-360	332	88-102	334	145-192	336	283-327	338
Ab10	1-360	372	91-108	374	151-198	376	292-327	378
Ab11	1-363	412	91-108	414	151-198	416	295-330	418
Ab12	1-363	452	91-108	454	151-198	456	295-330	458
Ab13	1-360	492	88-102	494	145-192	496	286-327	498
Ab14	1-363	532	91-108	534	151-201	536	295-330	538
Ab15	1-366	572	91-108	574	151-204	576	298-333	578
Ab16	1-360	612	91-108	614	151-198	616	292-327	618
Ab17	1-360	652	91-108	654	151-198	656	292-327	658
Ab18	1-363	692	91-108	694	151-198	696	295-330	698
Ab19	1-369	732	91-105	734	148-195	736	292-336	738
Ab20	1-369	772	91-105	774	148-195	776	292-336	778
Ab21	1-354	812	88-102	814	145-192	816	283-321	818
Ab22	1-363	852	91-105	854	148-195	856	292-330	858
Ab23	1-369	892	88-105	894	148-201	896	295-336	898
Ab24	1-369	932	88-105	934	148-201	936	295-336	938

Figure 10

Antibody Heavy chain DNA features

Sequence Name	FR1 coordinates	SEQ ID NO:	FR2 coordinates	SEQ ID NO:	FR3 coordinates	SEQ ID NO:	FR4 coordinates	SEQ ID NO:	Constant region coordinates	SEQ ID NO:
Ab1	1-87	13	103-144	15	193-285	17	322-354	19	355-1344	20
Ab2	1-87	53	103-144	55	193-282	57	325-357	59	358-1347	60
Ab3	1-87	93	103-144	95	193-282	97	310-342	99	343-1332	100
Ab4	1-87	133	103-144	135	193-282	137	313-345	139	346-1335	140
Ab5	1-87	173	103-144	175	193-282	177	316-348	179	349-1338	180
Ab6	1-90	213	109-150	215	199-291	217	328-360	219	361-1350	220
Ab7	1-90	253	109-150	255	199-294	257	331-363	259	364-1353	260
Ab8	1-90	293	109-150	295	202-294	297	346-378	299	379-1368	300
Ab9	1-87	333	103-144	335	193-282	337	328-360	339	361-1350	340
Ab10	1-90	373	109-150	375	199-291	377	328-360	379	361-1350	380
Ab11	1-90	413	109-150	415	199-294	417	331-363	419	364-1353	420
Ab12	1-90	453	109-150	455	199-294	457	331-363	459	364-1353	460
Ab13	1-87	493	103-144	495	193-285	497	328-360	499	361-1350	500
Ab14	1-90	533	109-150	535	202-294	537	331-363	539	364-1353	540
Ab15	1-90	573	109-150	575	205-297	577	334-366	579	367-1356	580
Ab16	1-90	613	109-150	615	199-291	617	328-360	619	361-1350	620
Ab17	1-90	653	109-150	655	199-291	657	328-360	659	361-1350	660
Ab18	1-90	693	109-150	695	199-294	697	331-363	699	364-1353	700
Ab19	1-90	733	106-147	735	196-291	737	337-369	739	370-1359	740
Ab20	1-90	773	106-147	775	196-291	777	337-369	779	370-1359	780
Ab21	1-87	813	103-144	815	193-282	817	322-354	819	355-1344	820
Ab22	1-90	853	106-147	855	196-291	857	331-363	859	364-1353	860
Ab23	1-87	893	106-147	895	202-294	897	337-369	899	370-1359	900
Ab24	1-87	933	106-147	935	202-294	937	337-369	939	370-1359	940

Figure 11

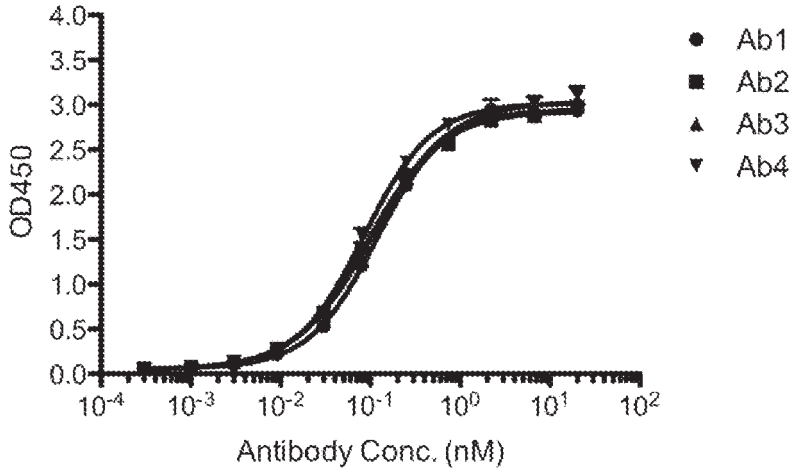
Antibody Light chain DNA features

Sequence Name	Variable region coordinates	SEQ ID NO:	CDR1 coordinates	SEQ ID NO:	CDR2 coordinates	SEQ ID NO:	CDR3 coordinates	SEQ ID NO:
Ab1	1-333	32	70-105	34	151-171	36	268-303	38
Ab2	1-330	72	70-102	74	148-168	76	265-300	78
Ab3	1-330	112	67-105	114	151-171	116	268-300	118
Ab4	1-327	152	70-102	154	148-168	156	265-297	158
Ab5	1-327	192	67-102	194	148-168	196	265-297	198
Ab6	1-339	232	73-105	234	151-171	236	268-309	238
Ab7	1-339	272	73-105	274	151-171	276	268-309	278
Ab8	1-339	312	73-105	314	151-171	316	268-309	318
Ab9	1-324	352	70-102	354	148-168	356	265-294	358
Ab10	1-339	392	73-105	394	151-171	396	268-309	398
Ab11	1-339	432	73-105	434	151-171	436	268-309	438
Ab12	1-339	472	73-105	474	151-171	476	268-309	478
Ab13	1-324	512	70-102	514	148-168	516	265-294	518
Ab14	1-339	552	73-105	554	151-171	556	268-309	558
Ab15	1-339	592	73-105	594	151-171	596	268-309	598
Ab16	1-339	632	73-105	634	151-171	636	268-309	638
Ab17	1-339	672	73-105	674	151-171	676	268-309	678
Ab18	1-339	712	73-105	714	151-171	716	268-309	718
Ab19	1-324	752	70-102	754	148-168	756	265-294	758
Ab20	1-324	792	70-102	794	148-168	796	265-294	798
Ab21	1-330	832	70-105	834	151-171	836	268-300	838
Ab22	1-327	872	67-102	874	148-168	876	265-297	878
Ab23	1-330	912	70-102	914	148-168	916	265-300	918
Ab24	1-330	952	70-102	954	148-168	956	265-300	958

Figure 12

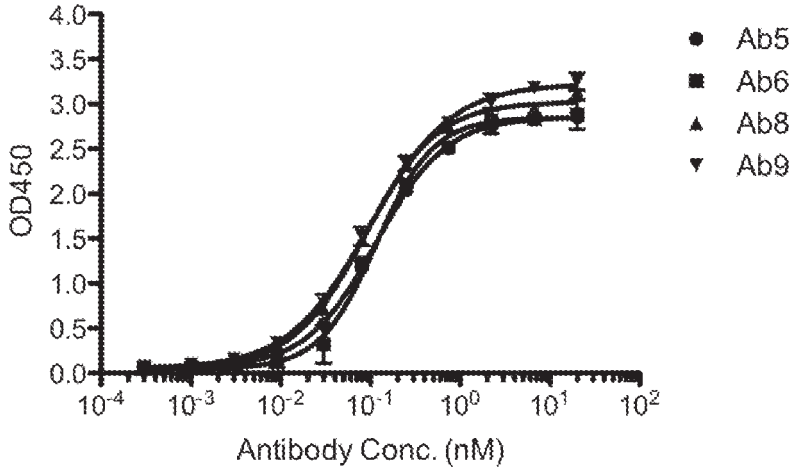
Antibody Light chain DNA features

Sequence Name	FR1 coordinates	SEQ ID NO:	FR2 coordinates	SEQ ID NO:	FR3 coordinates	SEQ ID NO:	FR4 coordinates	SEQ ID NO:	Constant region coordinates	SEQ ID NO:
Ab1	1-69	33	106-150	35	172-267	37	304-333	39	334-654	40
Ab2	1-69	73	103-147	75	169-264	77	301-330	79	331-651	80
Ab3	1-66	113	106-150	115	172-267	117	301-330	119	331-651	120
Ab4	1-69	153	103-147	155	169-264	157	298-327	159	328-648	160
Ab5	1-66	193	103-147	195	169-264	197	298-327	199	328-648	200
Ab6	1-72	233	106-150	235	172-267	237	310-339	239	340-660	240
Ab7	1-72	273	106-150	275	172-267	277	310-339	279	340-660	280
Ab8	1-72	313	106-150	315	172-267	317	310-339	319	340-660	320
Ab9	1-69	353	103-147	355	169-264	357	295-324	359	325-645	360
Ab10	1-72	393	106-150	395	172-267	397	310-339	399	340-660	400
Ab11	1-72	433	106-150	435	172-267	437	310-339	439	340-660	440
Ab12	1-72	473	106-150	475	172-267	477	310-339	479	340-660	480
Ab13	1-69	513	103-147	515	169-264	517	295-324	519	325-645	520
Ab14	1-72	553	106-150	555	172-267	557	310-339	559	340-660	560
Ab15	1-72	593	106-150	595	172-267	597	310-339	599	340-660	600
Ab16	1-72	633	106-150	635	172-267	637	310-339	639	340-660	640
Ab17	1-72	673	106-150	675	172-267	677	310-339	679	340-660	680
Ab18	1-72	713	106-150	715	172-267	717	310-339	719	340-660	720
Ab19	1-69	753	103-147	755	169-264	757	295-324	759	325-645	760
Ab20	1-69	793	103-147	795	169-264	797	295-324	799	325-645	800
Ab21	1-69	833	106-150	835	172-267	837	301-330	839	331-651	840
Ab22	1-66	873	103-147	875	169-264	877	298-327	879	328-648	880
Ab23	1-69	913	103-147	915	169-264	917	301-330	919	331-651	920
Ab24	1-69	953	103-147	955	169-264	957	301-330	959	331-651	960



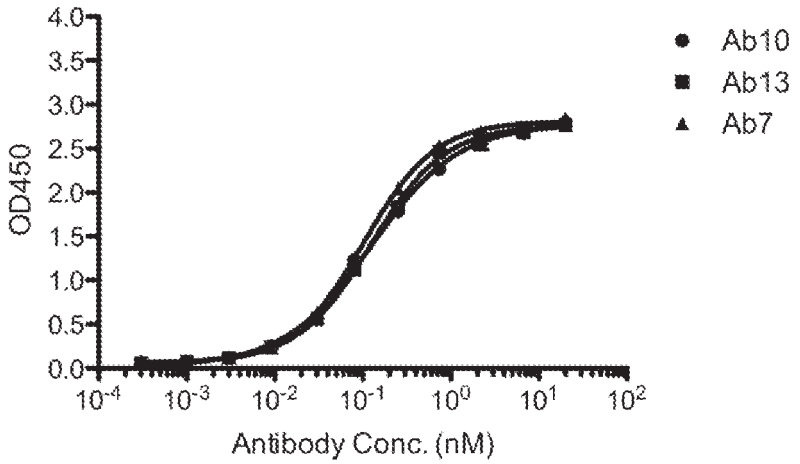
	EC50 (pM)
Ab1	117.0
Ab2	93.6
Ab3	105.2
Ab4	84.3

Figure 13. Recognition of human PCSK9 by PCSK9 antibodies Ab1-Ab4.



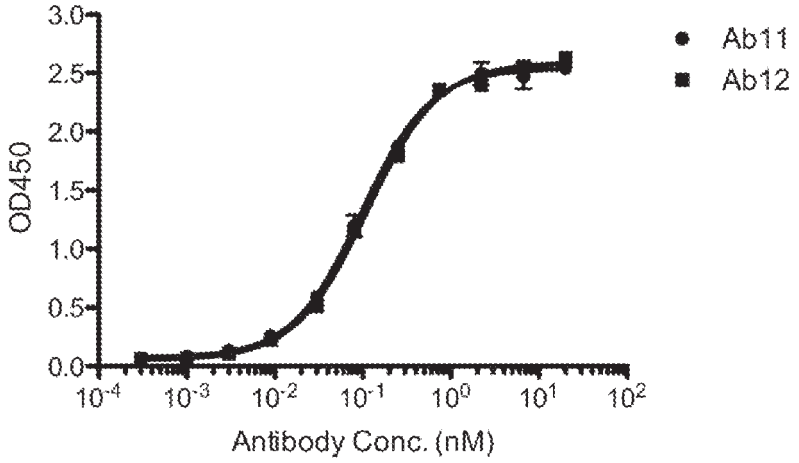
	EC50 (pM)
Ab5	116.2
Ab6	116.6
Ab8	87.4
Ab9	98.0

Figure 14. Recognition of human PCSK9 by PCSK9 antibodies Ab5, Ab6, Ab8, and Ab9.



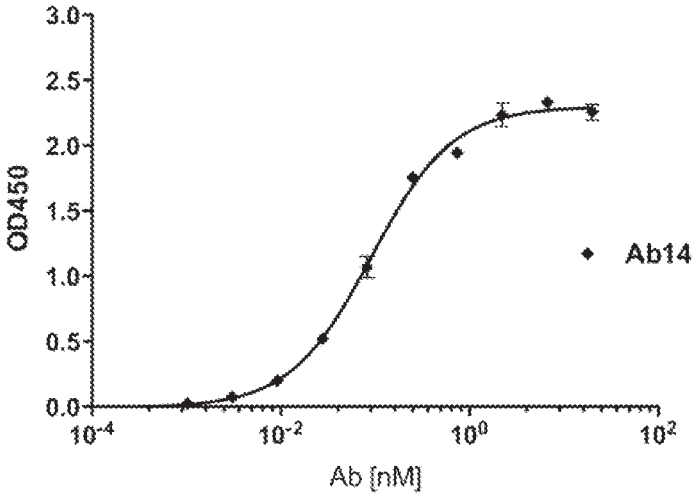
	EC50 (pM)
Ab10	126.4
Ab13	123.9
Ab7	103.5

Figure 15. Recognition of human PCSK9 by PCSK9 antibodies Ab7, Ab10, and Ab13.



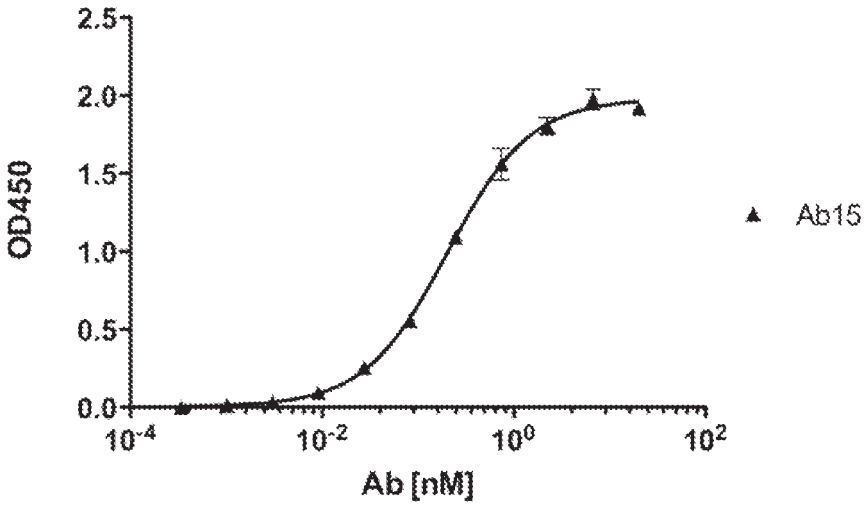
	EC50 (pM)
Ab11	95.8
Ab12	111.1

Figure 16. Recognition of human PCSK9 by PCSK9 antibodies Ab11 and Ab12.



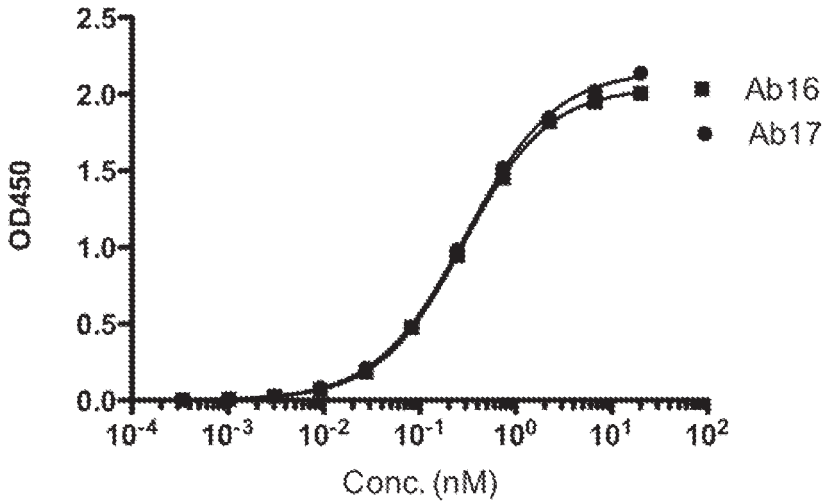
	EC50 (pM)
Ab14	91

Figure 17. Recognition of human PCSK9 by PCSK9 antibody Ab14.



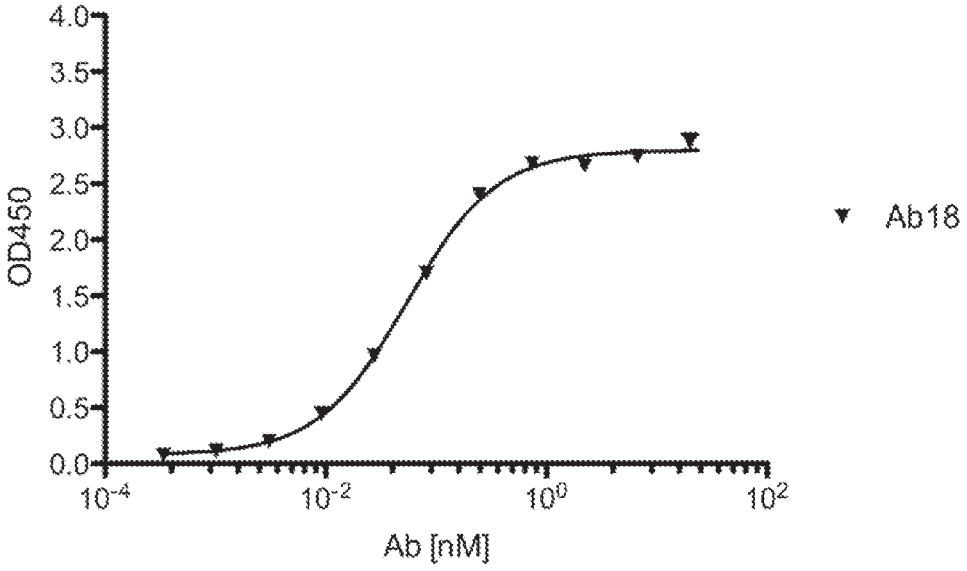
	EC50 (pM)
Ab15	203

Figure 18. Recognition of human PCSK9 by PCSK9 antibody Ab15.



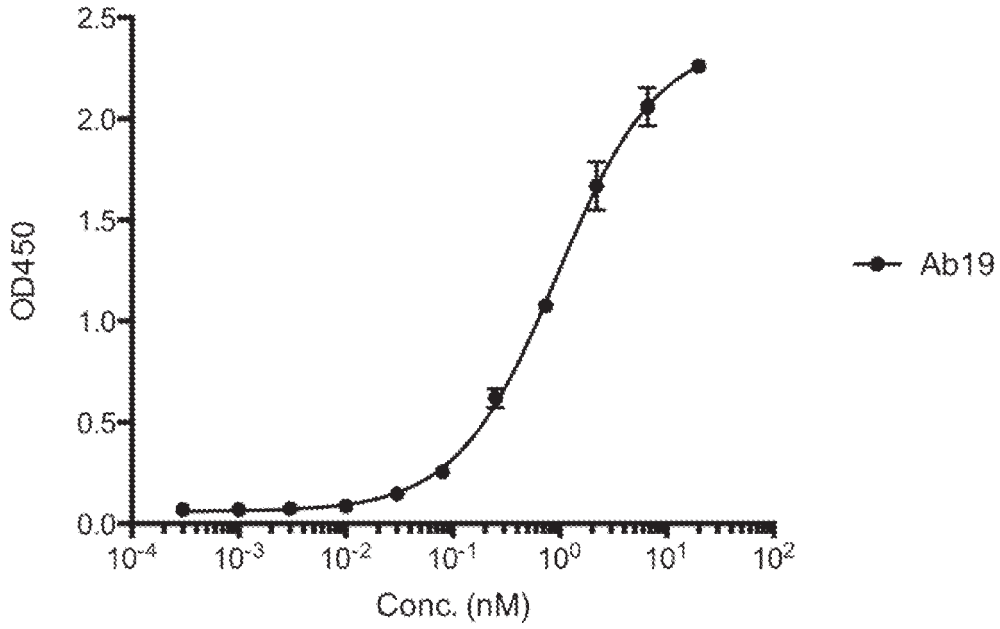
	EC50 (pM)
Ab16	286
Ab17	301

Figure 19. Recognition of human PCSK9 by PCSK9 antibodies Ab16 and Ab17.



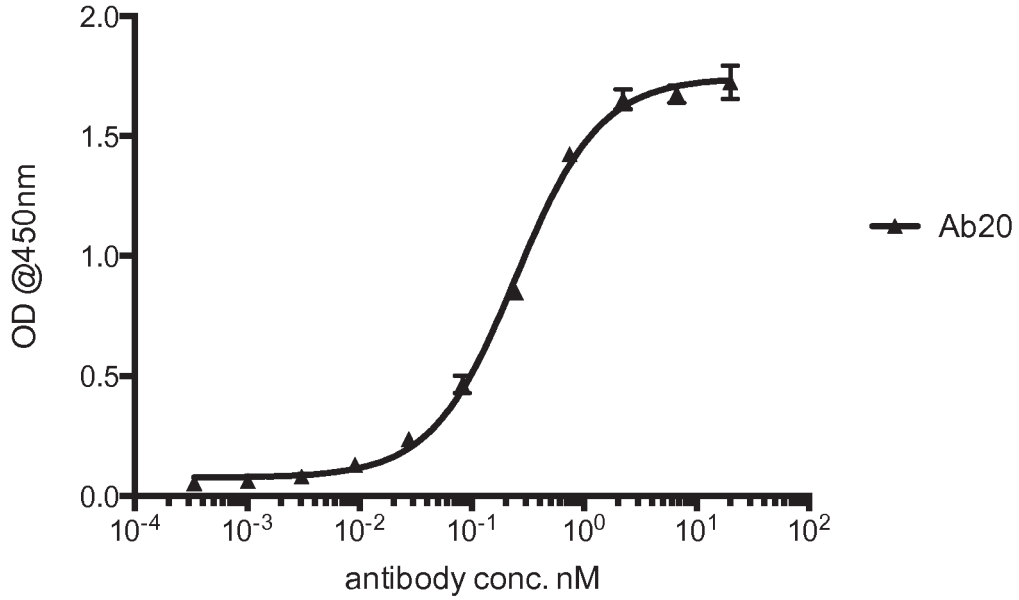
	EC50 (pM)
Ab18	54.2

Figure 20. Recognition of human PCSK9 by PCSK9 antibody Ab18.



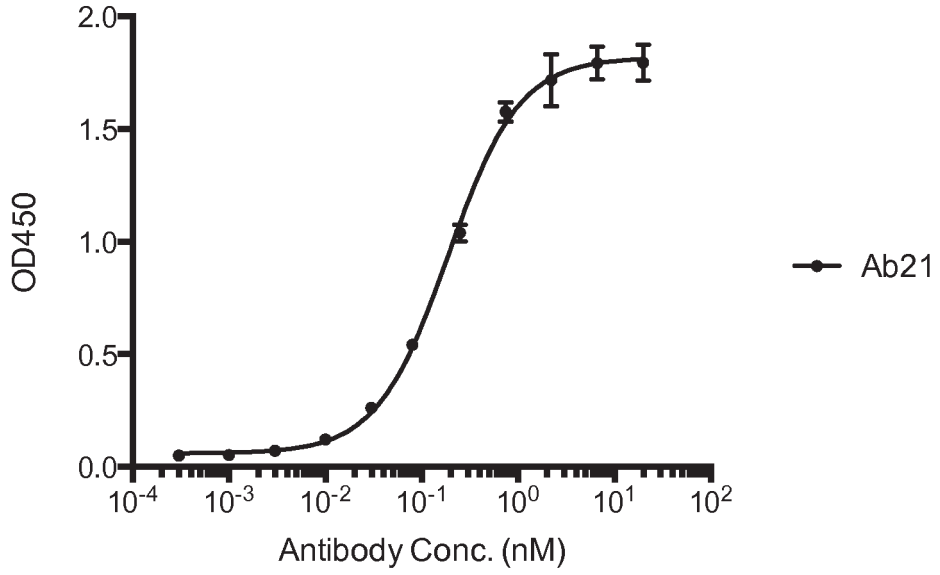
EC50 (pM) 943

Figure 21. Recognition of human PCSK9 by PCSK9 antibodies Ab19



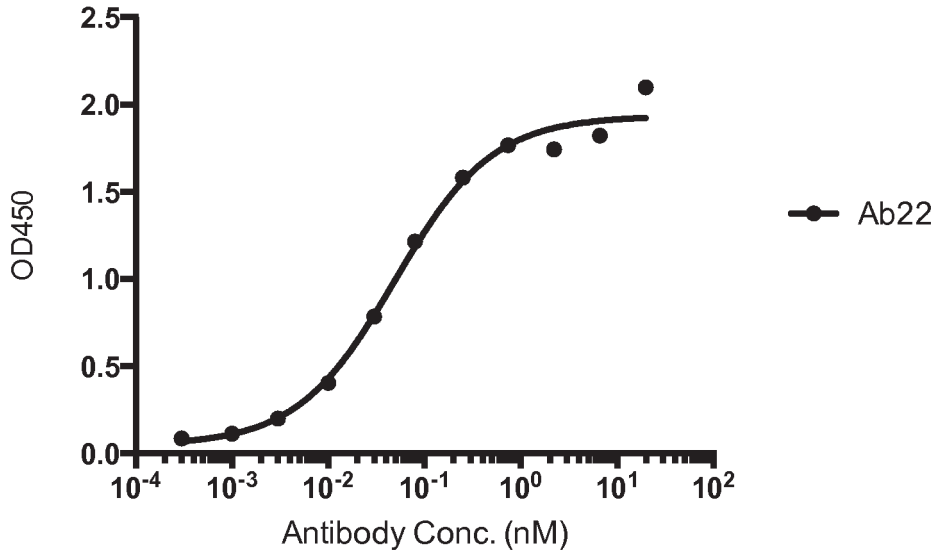
EC50 (pM) 247

Figure 22. Recognition of human PCSK9 by PCSK9 antibodies Ab20



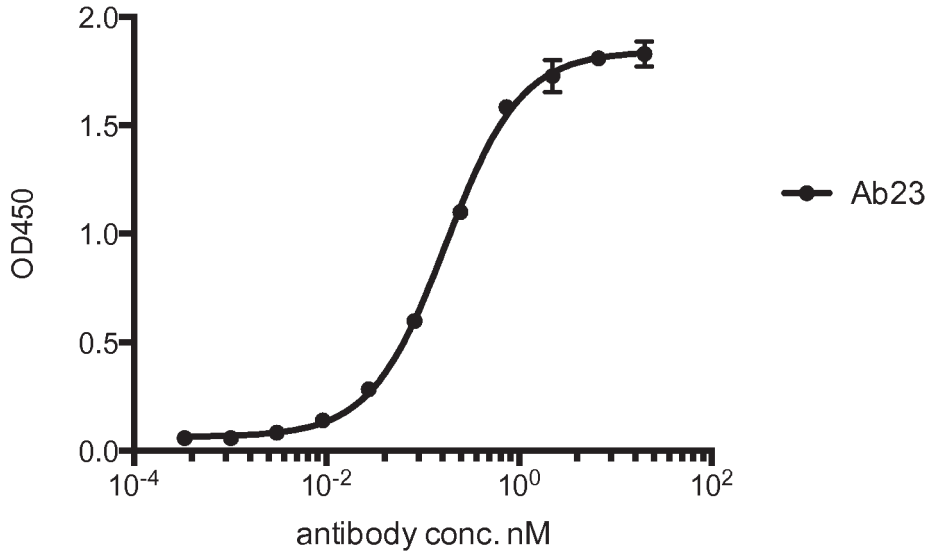
	EC50 (pM)
Ab21	188.3

Figure 23. Recognition of human PCSK9 by PCSK9 antibody Ab21.



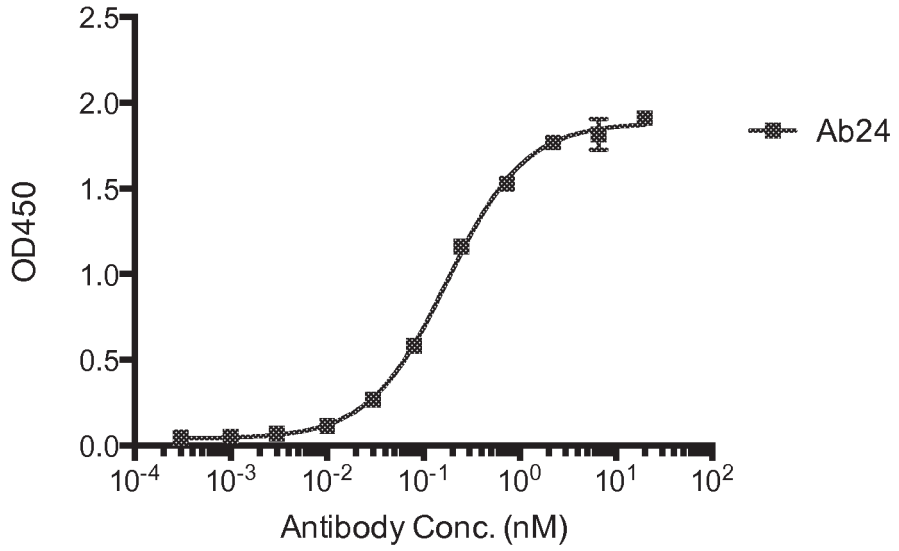
	EC50 (pM)
Ab22	49.23

Figure 24. Recognition of human PCSK9 by PCSK9 antibody Ab22.



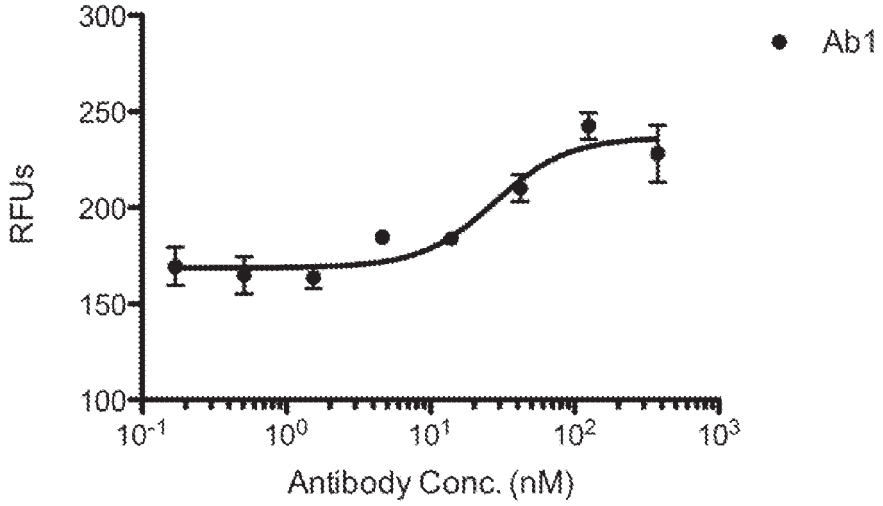
	EC50 (pM)
Ab23	174.0

Figure 25. Recognition of human PCSK9 by PCSK9 antibody Ab23.



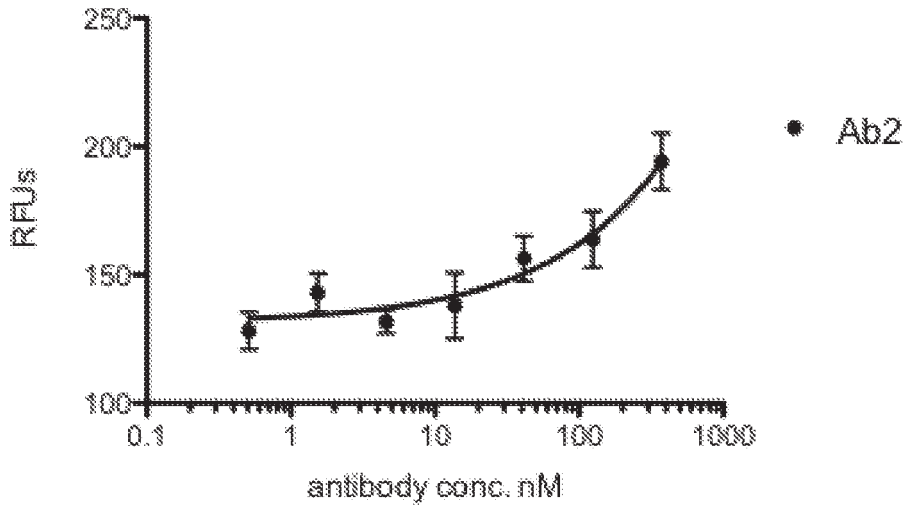
	EC50 (pM)
Ab24	177.8

Figure 26. Recognition of human PCSK9 by PCSK9 antibody Ab24.



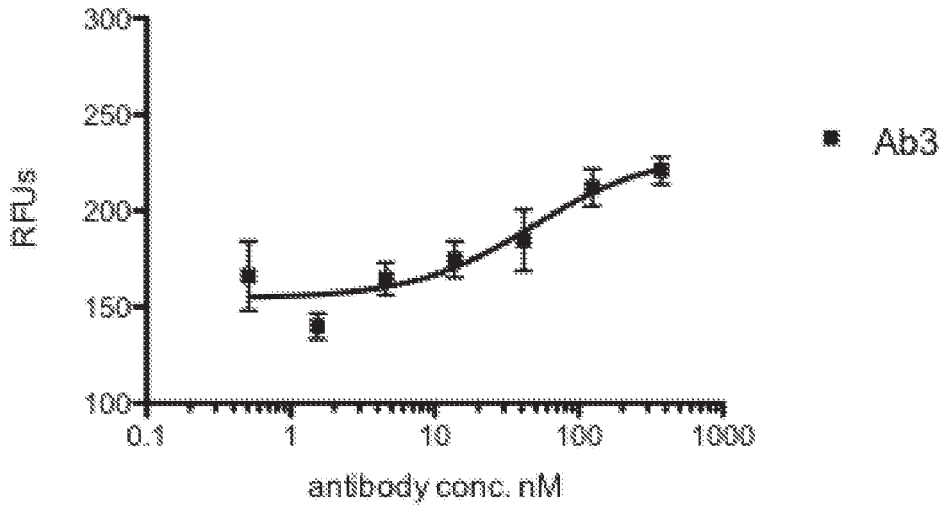
	IC50 (nM)
Ab1	28

Figure 27. LDL uptake inhibition with antibody Ab1.



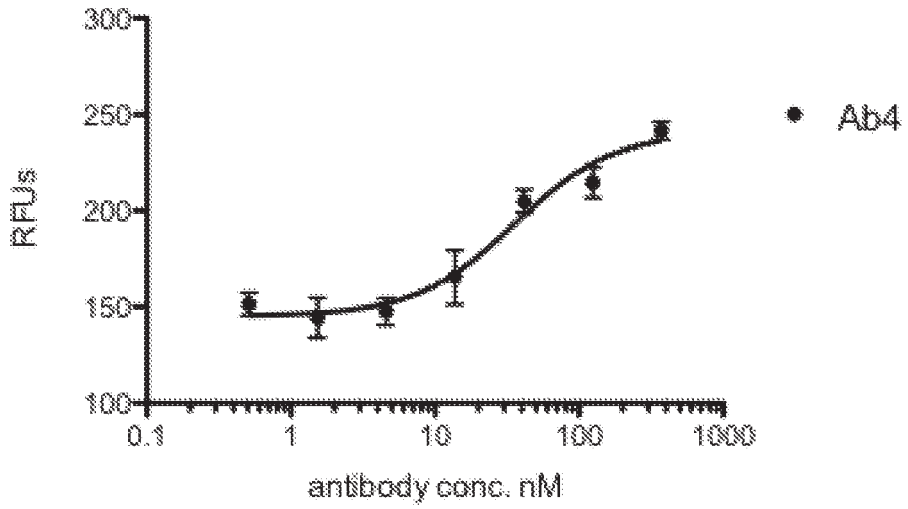
	IC50 (nM)
Ab2	45

Figure 28. LDL uptake inhibition with antibody Ab2.



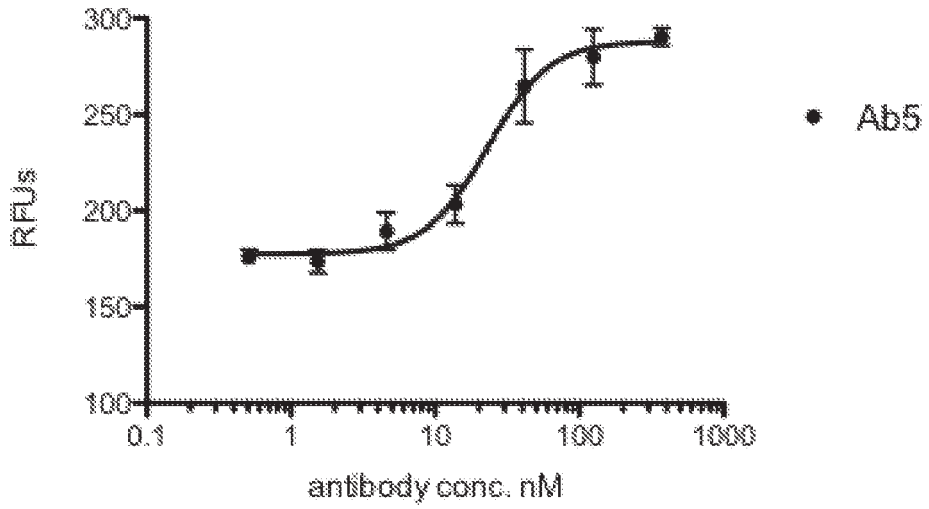
	IC50 (nM)
Ab3	48

Figure 29. LDL uptake inhibition with antibody Ab3.



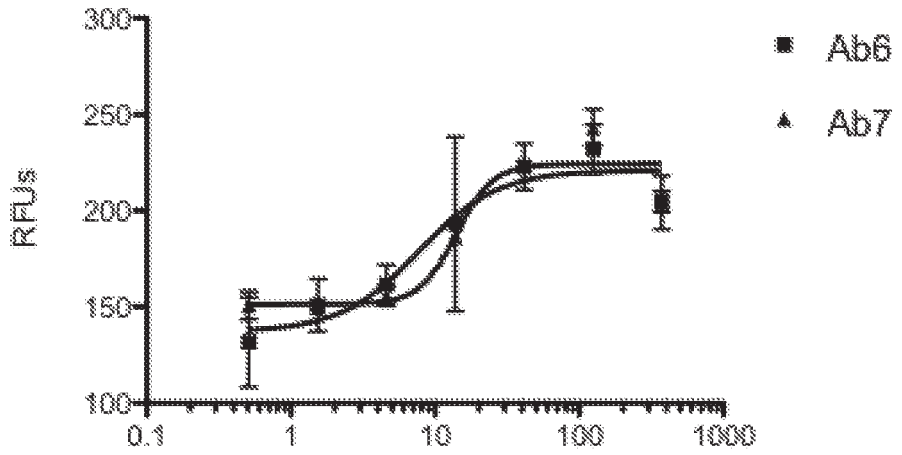
	IC50 (nM)
Ab4	34

Figure 30. LDL uptake inhibition with antibody Ab4.



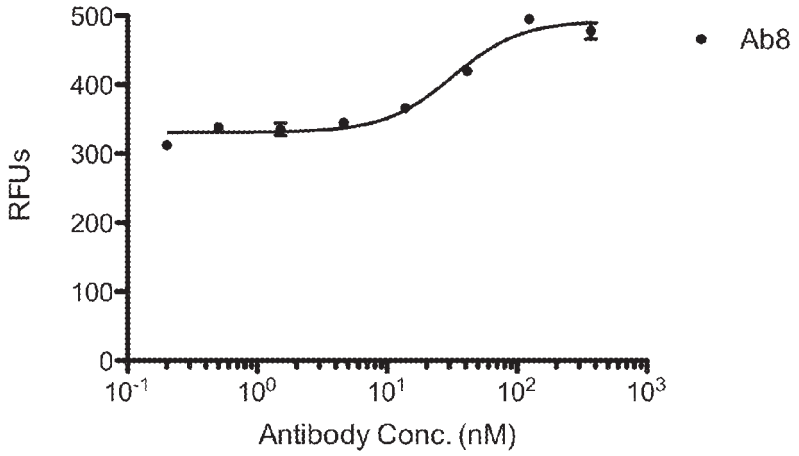
	IC50 (nM)
Ab5	22

Figure 31. LDL uptake inhibition with antibody Ab5.



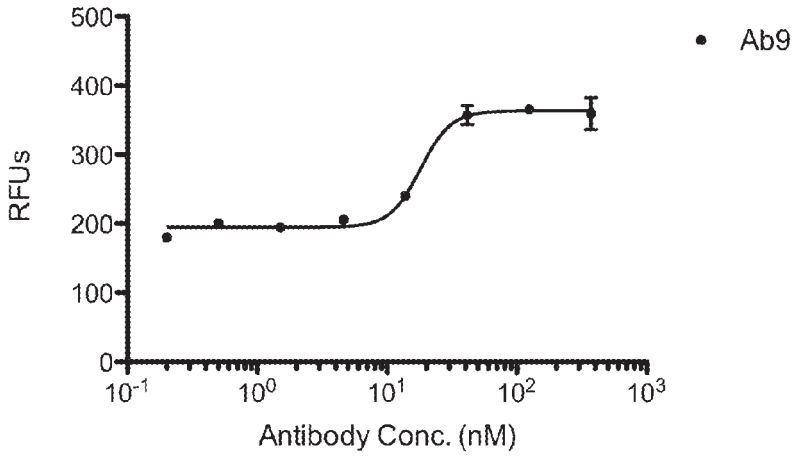
	IC50 (nM)
Ab6	7
Ab7	13

Figure 32. LDL uptake inhibition with antibodies Ab6 and Ab7.



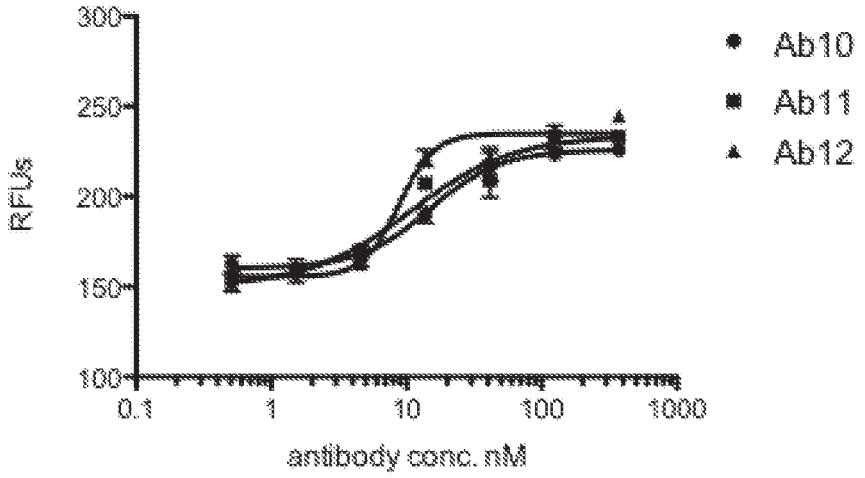
	IC50 (nM)
Ab 8	32

Figure 33. LDL uptake inhibition with antibody Ab8.



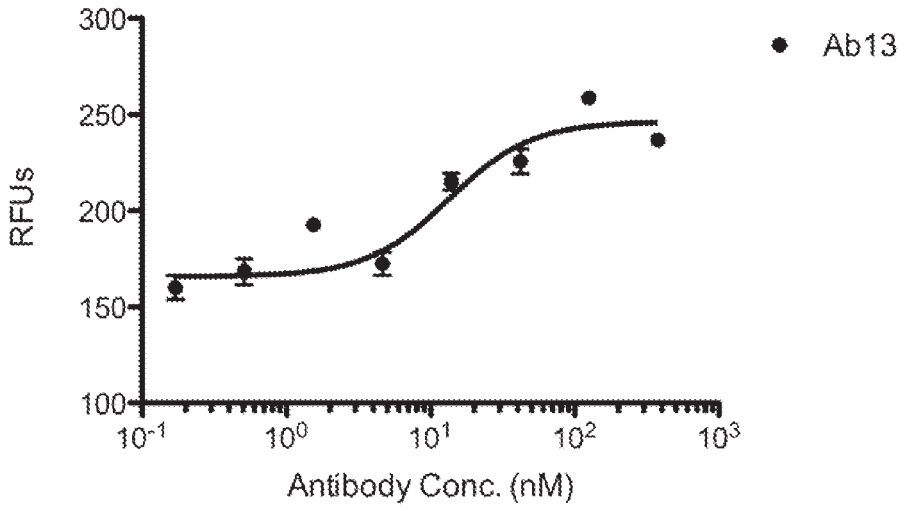
	IC50 (nM)
Ab 9	18

Figure 34. LDL uptake inhibition with antibody Ab9.



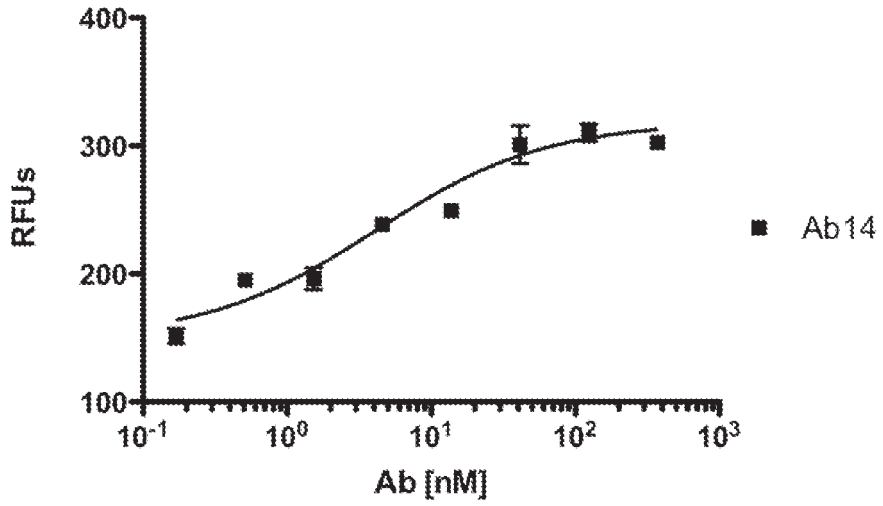
	IC50 (nM)
Ab10	15
Ab11	10
Ab12	9

Figure 35. LDL uptake inhibition with antibodies Ab10, Ab11, and Ab12.



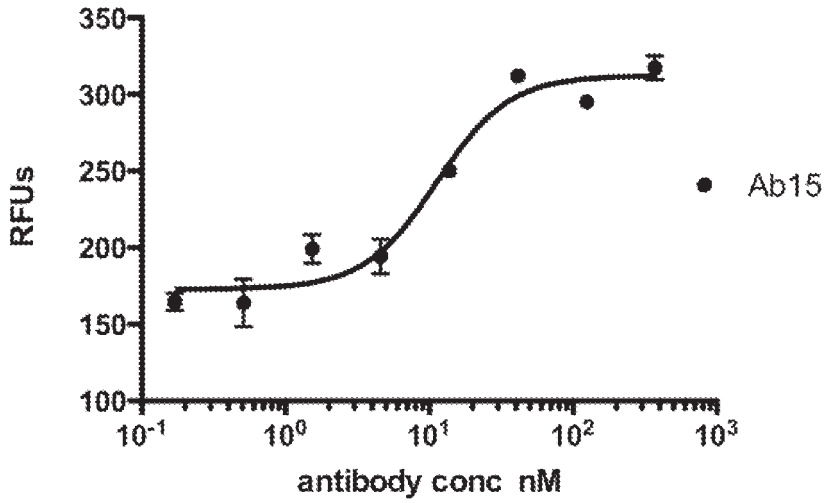
	IC50 (nM)
Ab13	13

Figure 36. LDL uptake inhibition with antibody Ab13.



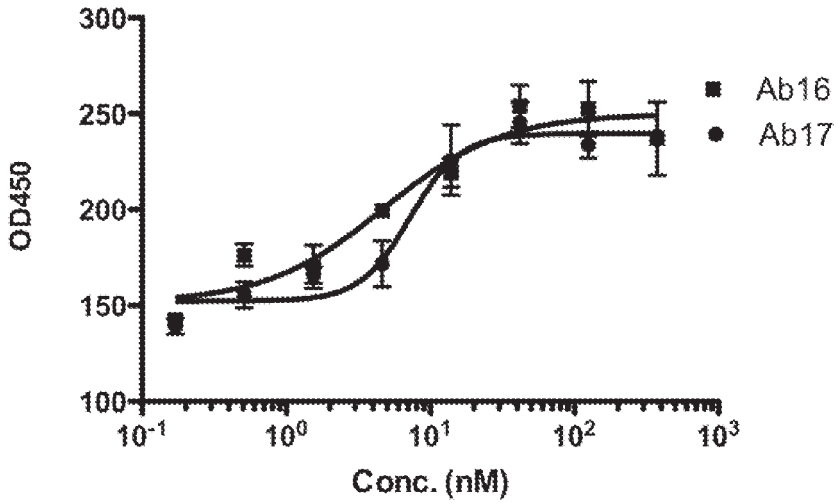
	IC50 (nM)
Ab14	4.1

Figure 37. LDL uptake inhibition with antibody Ab14.



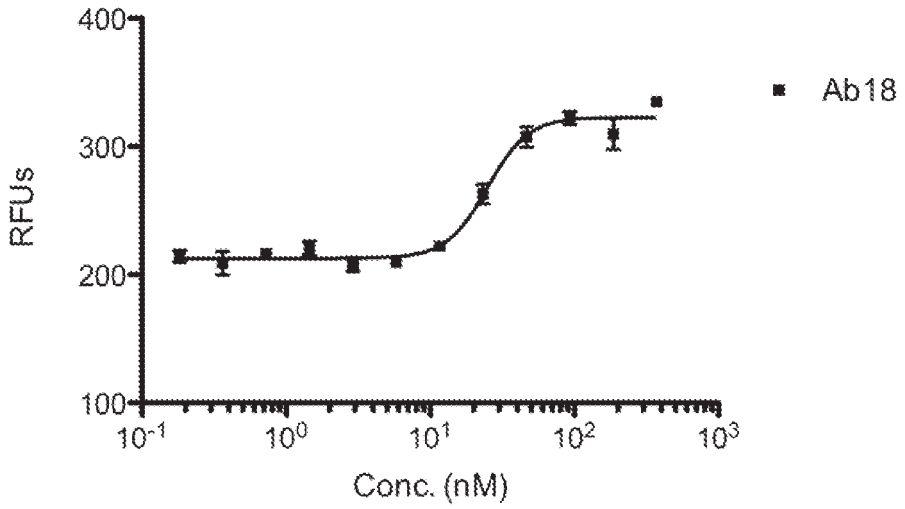
	IC50 (nM)
Ab15	7.5

Figure 38. LDL uptake inhibition with antibody Ab15.



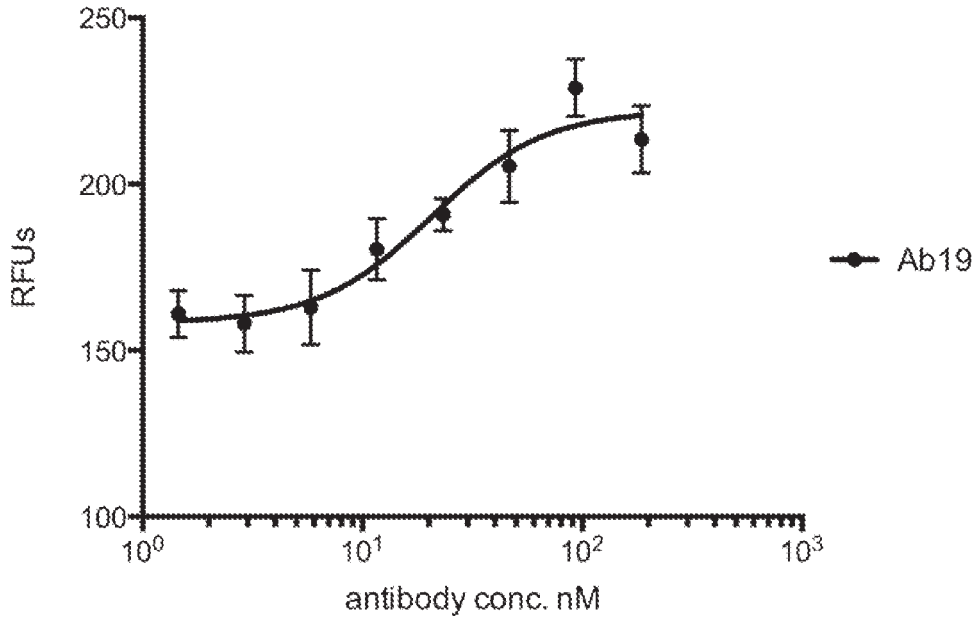
	IC50 (nM)
Ab16	4.8
Ab17	7.2

Figure 39. LDL uptake inhibition with antibodies Ab16 and Ab17.



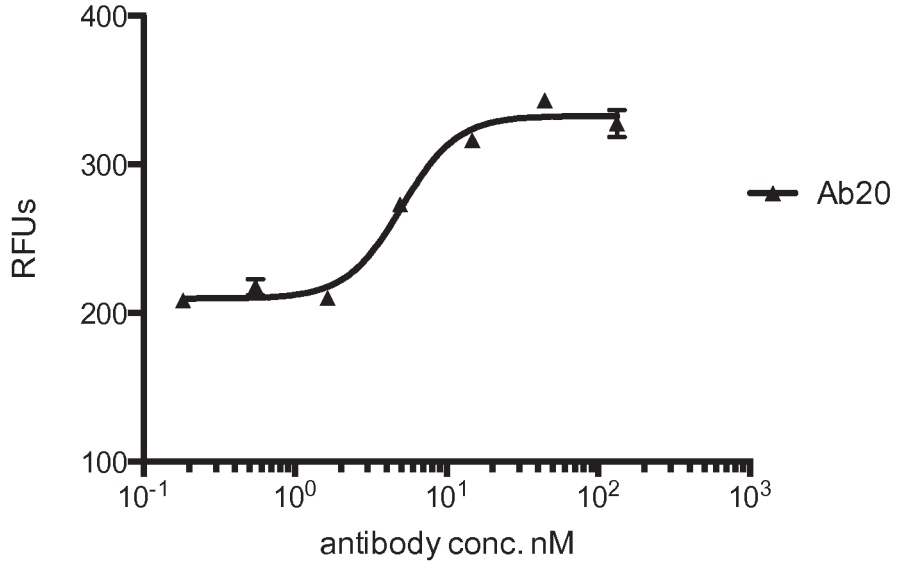
	IC50 (nM)
Ab18	24.9

Figure 40. LDL uptake inhibition with antibody Ab18.



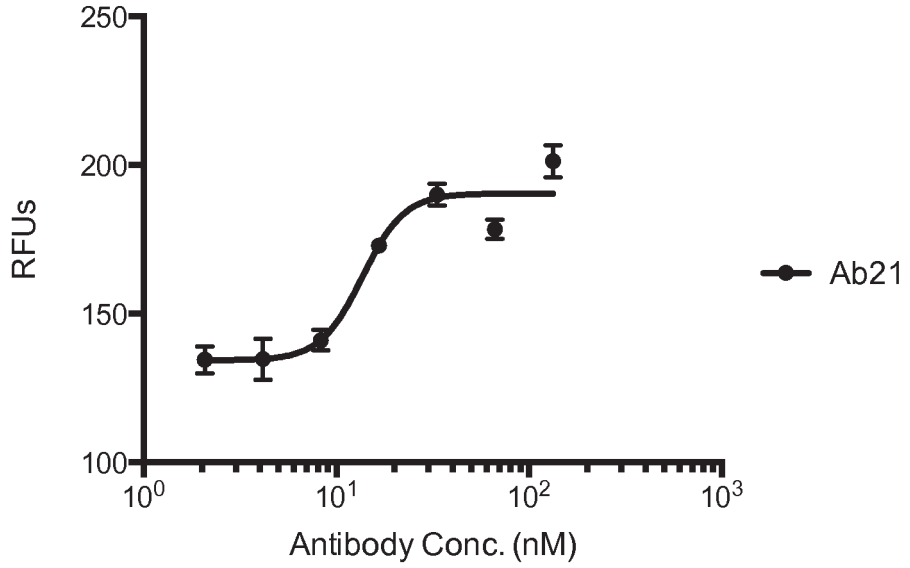
IC50 20.6nM

Figure 41. LDL uptake inhibition with antibody Ab19.



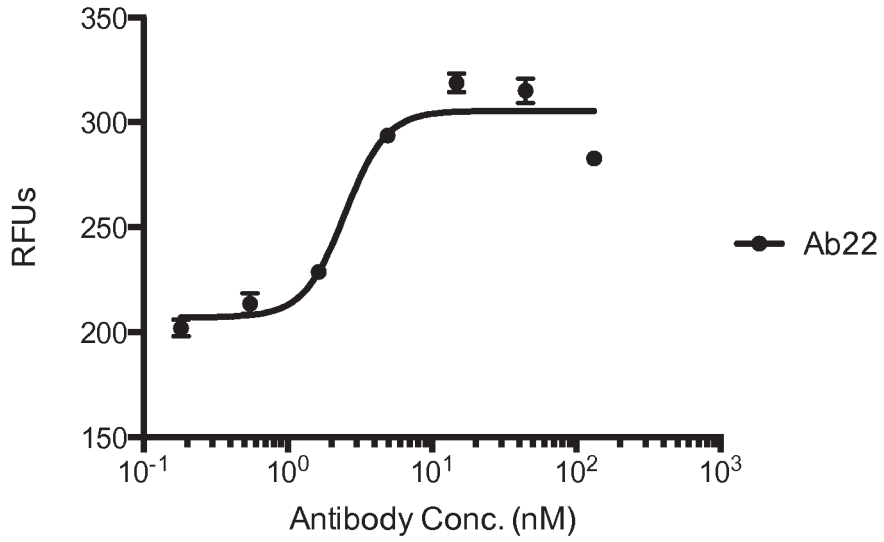
IC50 5.0nM

Figure 42. LDL uptake inhibition with antibody Ab20.



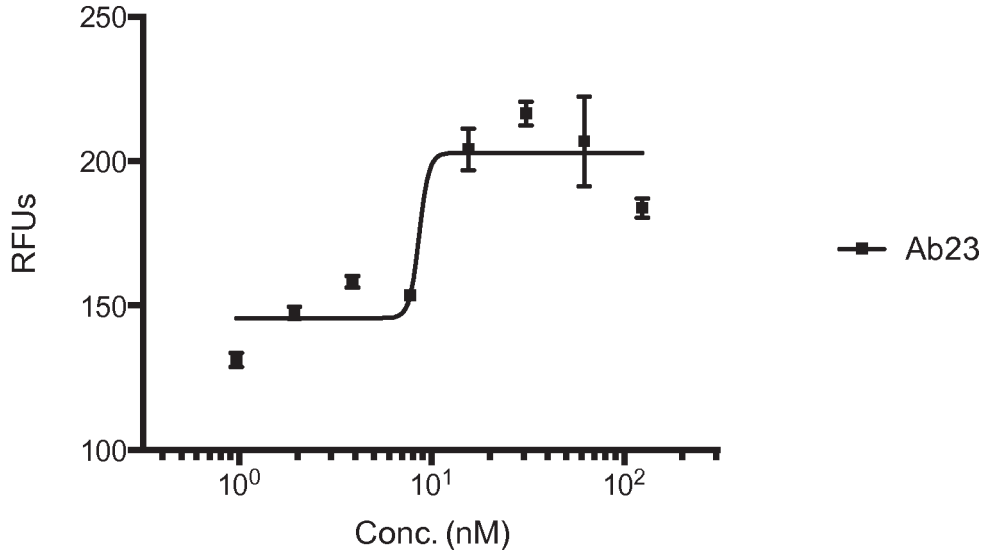
	IC50 (nM)
Ab21	13.6

Figure 43. LDL uptake inhibition with antibody Ab21.



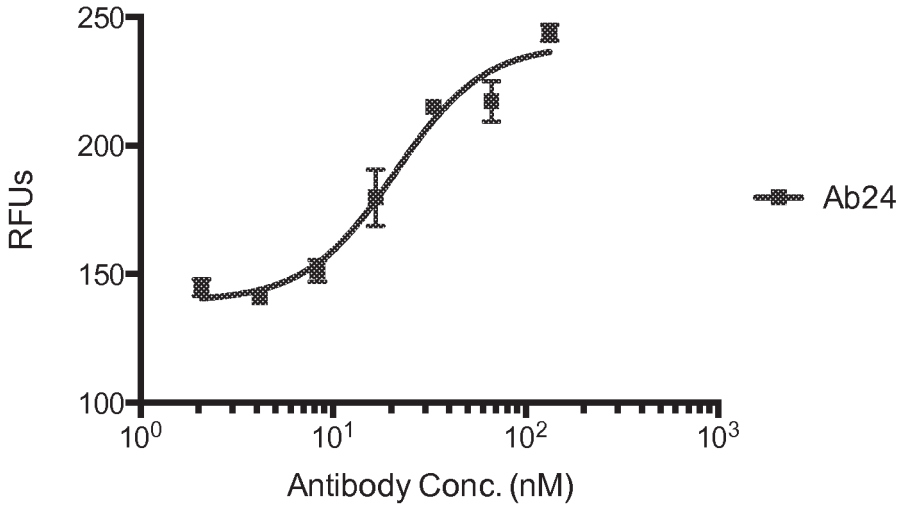
	IC50 (nM)
Ab22	24.9

Figure 44. LDL uptake inhibition with antibody Ab22.



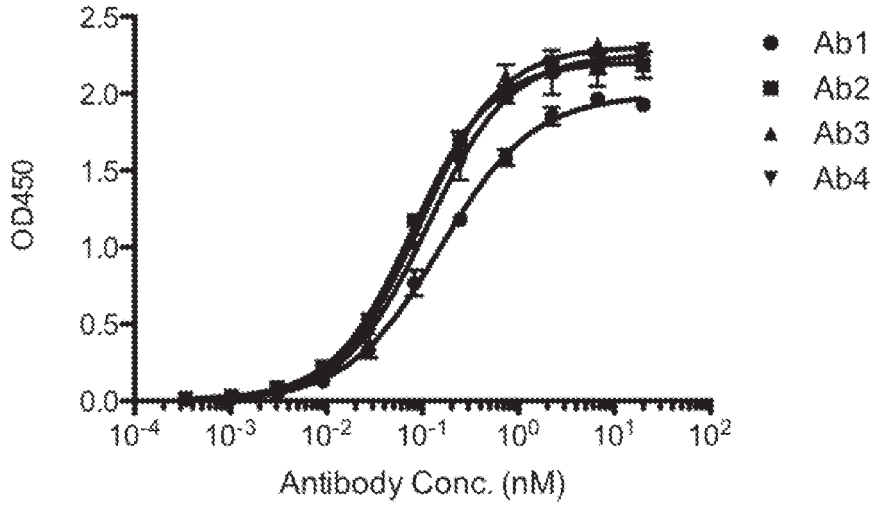
	IC50 (nM)
Ab23	8.62

Figure 45. LDL uptake inhibition with antibody Ab23.



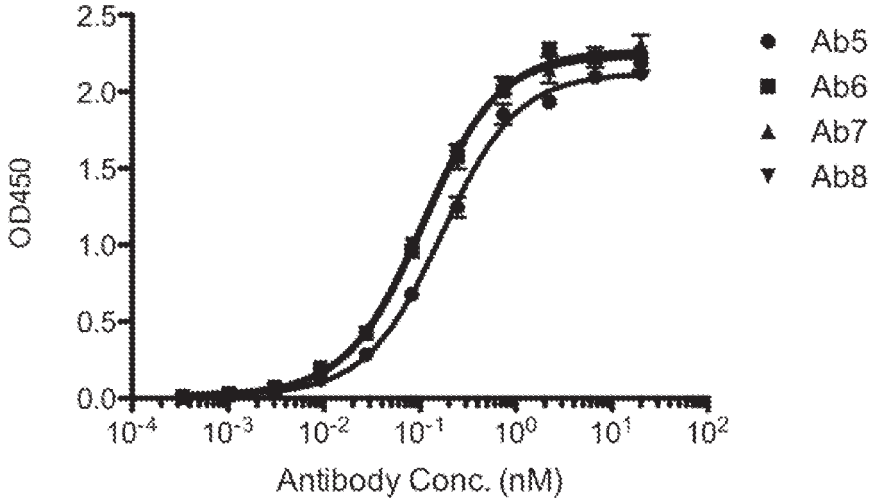
	IC50 (nM)
Ab24	20.9

Figure 46. LDL uptake inhibition with antibody Ab24.



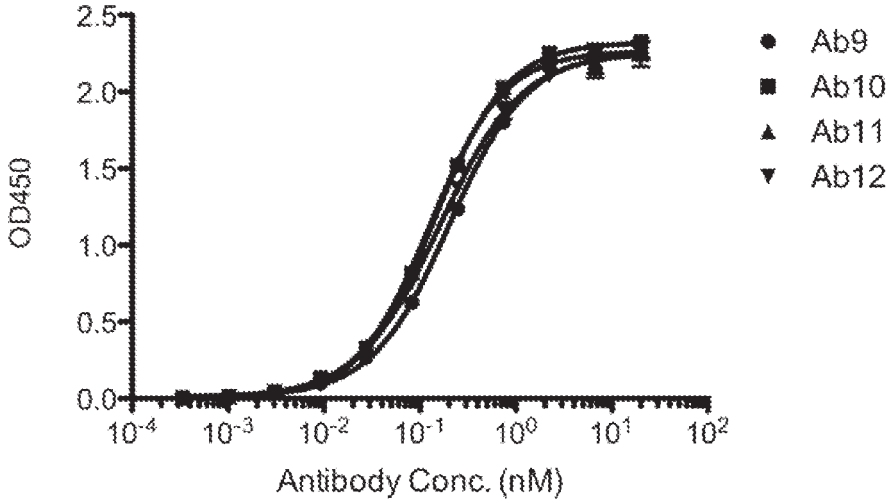
	EC50 (pM)
Ab1	152
Ab2	78
Ab3	95
Ab4	111

Figure 47. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibodies Ab1-Ab4.



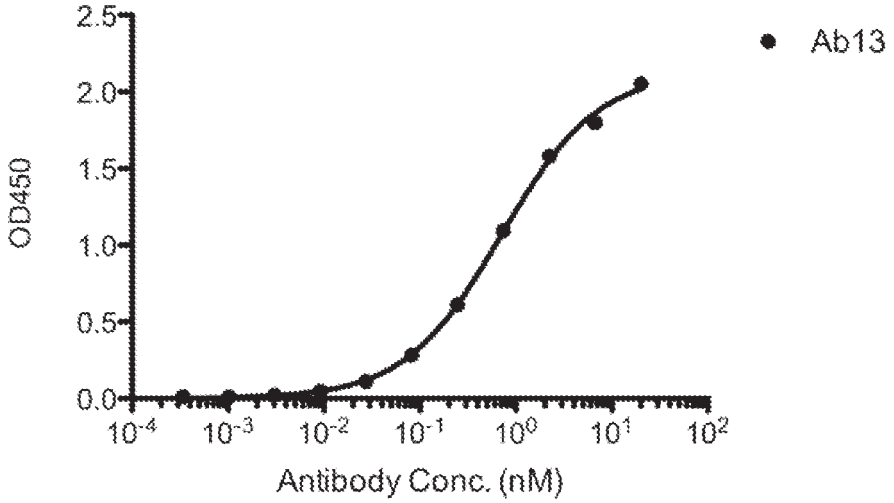
	EC50 (pM)
Ab5	169
Ab6	112
Ab7	103
Ab8	106

Figure 48. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibodies Ab5, Ab6, Ab7, and Ab8.



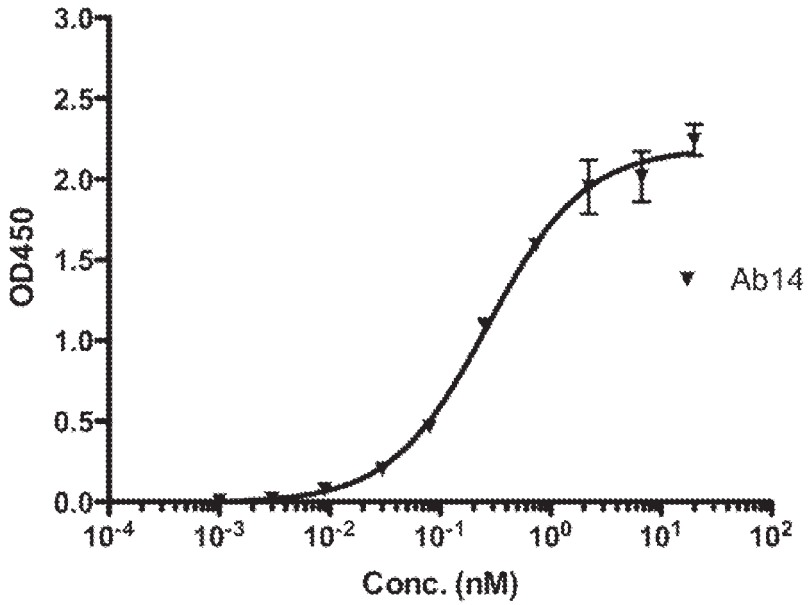
	EC50 (pM)
Ab9	203
Ab10	141
Ab11	129
Ab12	161

Figure 49. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibodies Ab9, Ab10, Ab11, and Ab12.



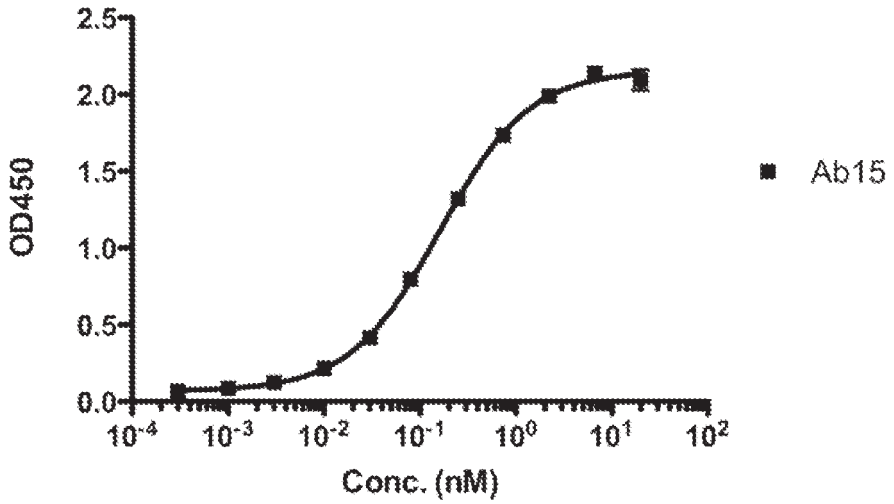
	EC50 (pM)
Ab13	702

Figure 50. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibody Ab13.



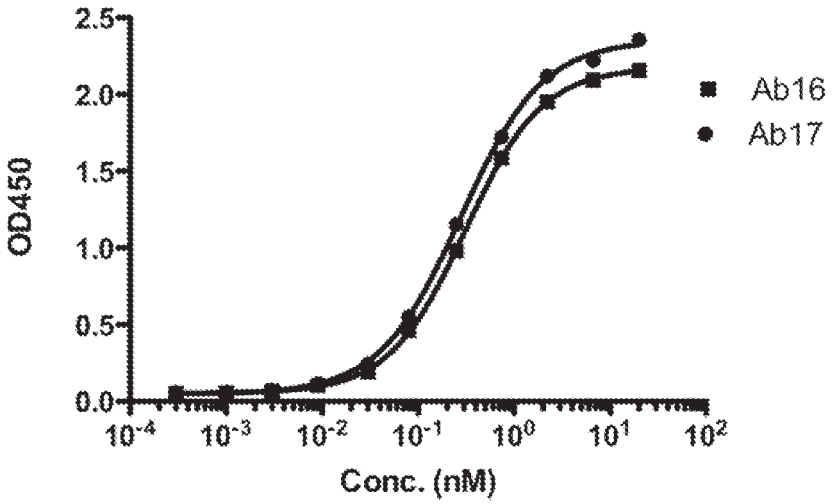
	EC50 (pM)
Ab14	269.4

Figure 51. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibody Ab14.



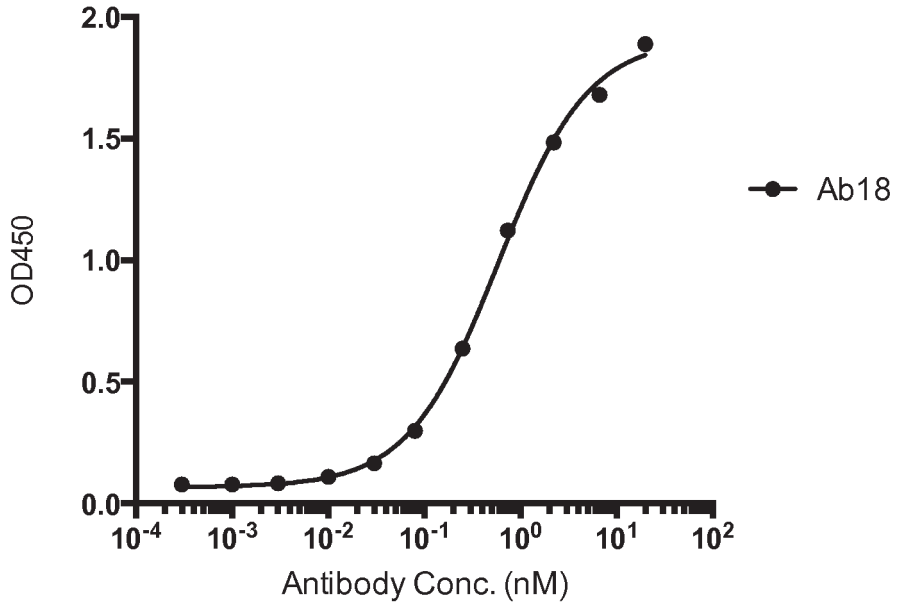
	EC50 (pM)
Ab15	161.1

Figure 52. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibody Ab15.



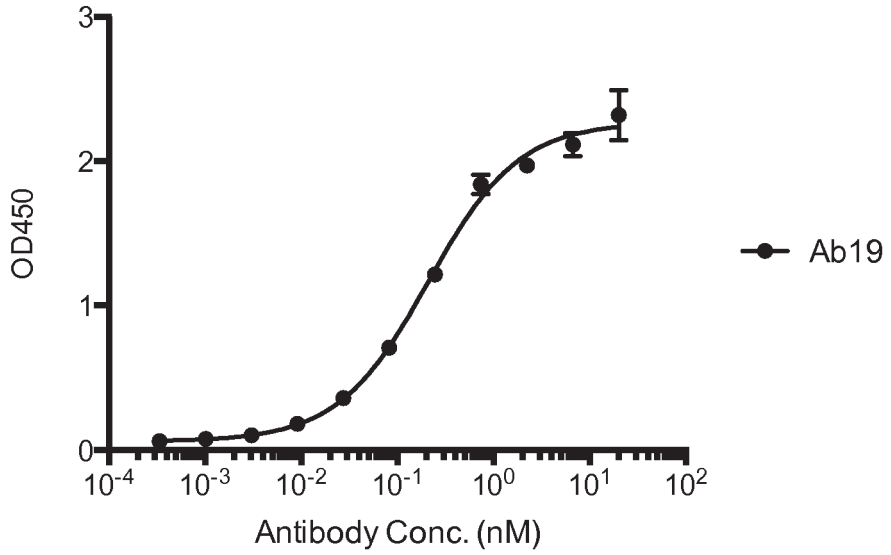
	EC50 (pM)
Ab16	310
Ab17	278

Figure 53. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibodies Ab16 and Ab17.



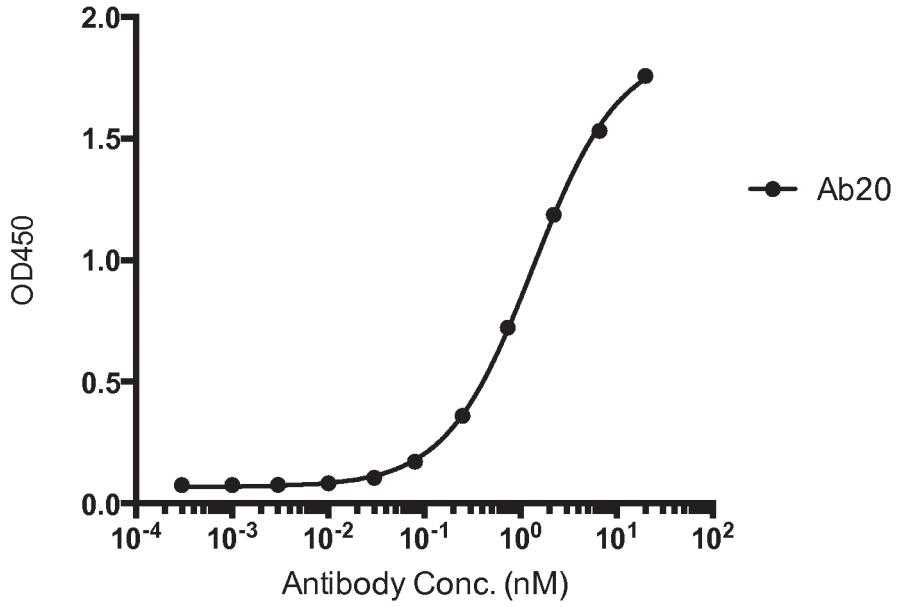
	EC50 (pM)
Ab18	135

Figure 54. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibody Ab18.



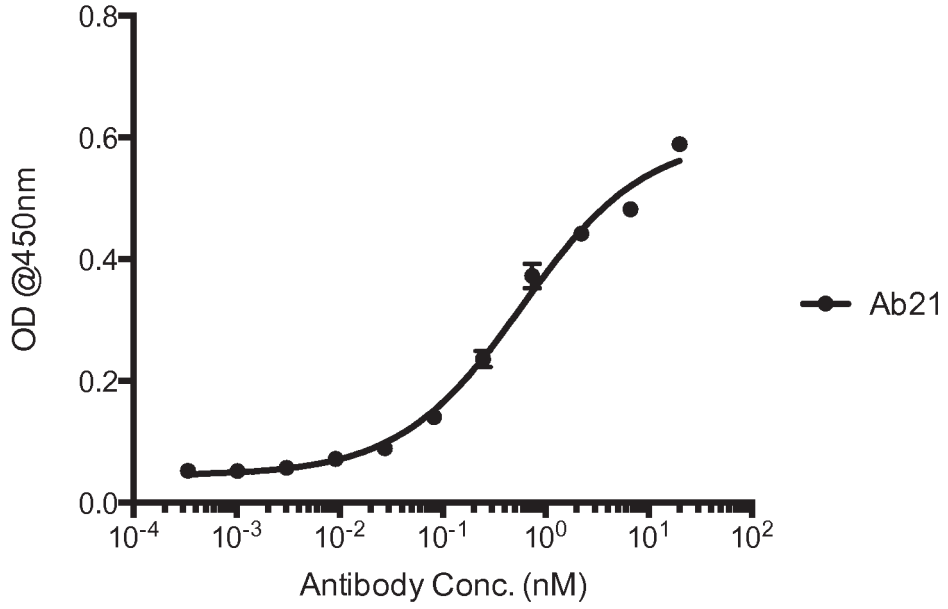
	EC50 (pM)
Ab19	201

Figure 55. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibody Ab19.



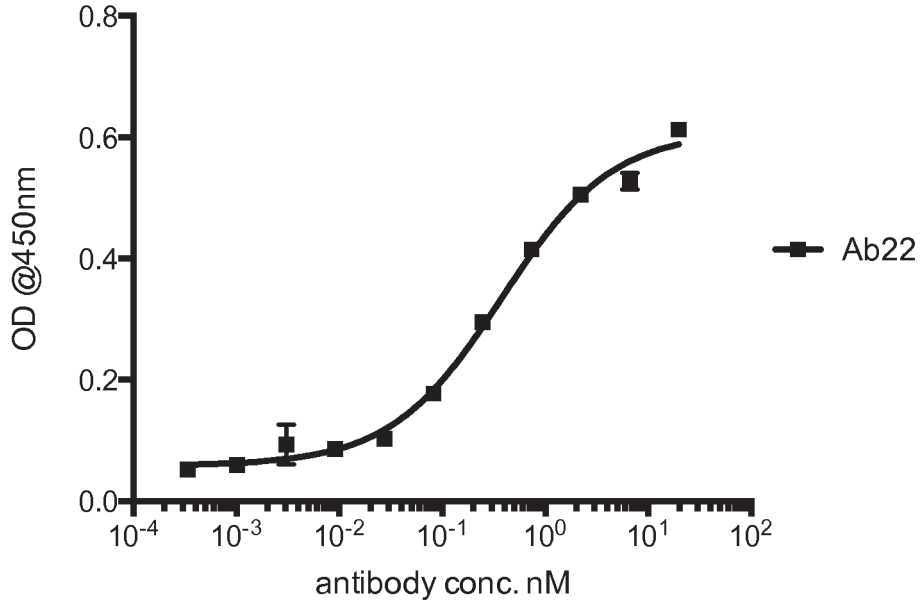
	EC50 (pM)
Ab20	587

Figure 56. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibody Ab20.



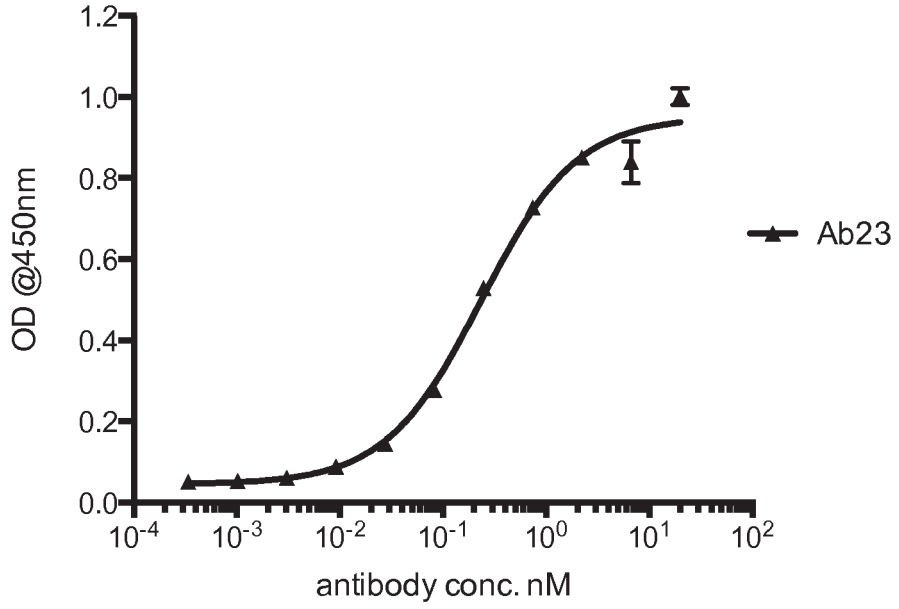
	EC50 (pM)
Ab21	590

Figure 57. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibody Ab21.



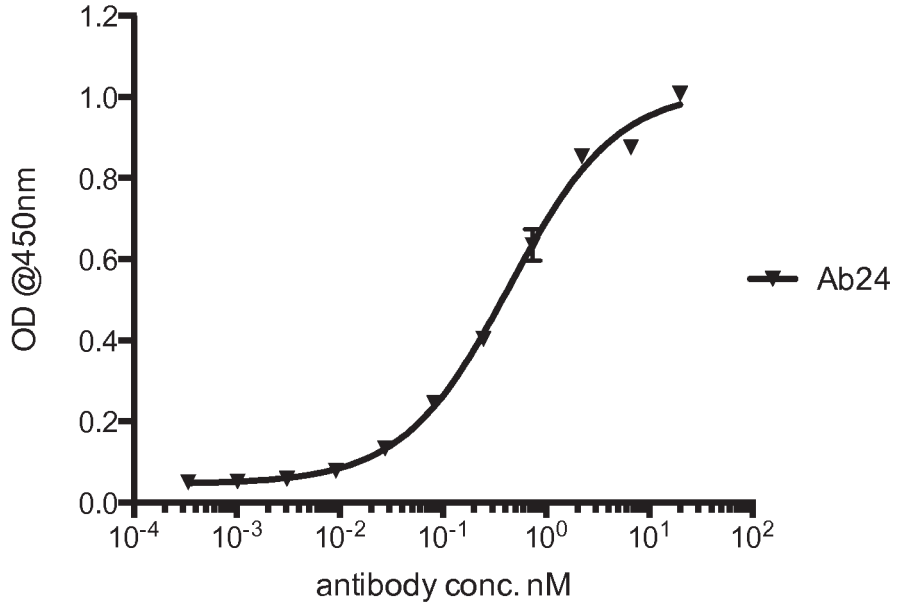
	EC50 (pM)
Ab22	376

Figure 58. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibody Ab22.



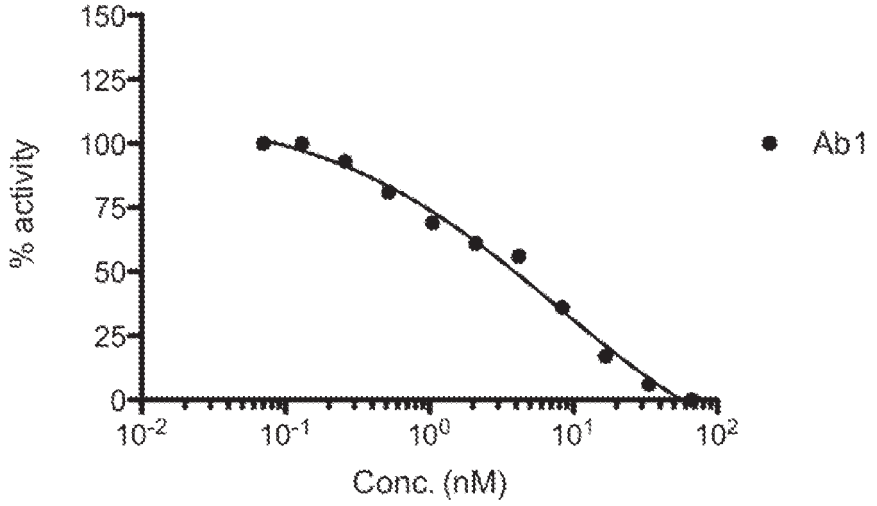
	EC50 (pM)
Ab23	376

Figure 59. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibody Ab23.



	EC50 (pM)
Ab24	376

Figure 60. Recognition of cynomolgus monkey PCSK9 by PCSK9 antibody Ab24.



IC50 7.44nM

Figure 61. Inhibition of PCSK9 interaction with LDLR by antibody Ab1.

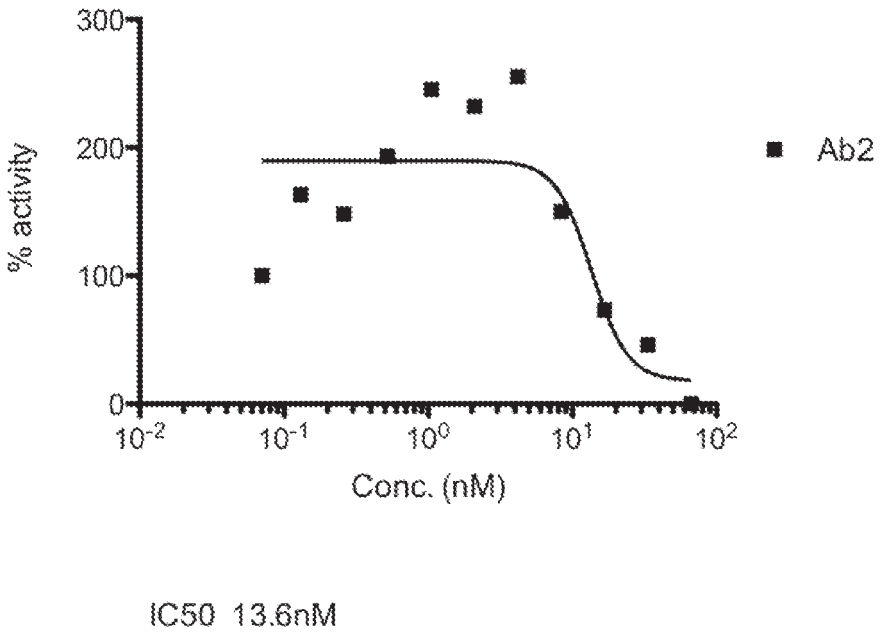


Figure 62. Inhibition of PCSK9 interaction with LDLR by antibody Ab2.

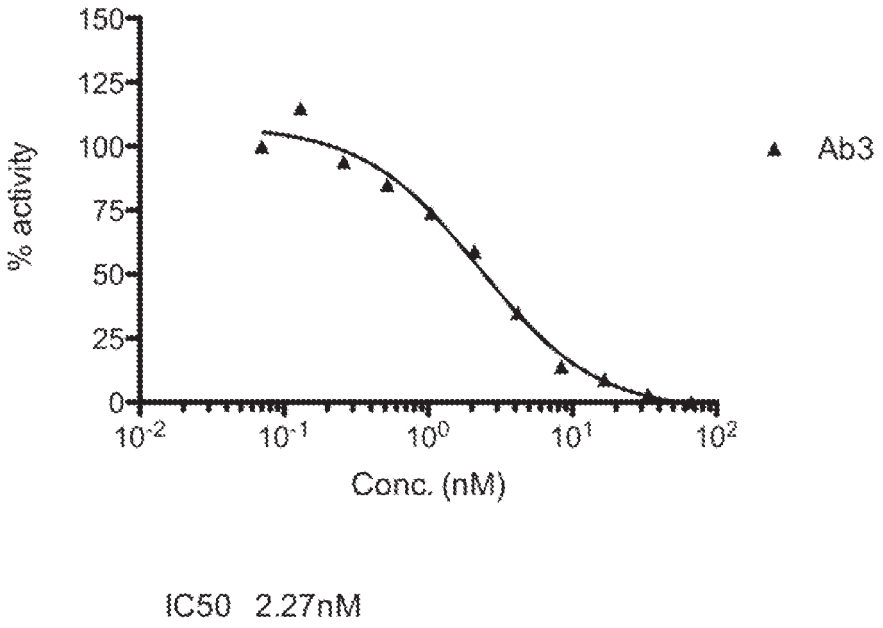


Figure 63. Inhibition of PCSK9 interaction with LDLR by antibody Ab3.

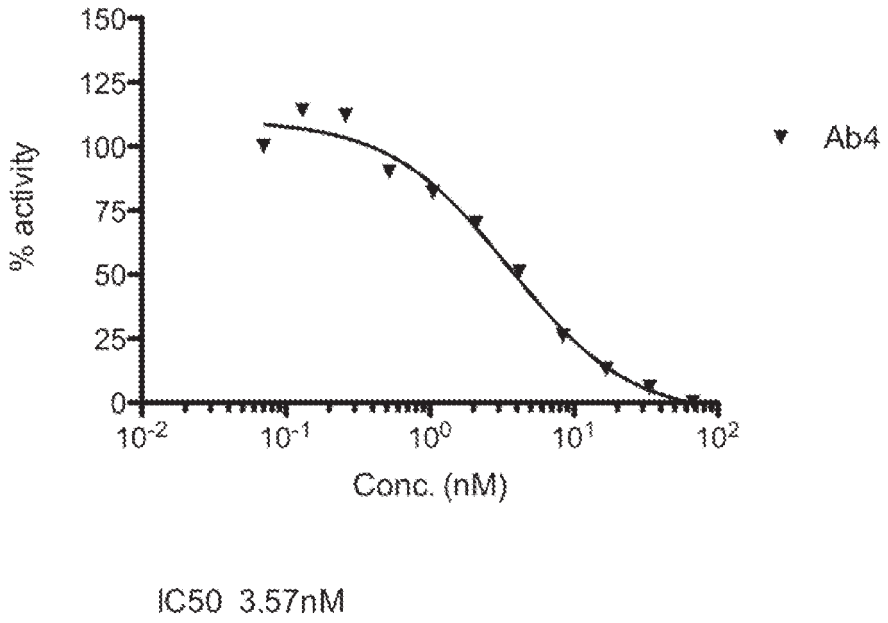


Figure 64. Inhibition of PCSK9 interaction with LDLR by antibody Ab4.

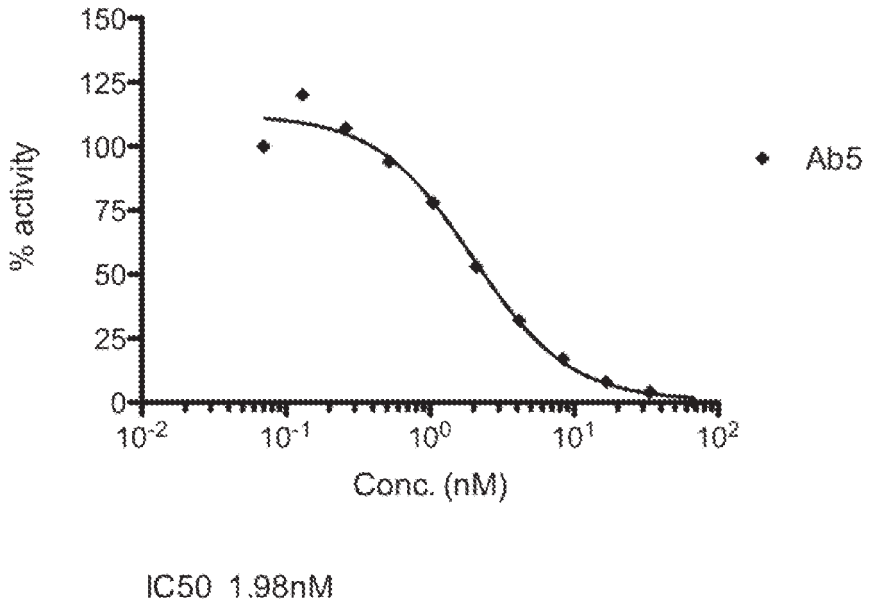


Figure 65. Inhibition of PCSK9 interaction with LDLR by antibody Ab5.

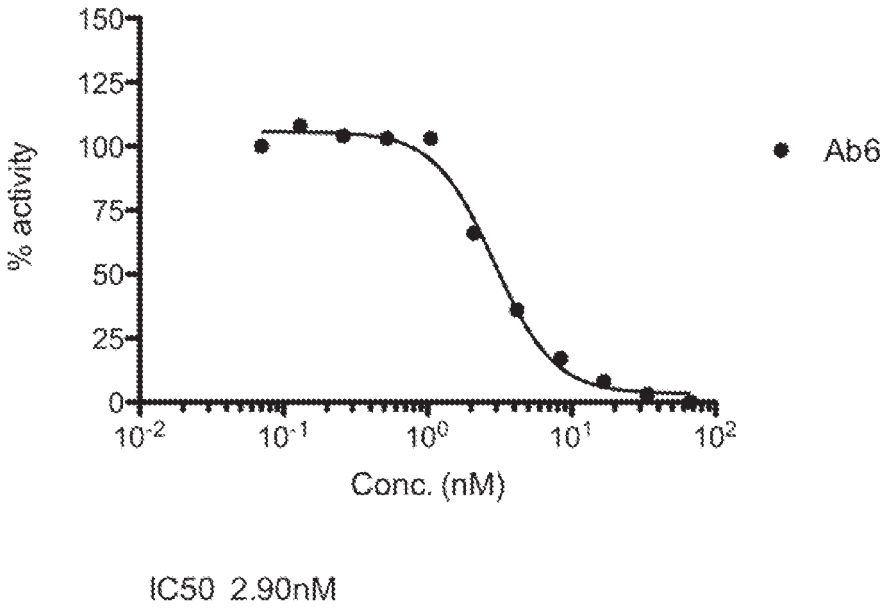


Figure 66. Inhibition of PCSK9 interaction with LDLR by antibody Ab6.

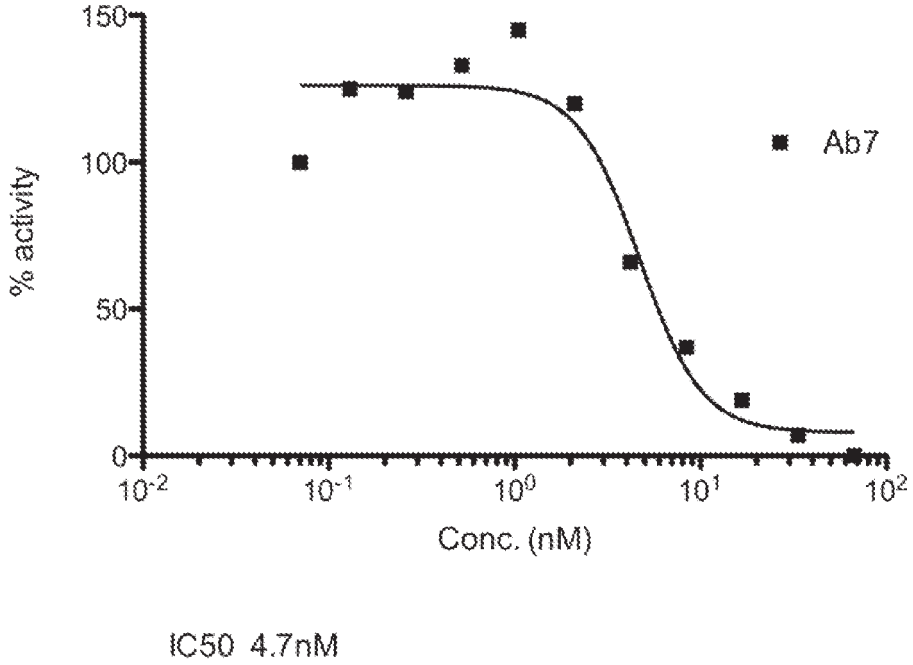


Figure 67. Inhibition of PCSK9 interaction with LDLR by antibody Ab7.

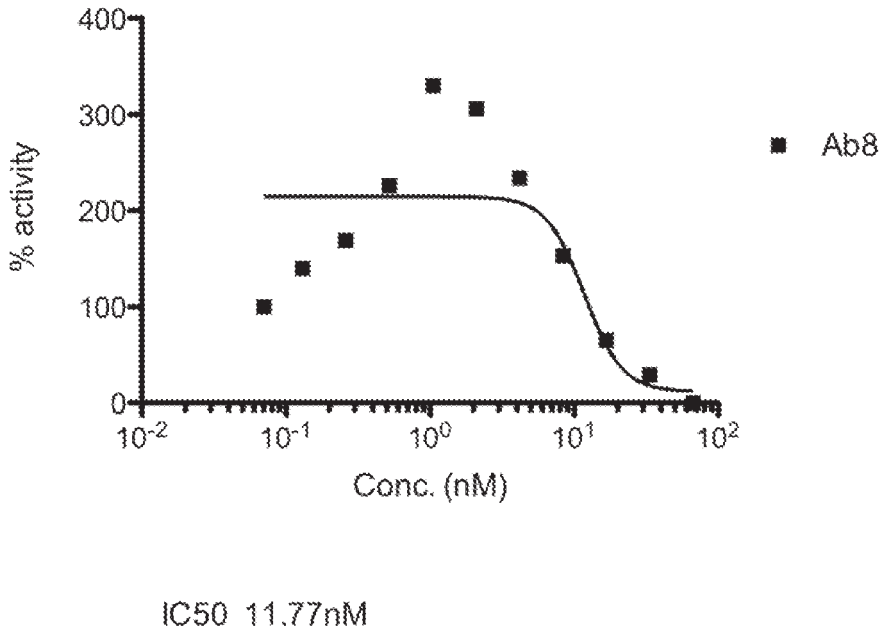


Figure 68. Inhibition of PCSK9 interaction with LDLR by antibody Ab8.

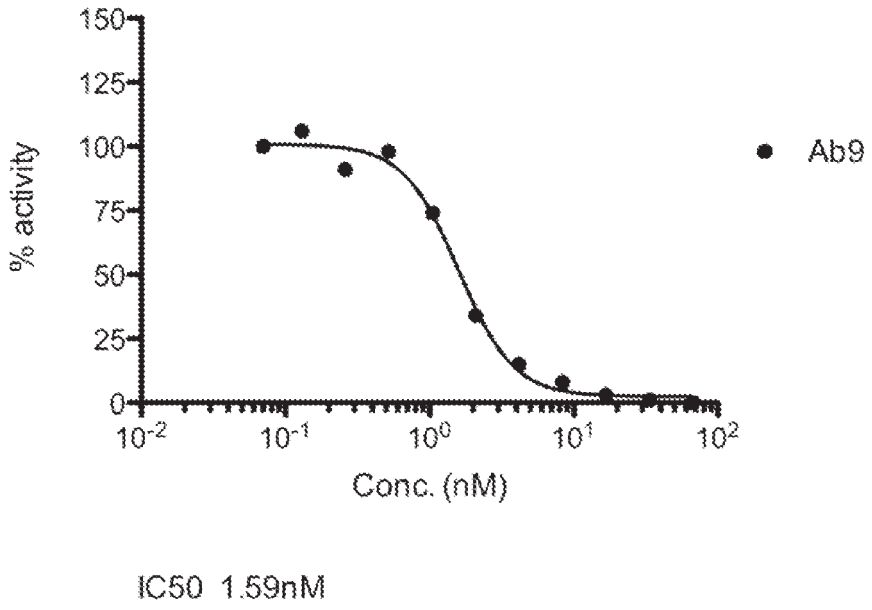


Figure 69. Inhibition of PCSK9 interaction with LDLR by antibody Ab9.

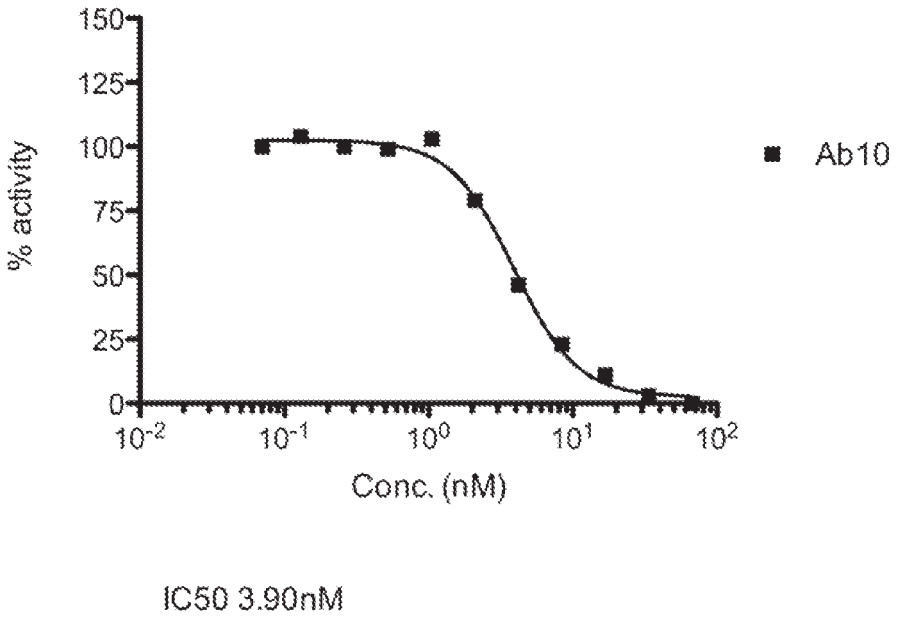


Figure 70. Inhibition of PCSK9 interaction with LDLR by antibody Ab10.

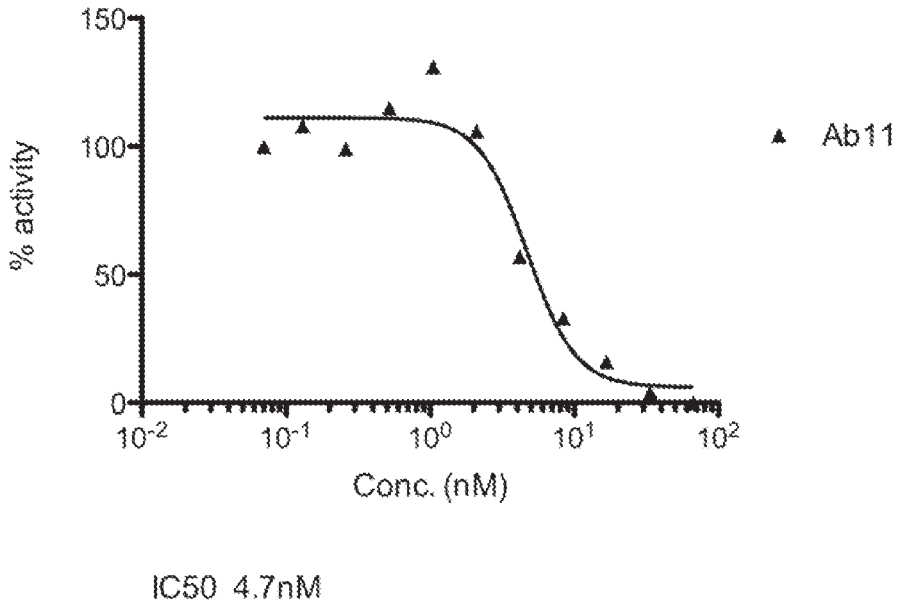


Figure 71. Inhibition of PCSK9 interaction with LDLR by antibody Ab11.

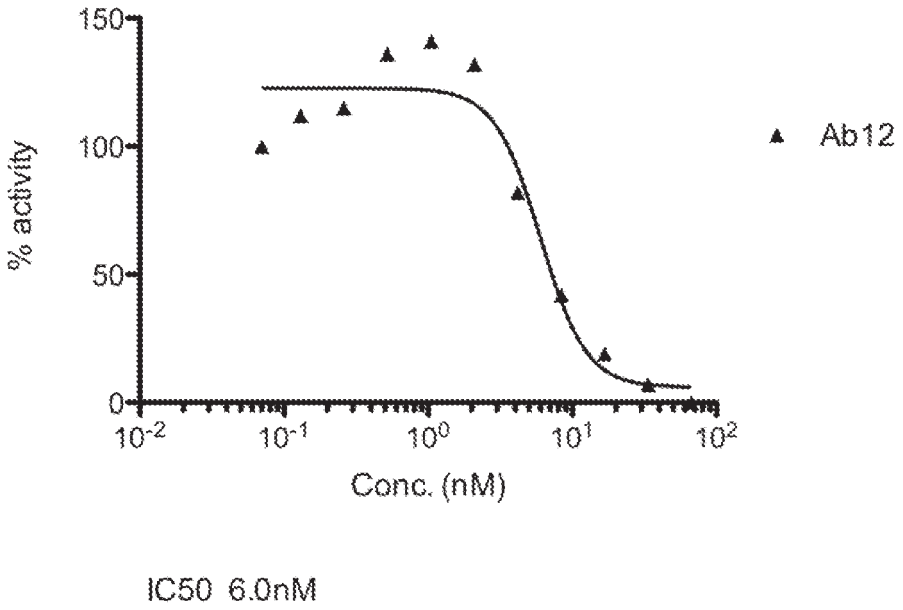


Figure 72. Inhibition of PCSK9 interaction with LDLR by antibody Ab12.

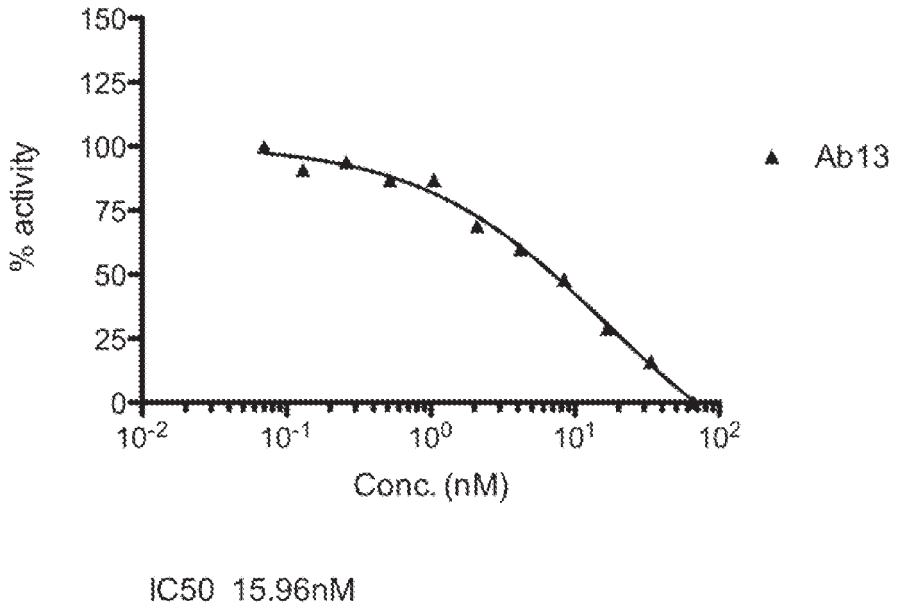


Figure 73. Inhibition of PCSK9 interaction with LDLR by antibody Ab13.

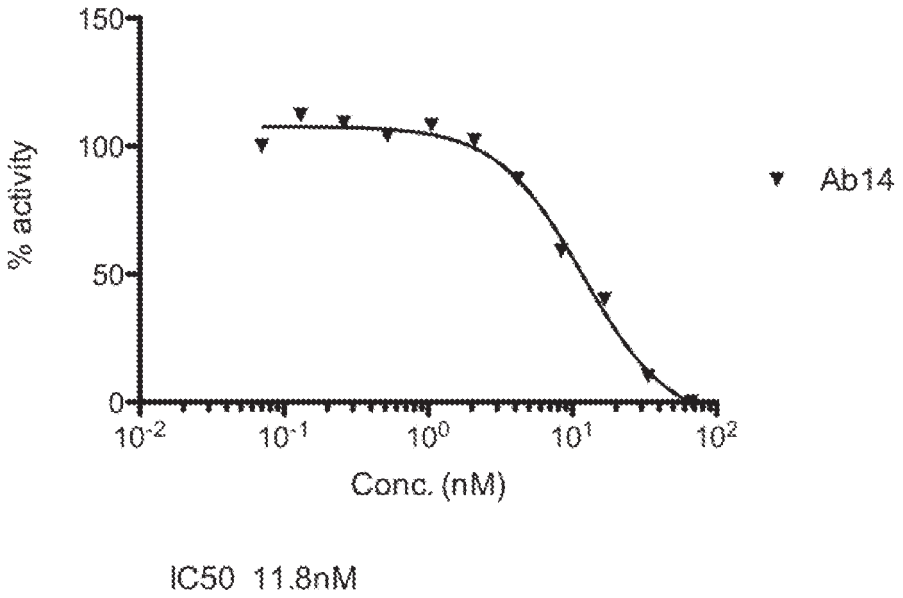


Figure 74. Inhibition of PCSK9 interaction with LDLR by antibody Ab14.

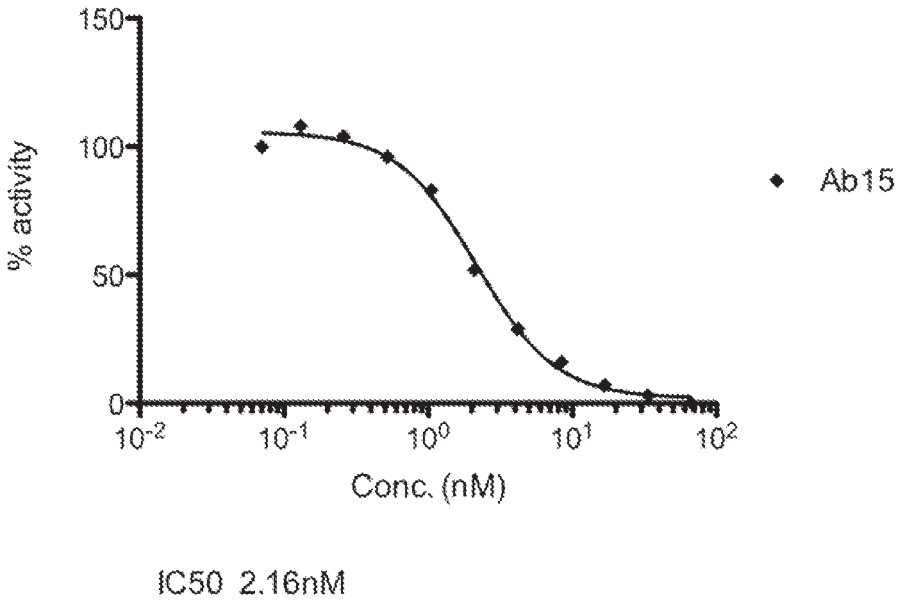


Figure 75. Inhibition of PCSK9 interaction with LDLR by antibody Ab15.

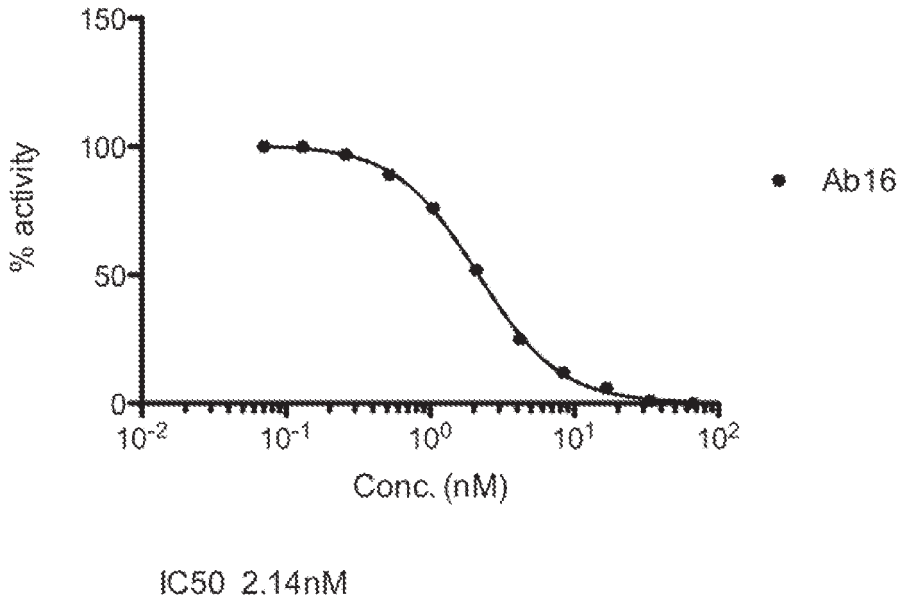


Figure 76. Inhibition of PCSK9 interaction with LDLR by antibody Ab16.

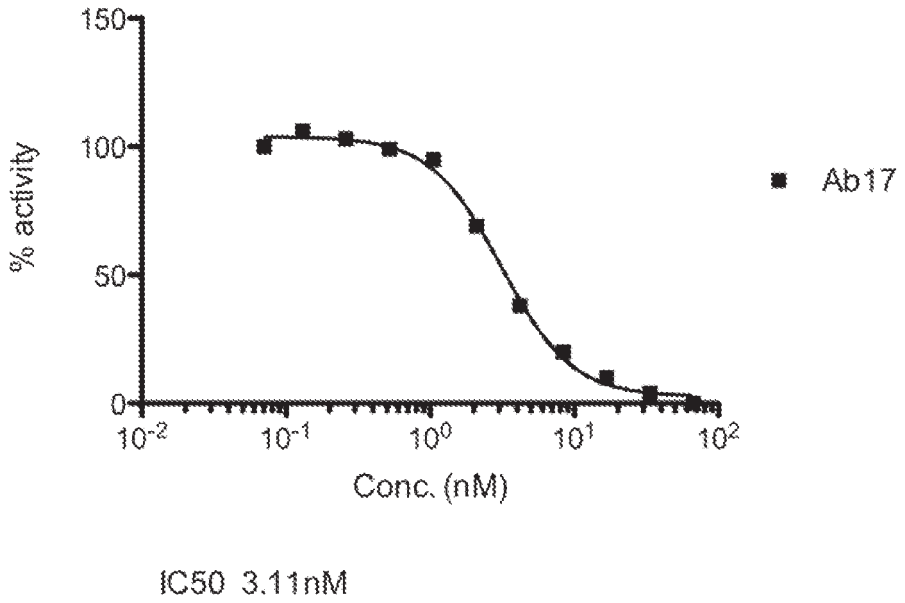
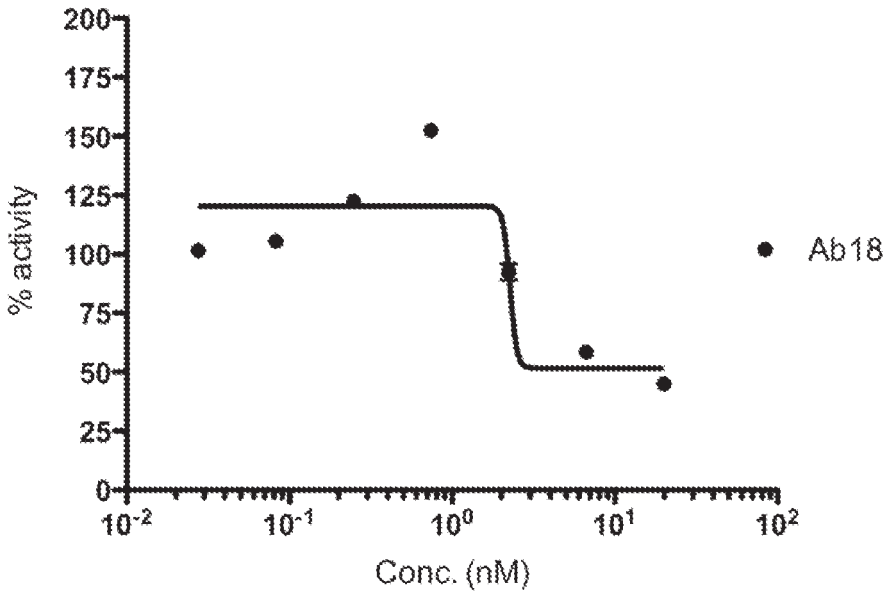
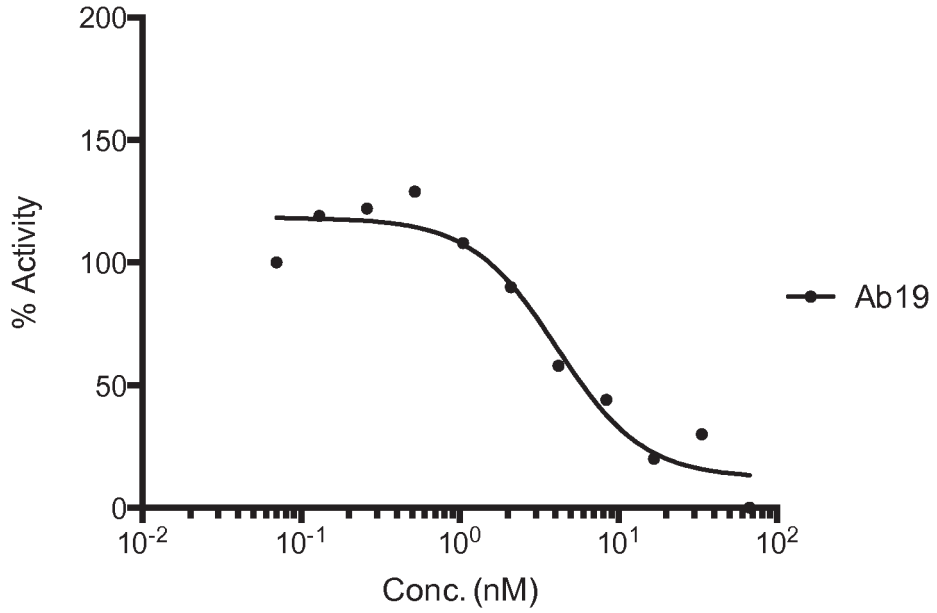


Figure 77. Inhibition of PCSK9 interaction with LDLR by antibody Ab17.



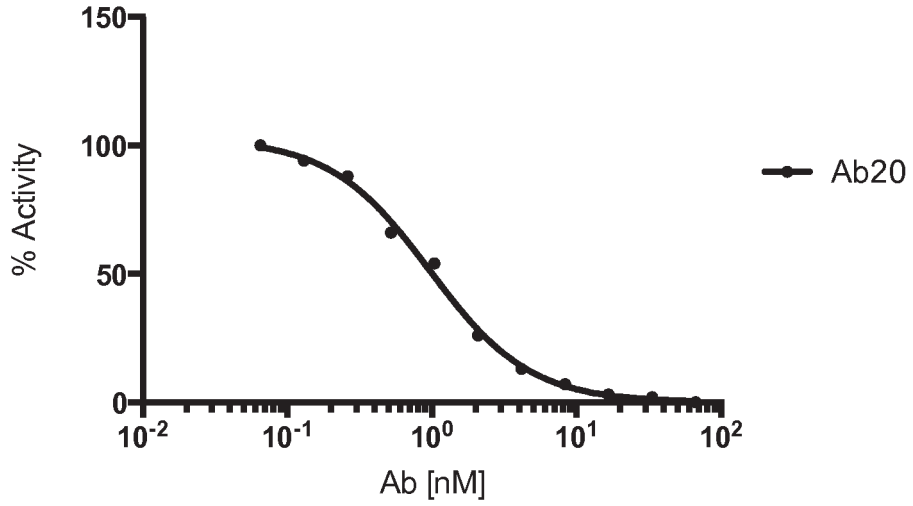
IC50 2.27nM

Figure 78. Inhibition of PCSK9 interaction with LDLR by antibody Ab18.



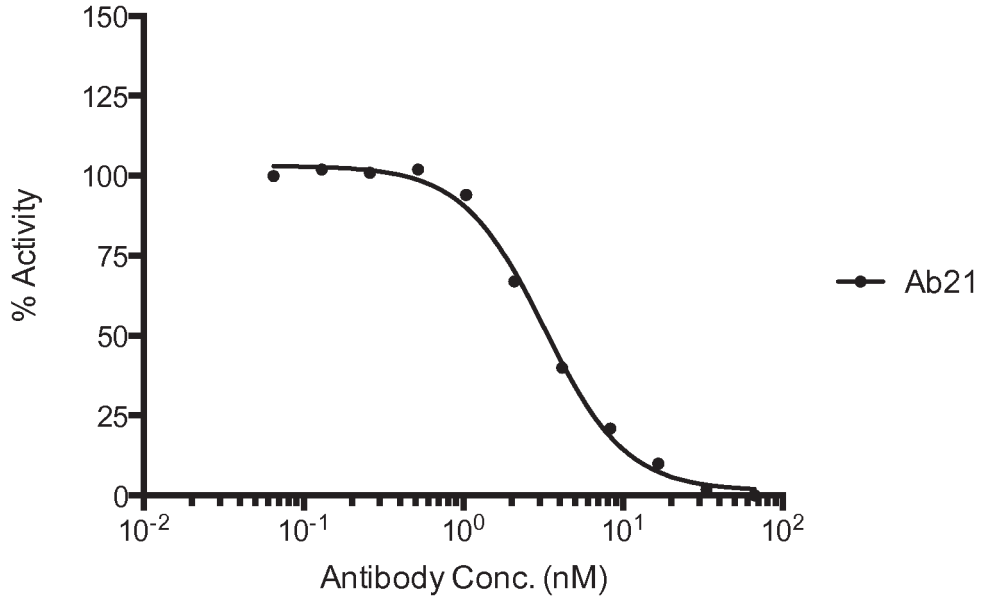
IC50 4.1nM

Figure 79. Inhibition of PCSK9 interaction with LDLR by antibody Ab19.



IC50 0.97nM

Figure 80. Inhibition of PCSK9 interaction with LDLR by antibody Ab20.



IC50 3.22nM

Figure 81. Inhibition of PCSK9 interaction with LDLR by antibody Ab21.

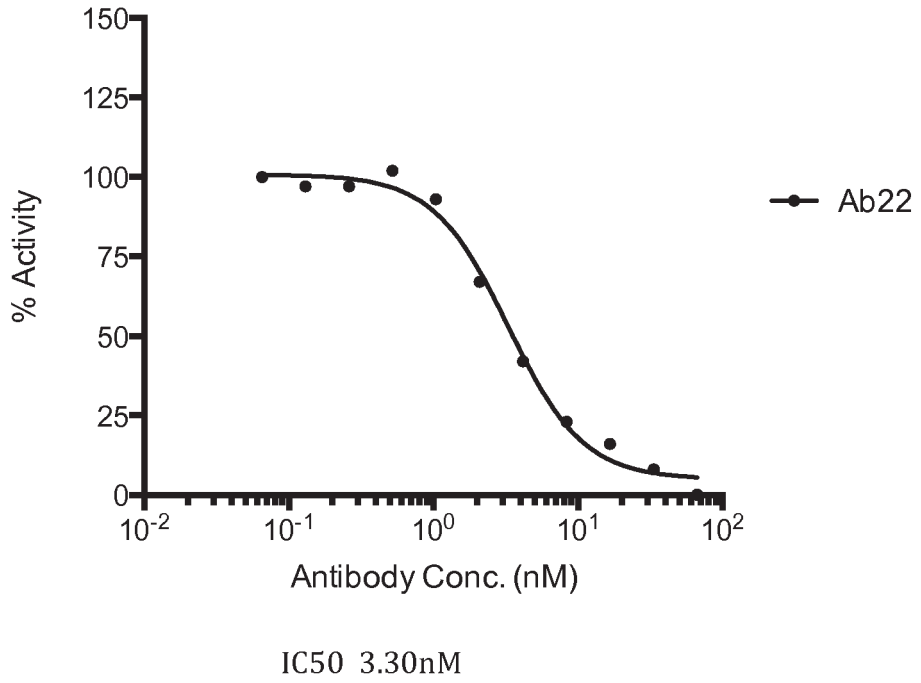
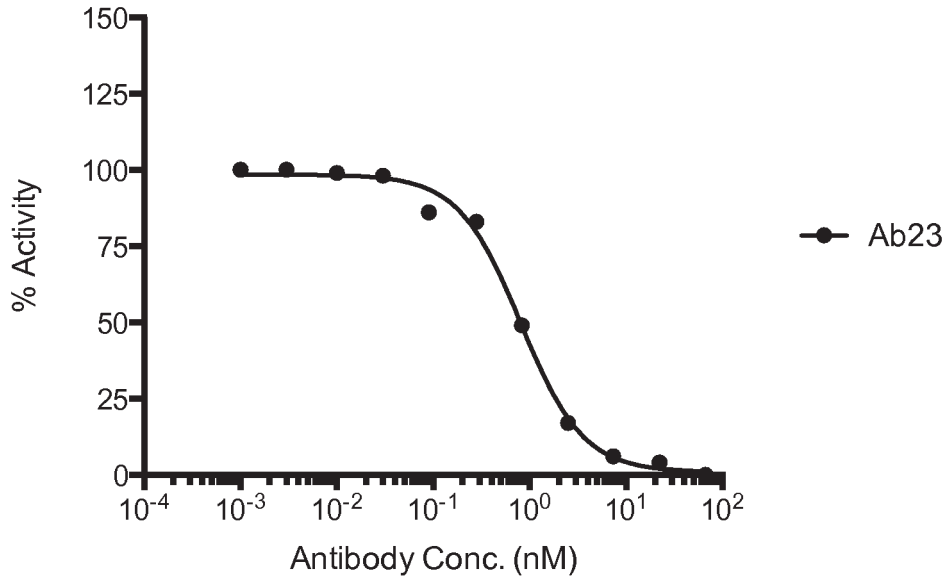
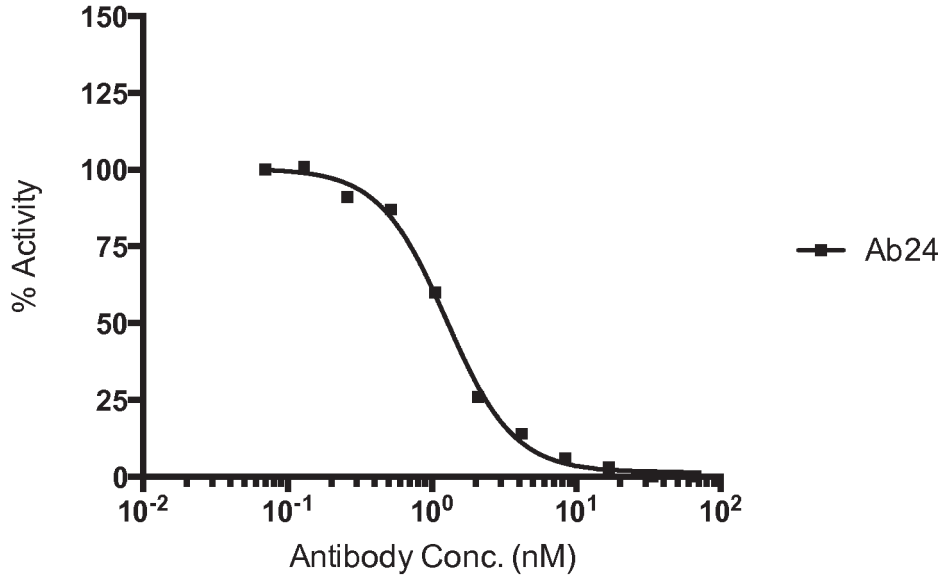


Figure 82. Inhibition of PCSK9 interaction with LDLR by antibody Ab22.



IC50 0.81nM

Figure 83. Inhibition of PCSK9 interaction with LDLR by antibody Ab23.



IC50 1.26nM

Figure 84. Inhibition of PCSK9 interaction with LDLR by antibody Ab24.

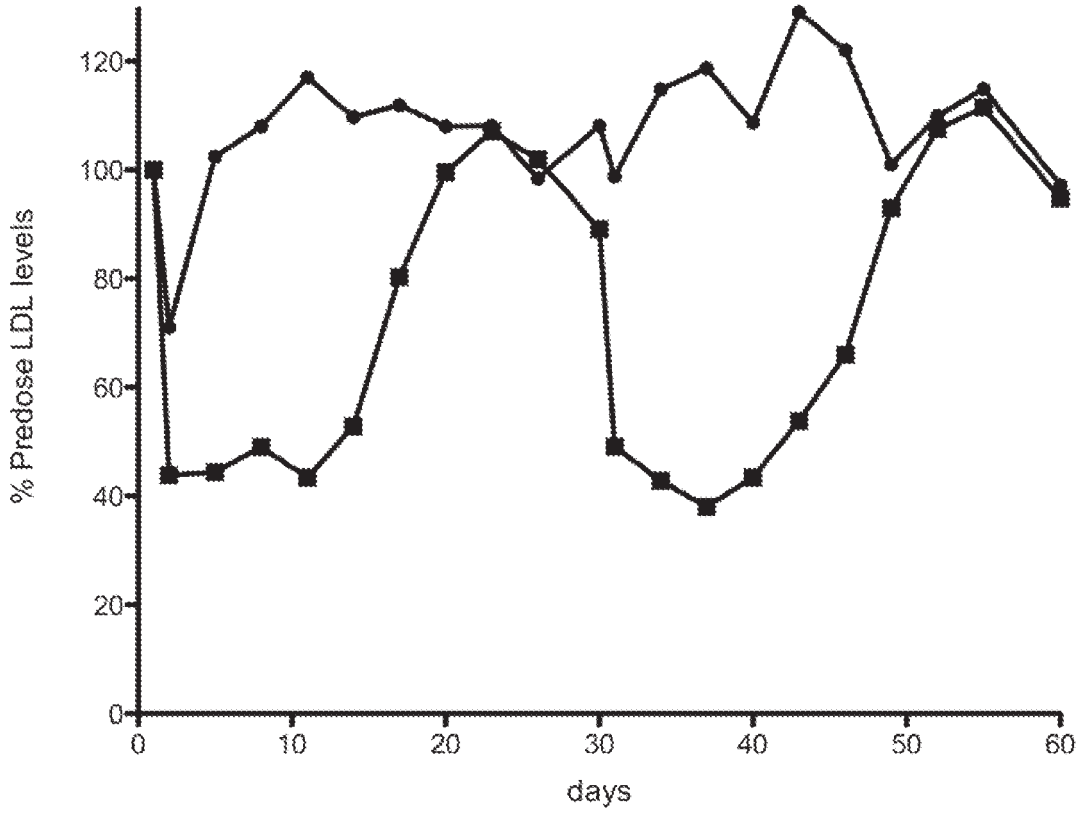


Figure 85. Serum LDL cholesterol level as a percentage change from pre-dose levels. Buffer control (●); Ab18 (■)

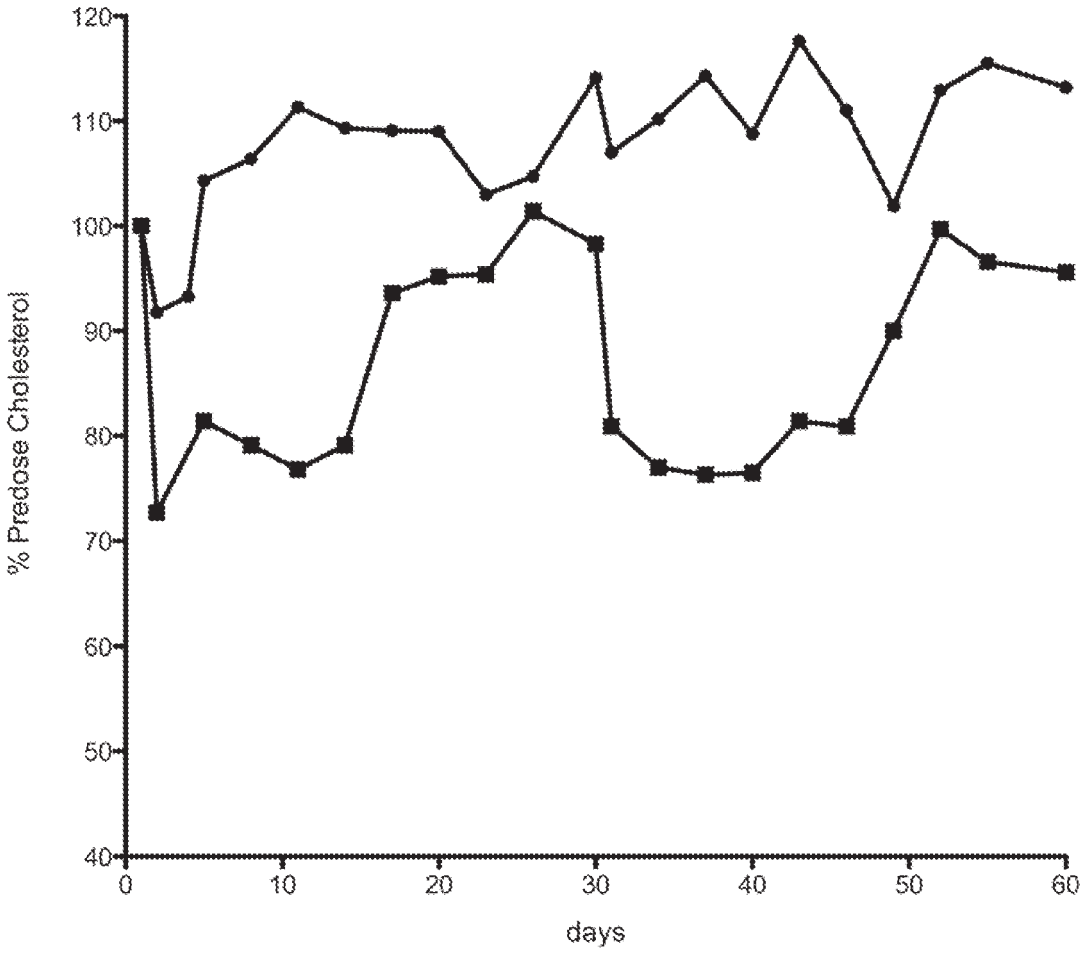


Figure 86. Serum total cholesterol level as a percentage change from pre-dose levels. Buffer control (●); Ab18 (■)

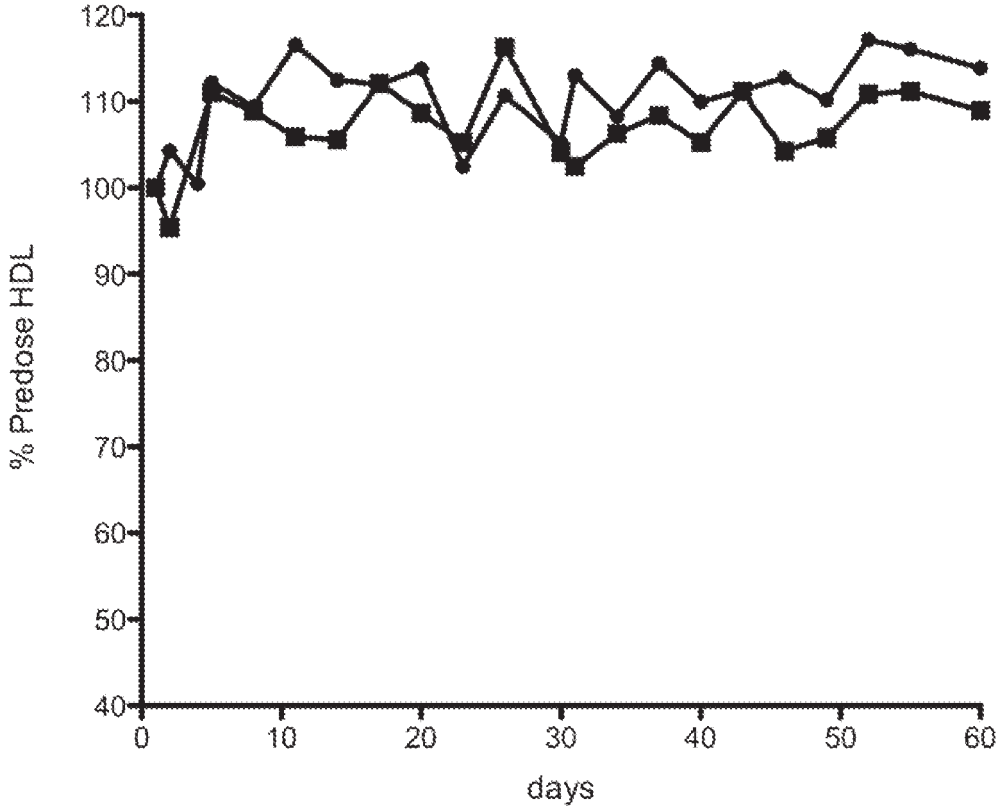


Figure 87. Serum HDL cholesterol level as a percentage change from pre-dose levels. Buffer control (●); Ab18 (■)

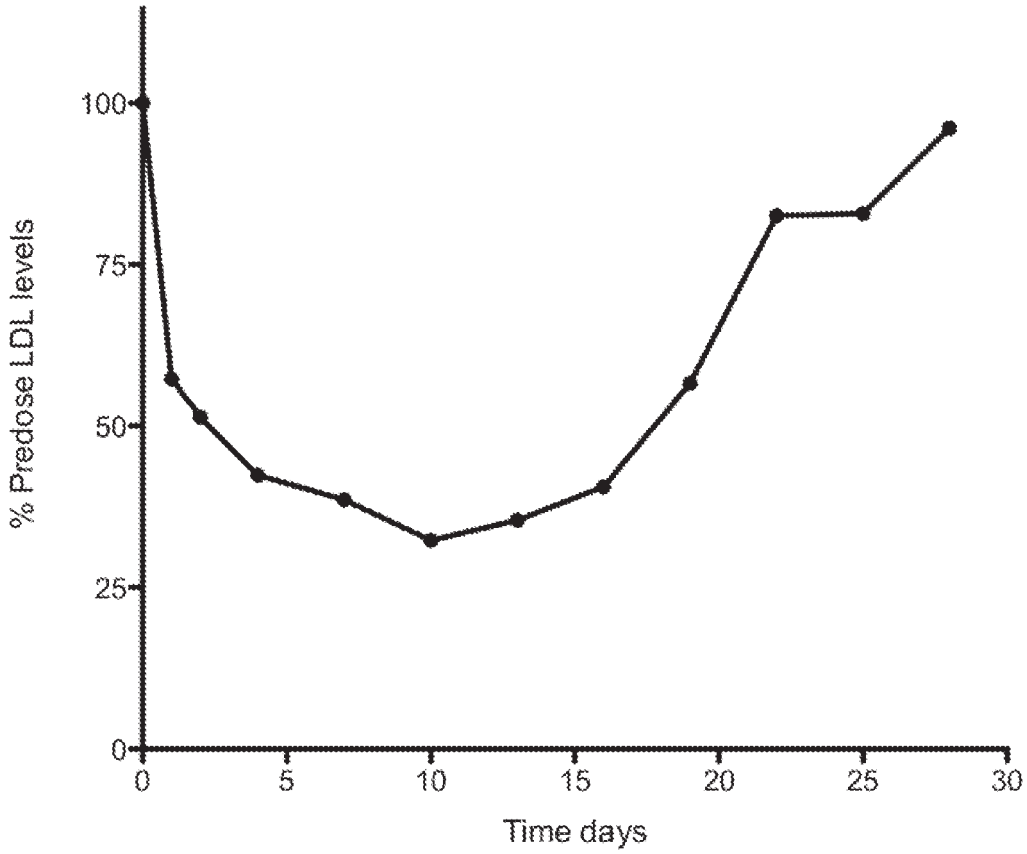


Figure 88. Serum LDL cholesterol level as a percentage change from pre-dose levels. Ab11 (●)

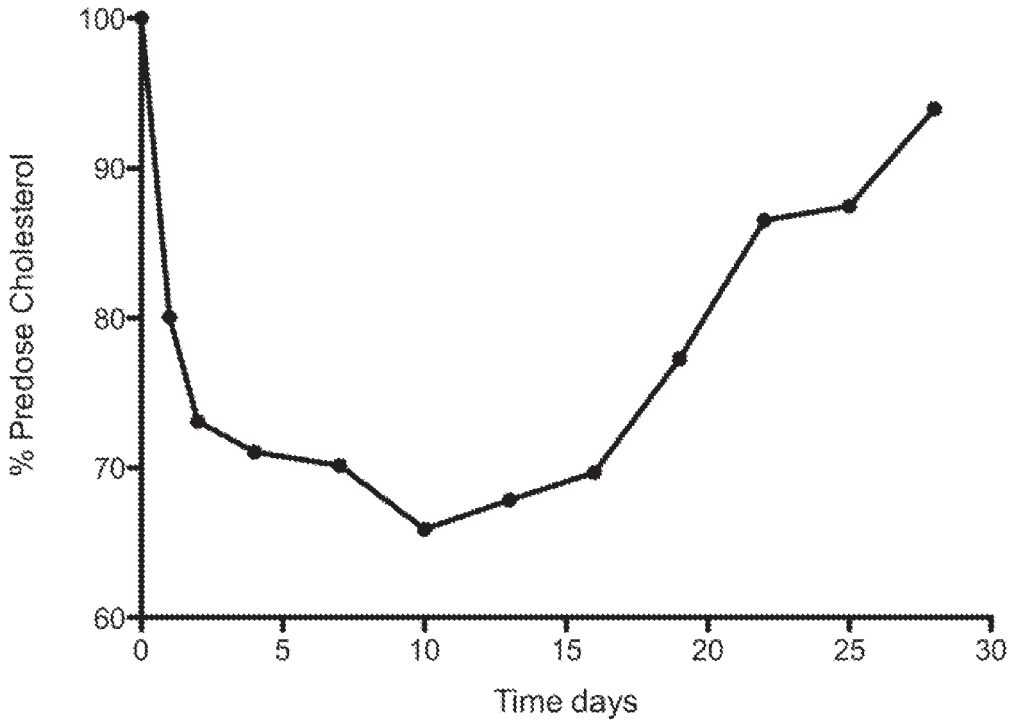


Figure 89. Serum total cholesterol level as a percentage change from pre-dose levels. Ab11 (●)

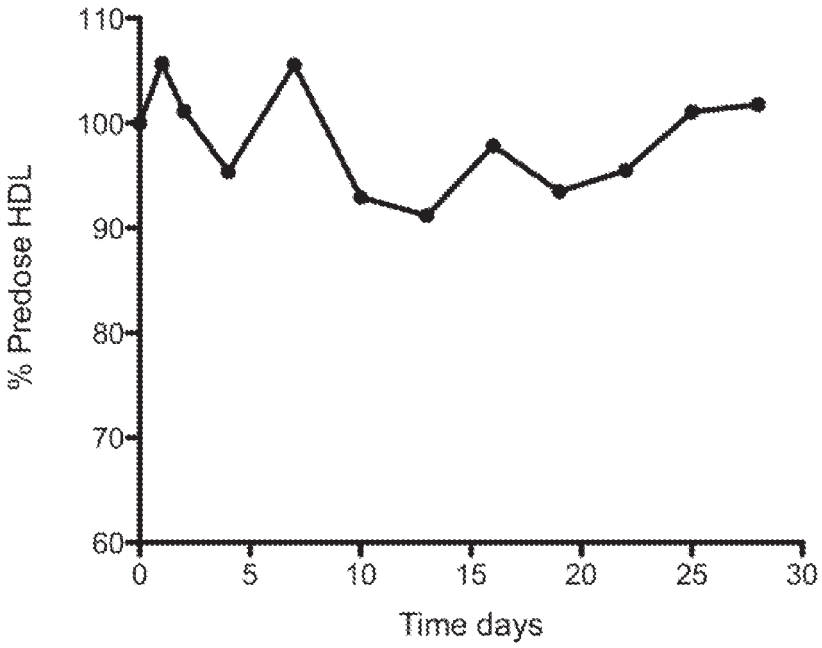


Figure 90. Serum HDL cholesterol level as a percentage change from pre-dose levels. Ab11 (●)

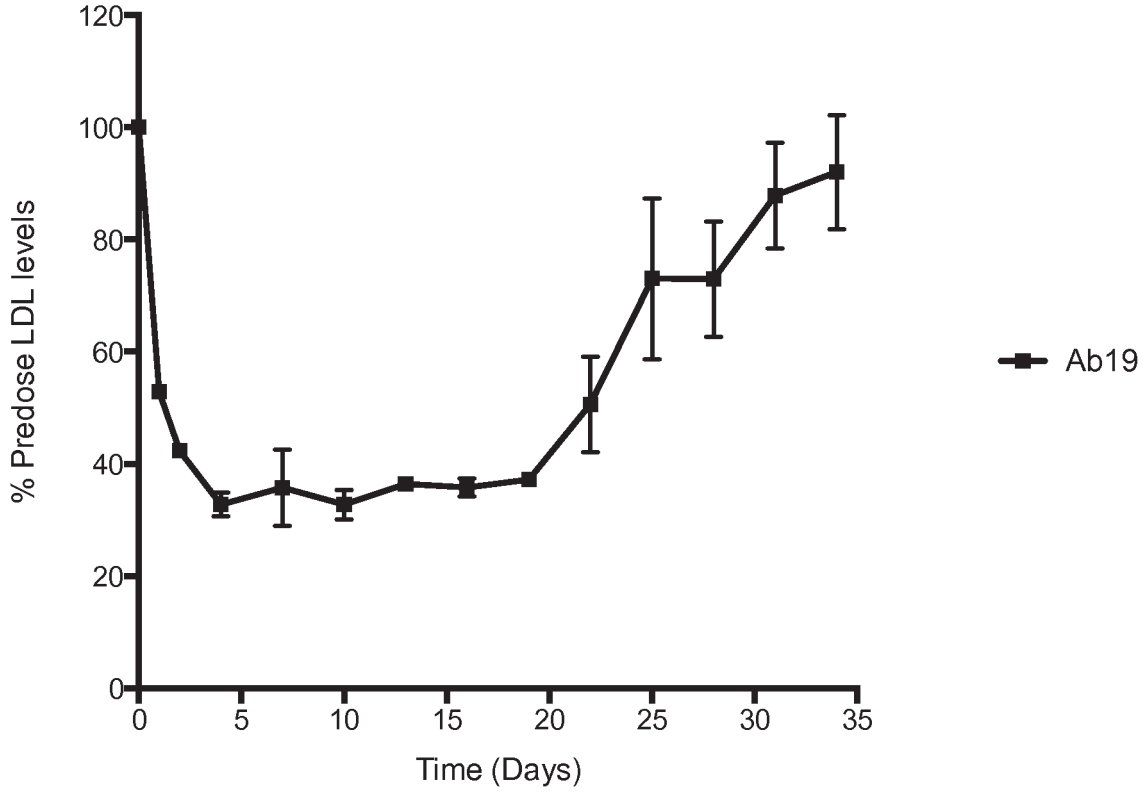


Figure 91. Serum LDL cholesterol level as a percentage change from pre-dose levels. Ab19.

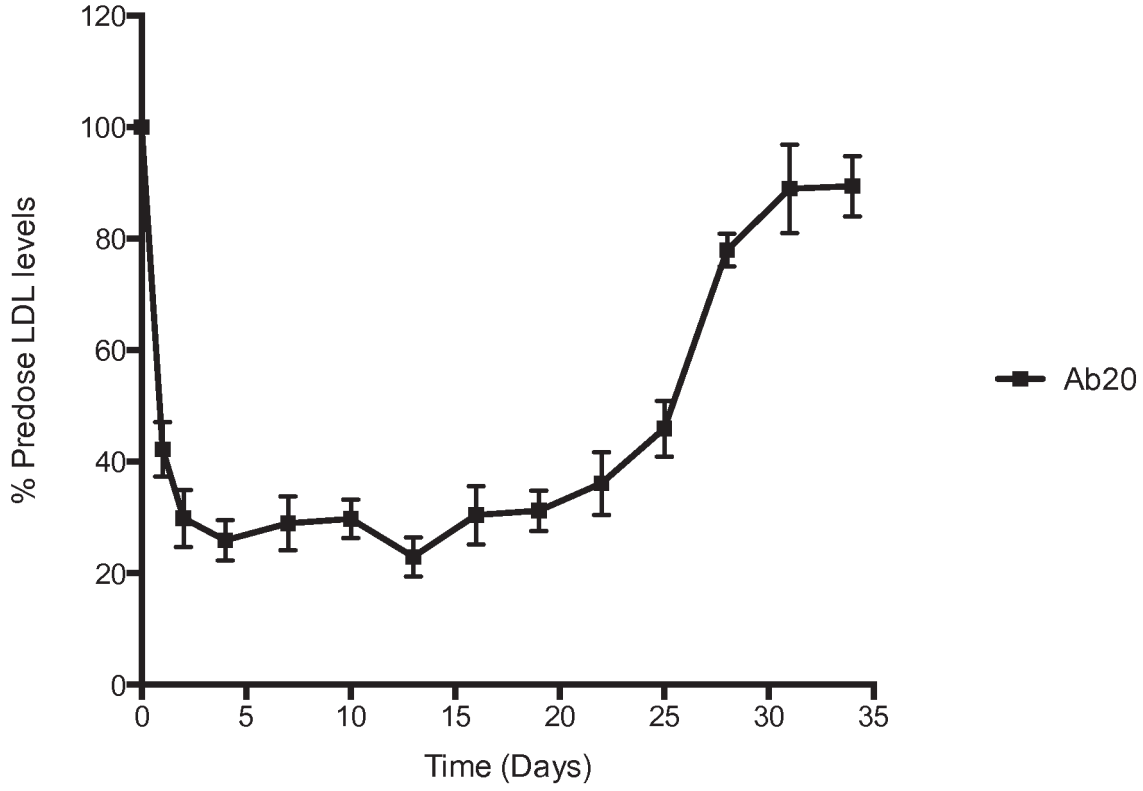


Figure 92. Serum LDL cholesterol level as a percentage change from pre-dose levels. Ab20.

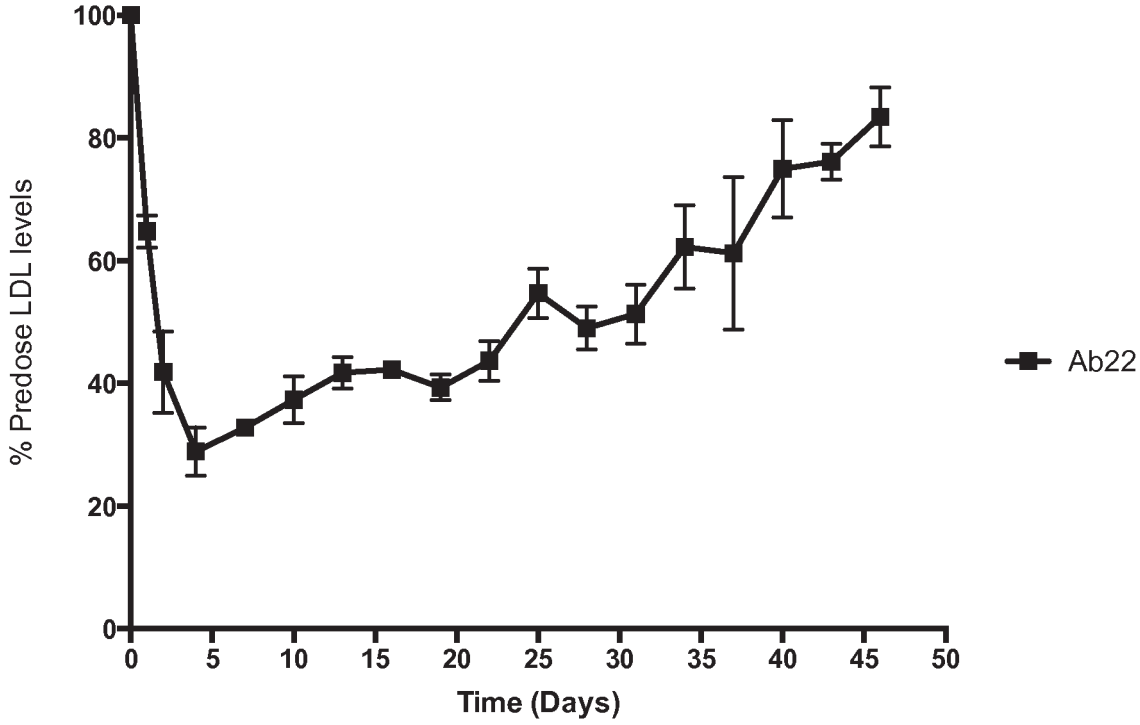


Figure 93. Serum LDL cholesterol level as a percentage change from pre-dose levels. Ab22.

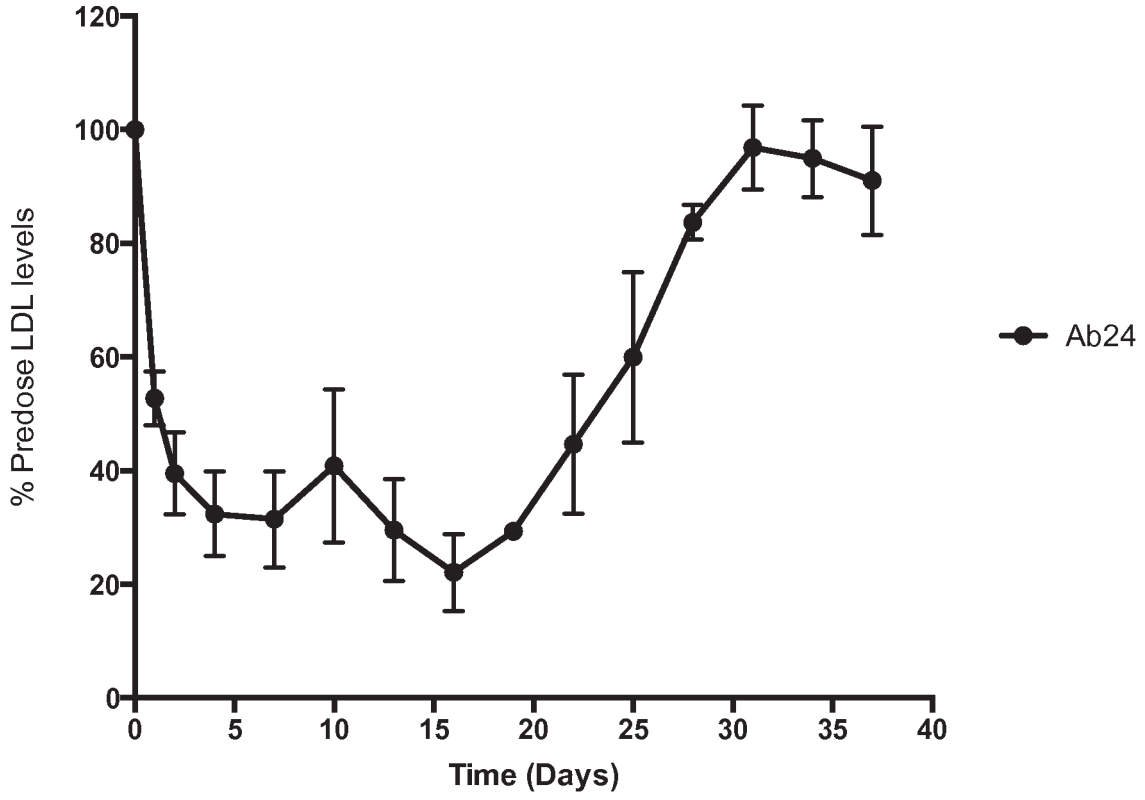


Figure 94. Serum LDL cholesterol level as a percentage change from pre-dose levels. Ab24