

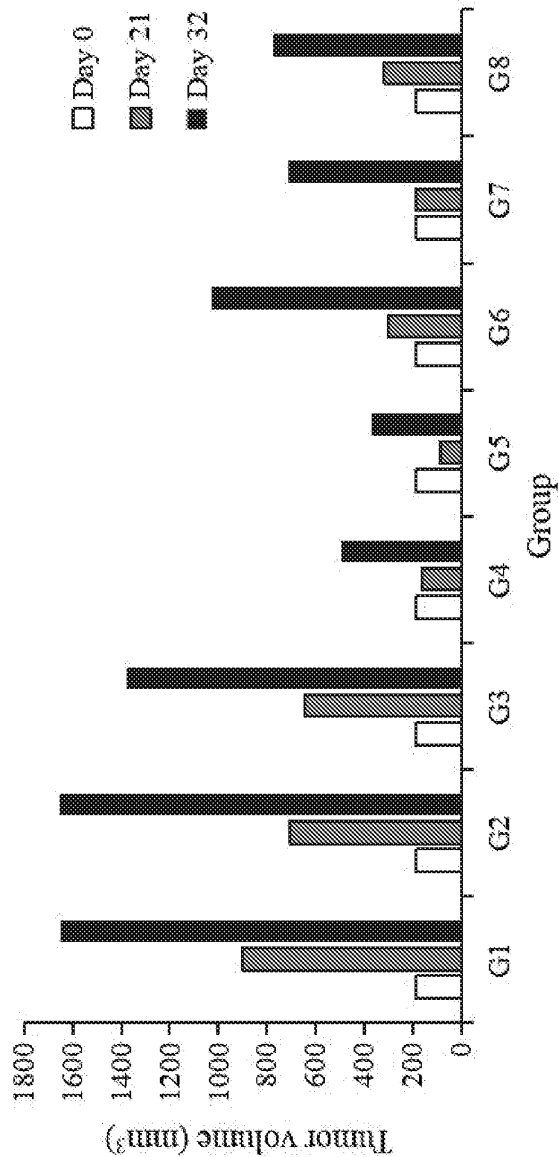


FIG. 1

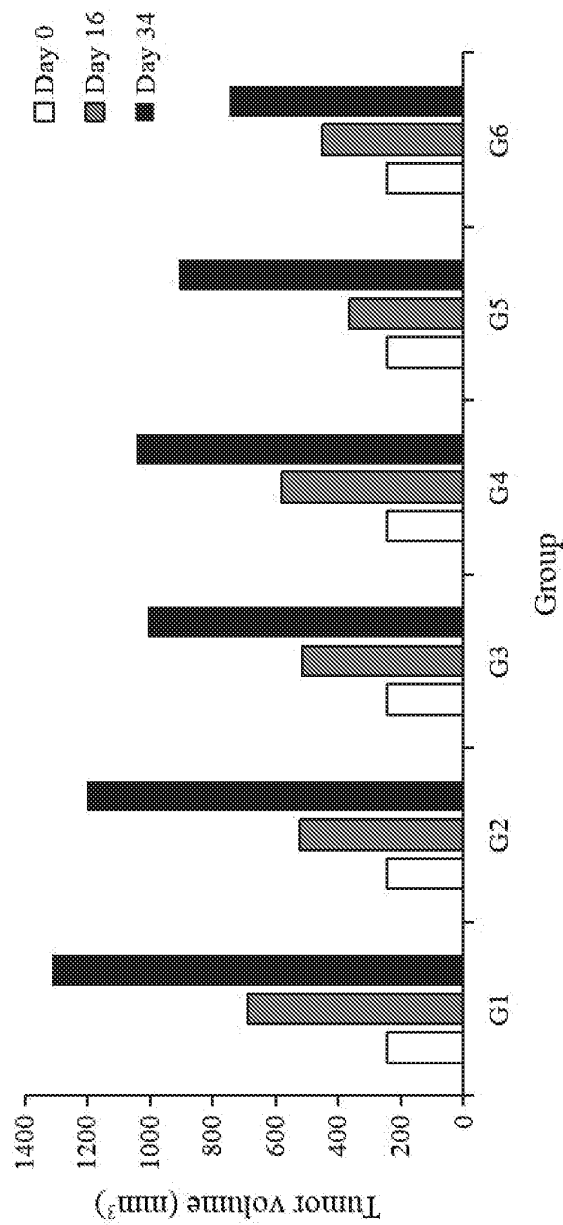


FIG. 2

Kabat CDR for anti-HER3 antibody and anti-MUC1 antibody

Ab	VH CDR1	SEQ ID NO:	VH CDR2	SEQ ID NO:	VH CDR3	SEQ ID NO:	VL CDR1	SEQ ID NO:	VL CDR2	SEQ ID NO:	VL CDR3	SEQ ID NO:
1B2	NARMGVS	4	HIFSNDDKSYSP SLKS	5	MRYSGGPFDY	6	RASQSVSSYLA	1	DASNRAT	2	QQRSNWPP T	3
3E1	NIRMGVS	7	HIFSNDDKSYSP SLKN	8	MKYSGGPFDY	9	RASQSVSSYLA	1	DASNRAT	2	QQRSNWPP T	3
3G6	NIRMGVS	7	HIFSNDDKSYST SLKS	42	MRYSGGPFDY	43	RASQSVSSYLA	1	DASNRAT	2	QQRSNWPP T	3
10D1	SYGMH	10	VISYDGSNKYYA DSVKG	11	DRRGFYESGN YYNVPFDY	12	RASQSVSSYLA	1	DASNRAT	2	QQRSNWPP T	3

FIG. 3

Chothia CDR for anti-HER3 antibody and anti-MUC1 antibody

Ab	VH CDR1	SEQ ID NO:	VH CDR2	SEQ ID NO:	VH CDR3	SEQ ID NO:	VL CDR1	SEQ ID NO:	VL CDR2	SEQ ID NO:	VL CDR3	SEQ ID NO:
1B2	TFSLNARM	16	FSNDD	17	MRYSGGPFDY	18	RASQSVSSYL A	13	DASNRAT	14	QQRSNWPP T	15
3E1	GFSLNIRM	19	FSNDD	20	MKYSGGPFDY	21	RASQSVSSYL A	13	DASNRAT	14	QQRSNWPP T	15
3G6	GFSLNIRM	19	FSNDD	20	MRYSGGPFDY	44	RASQSVSSYL A	13	DASNRAT	14	QQRSNWPP T	15
10D1	GFTFSSY	22	SYDGSN	23	DRRGFYESGNY NVPDFY	24	RASQSVSSYL A	13	DASNRAT	14	QQRSNWPP T	15

FIG. 4

Antibody domains	Amino acid sequence	SEQ ID NO
Common human light chain variable region	EIVLTQSPATLSLSPGERATLSCRASQSVSSYLAWYQQKPGQAPRLLIYDASNRA TGIPARFSGSGGTDFLTLTSSLEPEDFAVYVCQ QRSNWPPFTFGQGTKVEIK	25
1B2 human heavy chain variable region	QVQLVQSGPVLVKPTETLTCTVSTFSLNARMGVSWIRQPPGKALEWLAHIFSNDDKSYSPSLKSRLTISKDTSKTQVWLTMTN MDPVDATYYCSRMRYSGGPFYWGQGLVTVSS	26
3E1 human heavy chain variable region	EVQLVQSGPVLAKPTETLTCTVSGFSLNIRMGVSWIRQPPGKALEWLAHIFSNDDKSYSPSLKNRLTISKDTSKSQVVLMTTMM DPMDATYYCTRMKYSGGPFYWGQGLVTVSS	27
3G6 human heavy chain variable region	QVQLVQSGPVLVKPTETLTCTVSGFSLNIRMGVSWIRQPPGKALEWLAHIFSNDDKSYSTSLKSRLTISKDTSKSQVVLMTMTNV DPVDATYYCTRMRYSGGPFYWGQGLVTVSS	45
10D1 human heavy chain variable region	QVTLKESGGGVQPGRSLRLSCAASGFTSSYGMHWVRQAPGKGLEWVAVISYDGSNKYYADSVKGRFTISRDN SKNTLYLQMN SLRAEDTAVYYCANDRRRGFYESGNYNVPFDYWGQGLVTVSS	28
IgG1 light chain constant region	RTVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSLSTLTLSKADYEKHKVYAC EVTHQGLSPVTKSFNRGEC	29
IgG1 heavy chain constant region with knob	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHK PSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAKTKP REEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVWTLPPCREEMTKNQVSLWCLVKGFYPSDI AVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGK	30
IgG1 heavy chain constant region with hole	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHK PSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAKTKP REEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPPSREEMTKNQVSLSCAVKGFYPSDIA VEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGK	31
Human HER3 (hHER3)	SEVGNMQAVCPGTLNGLSVTGAENQYQTLTKLYERCEVWMGNLEIVLTGHNADLSFLQWIREVTGYVLVAMNEFSTLPLPNLRV VRGTQVYDYGKFAIFVMLNNTNSSHARQLRLTLQLTEILSGGVYIEKNDKLCMDTIDWRDIVRDRDAEIVVKDNGRSCPPCHEVC	32

FIG. 5

	KGRCWGPGESEDCQTLTKTICAPQCNGHCFGNPNQCCHDECAGGCGPQDTCFACRHFNDSGACVPRCPQLVYNKLTQLE PNPHTKYQYGGVCVASCPHNFVVDQTSVCRACPPDKMEVDKNGLKMCEPCGGLCPKACEGTGSGSRFQTVDSNIDGFFVNCTK ILGNLDFLITGLNGDPWHKIPALDPEKLVNVRTVREITGYLNIQSWPPHMHNFVSFNLTITIGGRSLYNRGSFLLIMKNLNVTSLGFR SLKEISAGRIYISANRQLCYHHSLNWTVKVLRGPTTEERLDIKHNRPRDCVAEGKVCDDLCSGGCWGPGPGQCLSCRNYSRGGVCV THCNFLNGEPREFAEAEFCFCHPECPMEGTATCNGSGSDTCAQCAHFRDGPCHVSSCPHGLGAKGPIYKYPDVQNECRPCH ENCTQGCKGPELQDCLGQTLVLIGKTHLT	
Monkey HER3 (fasHER3)	SEVNSQAVCPGTLNGLSVTGDAENQYQTLKLYERCEVVMGNLEIVLTGHNADLSFLQWIREVTGYVLVAMNEFSTLPLNLRV VRGTQVYDGFKFAIFVMLNNTNSSHALRQLRLTQLTEILSGGWIEKNDKLCHMDTIDWKDQDAEIVVKDNGRSCPLCHEVC KGRCWGPGESEDCQTLTKTICAPQCNGHCFGNPNQCCHDECAGGCGPQDTCFACRHFNDSGACVPRCPQLVYNKLTQLE PNPHTKYQYGGVCVASCPHNFVVDQTSVCRACPPDKMEVDKNGLKMCEPCGGLCPKACEGTGSGSRFQTVDSNIDGFFVNCTK ILGNLDFLITGLNGDPWHKIPALDPEKLVNVRTVREITGYLNIQSWPPHMHNFVSFNLTITIGGRSLYNRGSFLLIMKNLNVTSLGFR SLKEISAGRIYISANRQLCYHHSLNWTVKVLRGPTTEERLDIKHNRPRDCVAEGKVCDDLCSGGCWGPGPGQCLSCRNYSRGGVCV THCNFLNGEPREFAEAEFCFCHPECPMEGTATCNGSGSDTCAQCAHFRDGPCHVSSCPHGLGAKGPIYKYPDVQNECRPCH ENCTQGCKGPELQDCLGQTLVLIGKTHLT	33
Human MUC1 (hMUC1)	MTPGTQSPFFLLLLTLTVTSGSHASSTPGGEKETSATQRSSVPSSTEKNVSMTSSVLSHSPGSGSSTTQGQDVTLAPATEPA SGSAATWGQDVTSPVTRPALGSTTPPAHDVTSAPDNKPAGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGST APPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPA HGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTS SAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPD TRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAP GSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTA PPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAH GVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTS APDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDT RPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAPGSTAPPAHGVTSAPDTRPAP	34

FIG. 5 (Continued)

	GSTAPPAHGVTSAPDNRPALGSTAPPVHNVTASGSASGASTLVHNGTSARATTTTPASKSTPSPSHHSDTPTTLASHSTKTDAS STHHSSVPPLTSSNHSTSPQLSTGVSEFFLFSHISNLQFNSSLEDPSTDYYQELQRDISEMFLQYKQGGFLGSLNFKRPGSVVYQLTL AFREGTINVHDVETQFNQYKTEAASRYNLTISDVSDVPFPFSAQSGAGVPGWGIALLLVLCVLVALAIVYLIALAVCQCRRKNYG QLDIFPARDTYHPMSEYPTYHTHGRVPPSSDTRSPYEKVSAGNGGSSLSYTNPAVAATSANL	
Monkey MUC1 (fasMUC1)	ASDSASGASTLVHSTTSARATTTTPASKSTPSPSHHSDTPTTLASHSTKTDASSTHHSTVPPTSSNHSTSPQLSLGVSEFFLFSHIS NLQFNSSLEDPSTNYQQQLQRDISELFLQYKQGDFLGSLNIMFRPGSVVYQSTLVFREGTTNVHDVETQFNQRKTEAASRYNLTIS DISVRDVPFPFSAQTGAGVPGWG	35
Gatipotuzumab heavy chain variable region	QVQLQQWAGALLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSNSTNYNPSLKSRTISVETSKNQFSLKSSVT AADTAVYYCARDKWTWYFDLWGRGTLTVSS	36
Gatipotuzumab light chain variable region	DIEMTQSPDSLAVSLGERATINCRSSQSVLYSSSNRNYLAWYQQNPQPPKLLIYWASTRESGVDRFSGSGSGTDFTLTISLQAE DVAVYCCQQYYSTPRTFGGQTKVEIK	37
Patritumab heavy chain variable region	QVQLQQWAGALLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSNSTNYNPSLKSRTISVETSKNQFSLKSSVT AADTAVYYCARDKWTWYFDLWGRGTLTVSS	38
Patritumab light chain variable region	DIEMTQSPDSLAVSLGERATINCRSSQSVLYSSSNRNYLAWYQQNPQPPKLLIYWASTRESGVDRFSGSGSGTDFTLTISLQAE DVAVYCCQQYYSTPRTFGGQTKVEIK	39
1H7 heavy chain variable region	EVQLQQSGAELAKPGASVKMSCKVSGYFTTSYWMHWWKQRPQGQGLEWIGYINPGTGYIEYNQKFKDKATLTADKSSSTAYMQL SSLTSEDSAVYYCASSTAPFDYWGGGTTLTVSS	40
1H7 light chain variable region	DIVITQSPSSMYASLGERVTITCKASQDIKSYLSWYQQKPWKSPKTLIYATRLADGVPSRFSGSGSGQDYSLTISLESDDTATYYCL QYDESPYTFGGGTKLEIK	41

FIG. 5 (Continued)

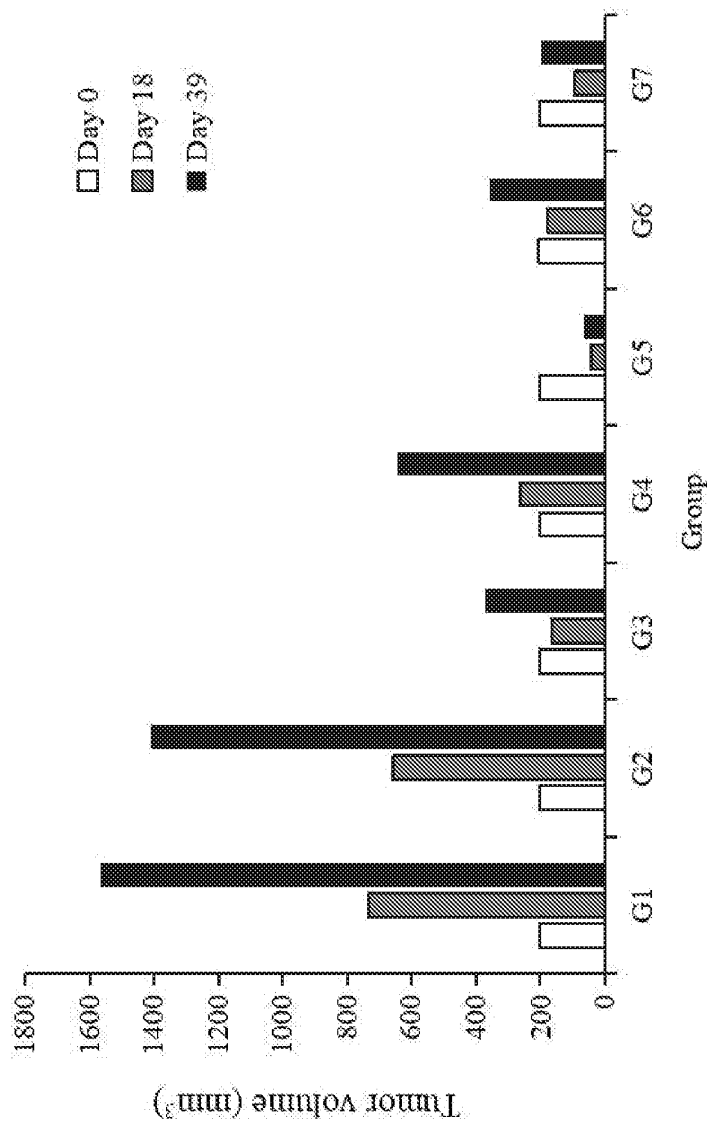


FIG. 6

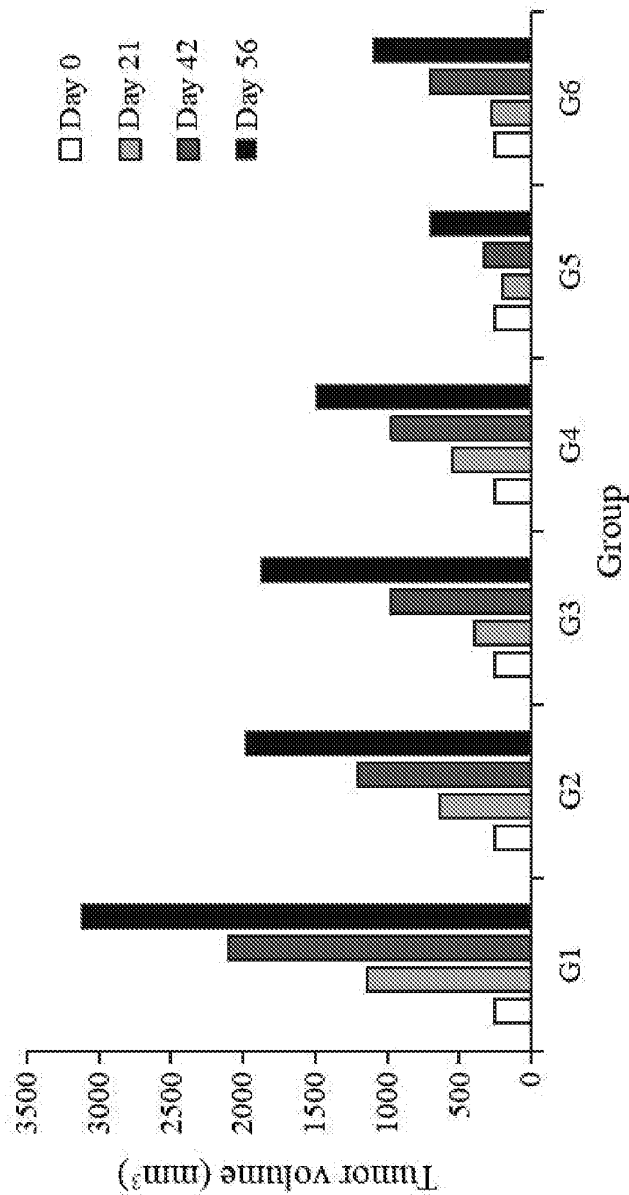


FIG. 7

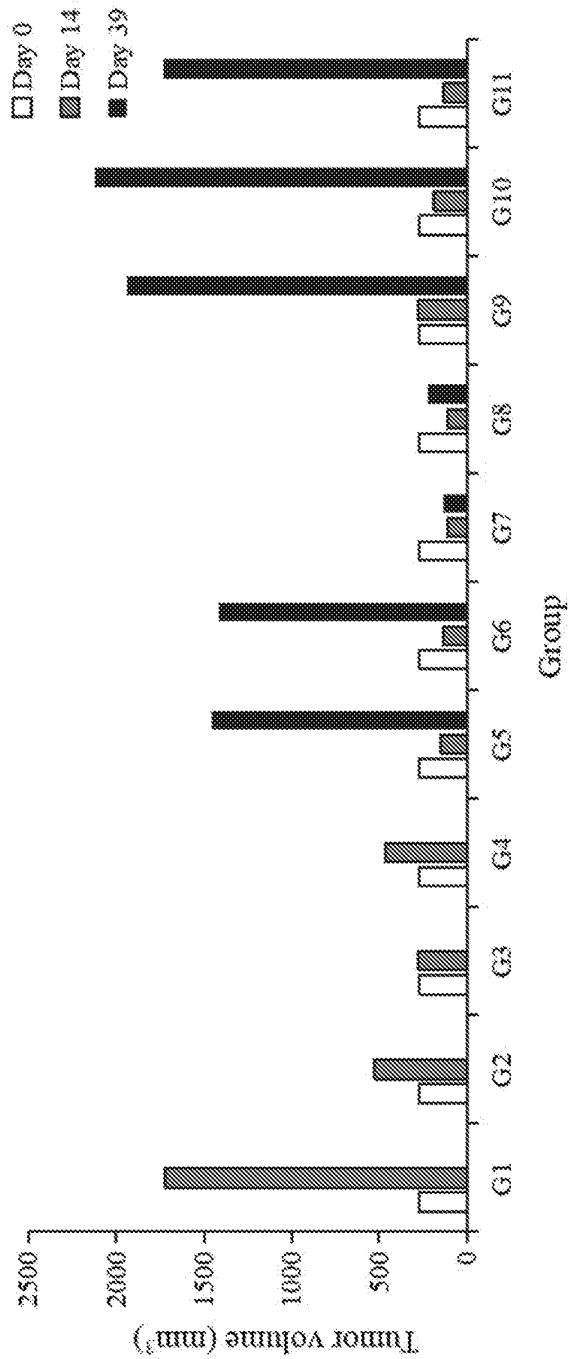
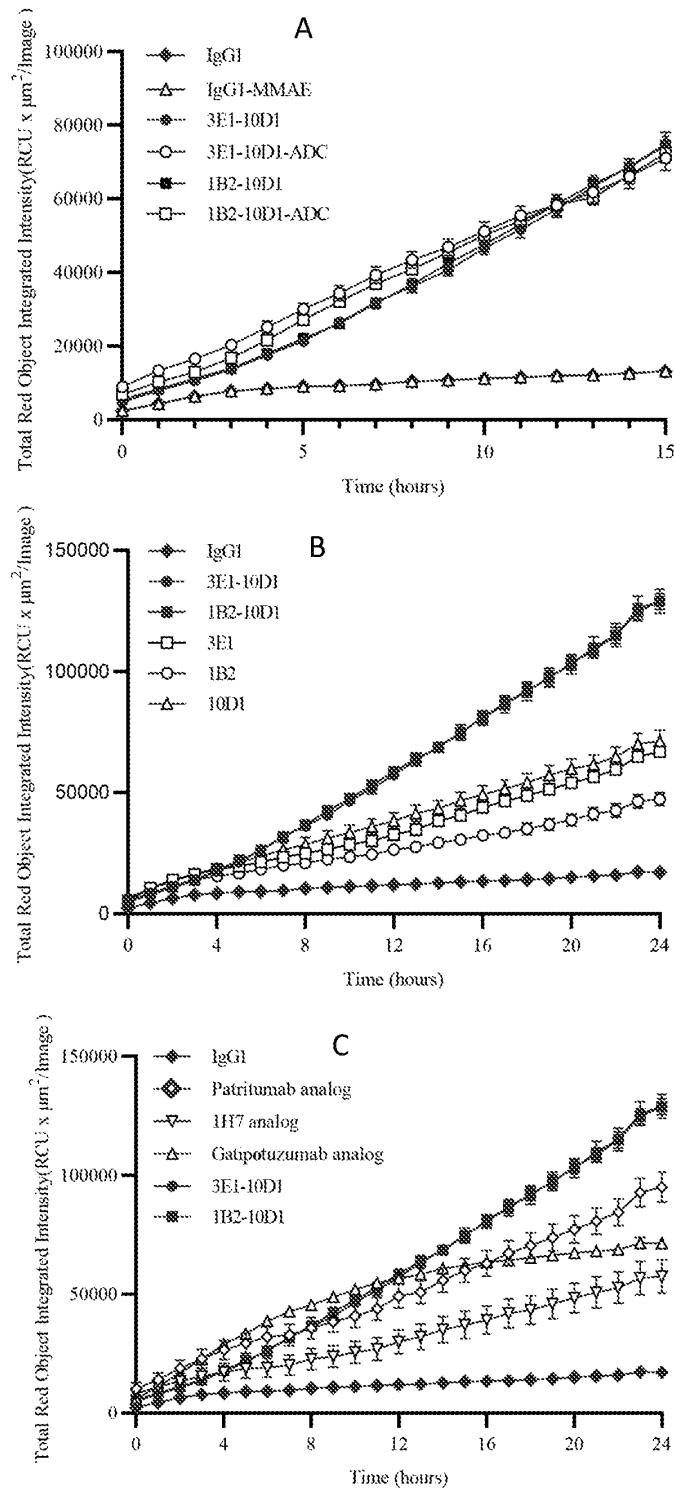


FIG. 8



FIGs. 9A-9C

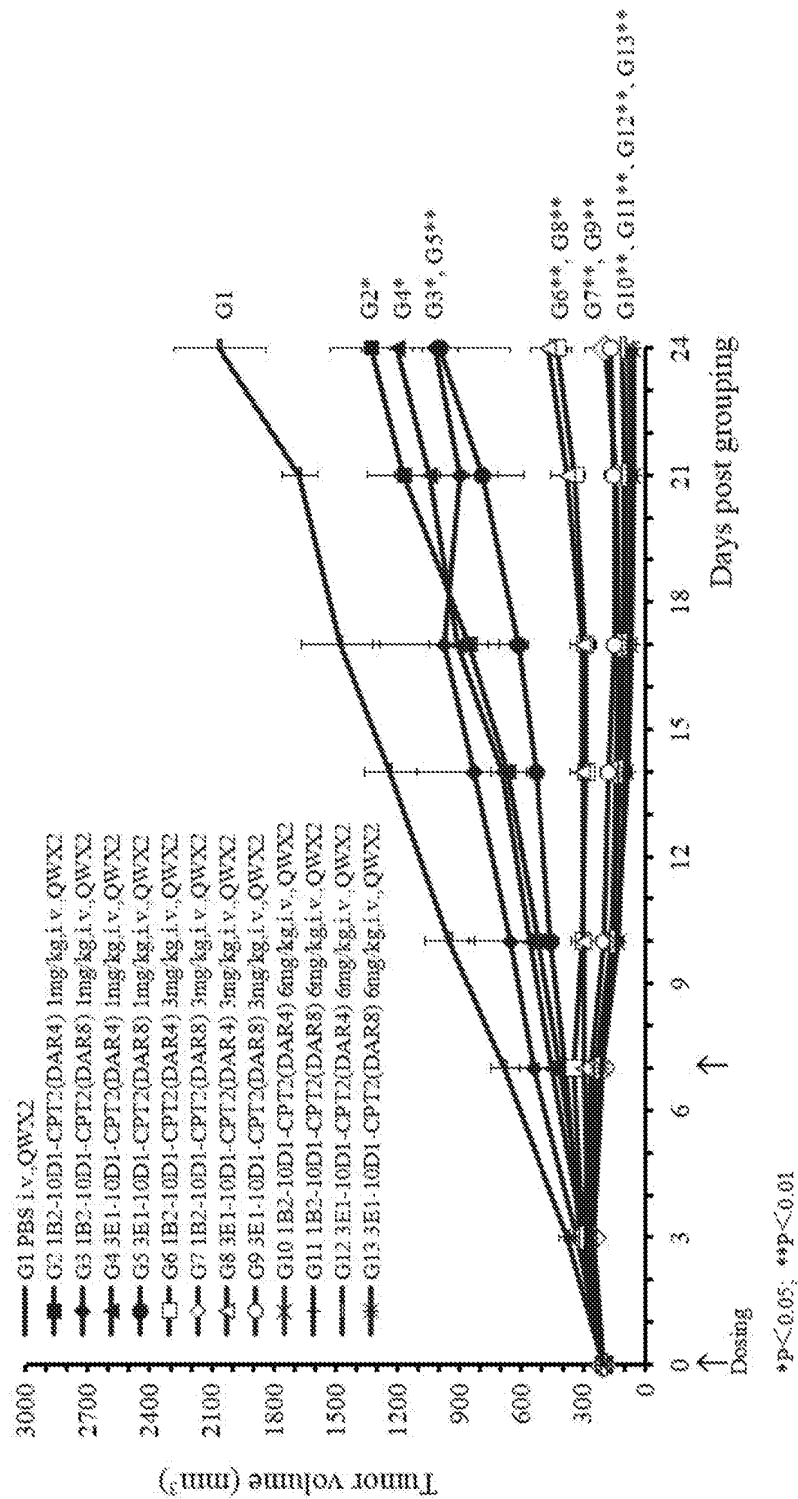


FIG. 10

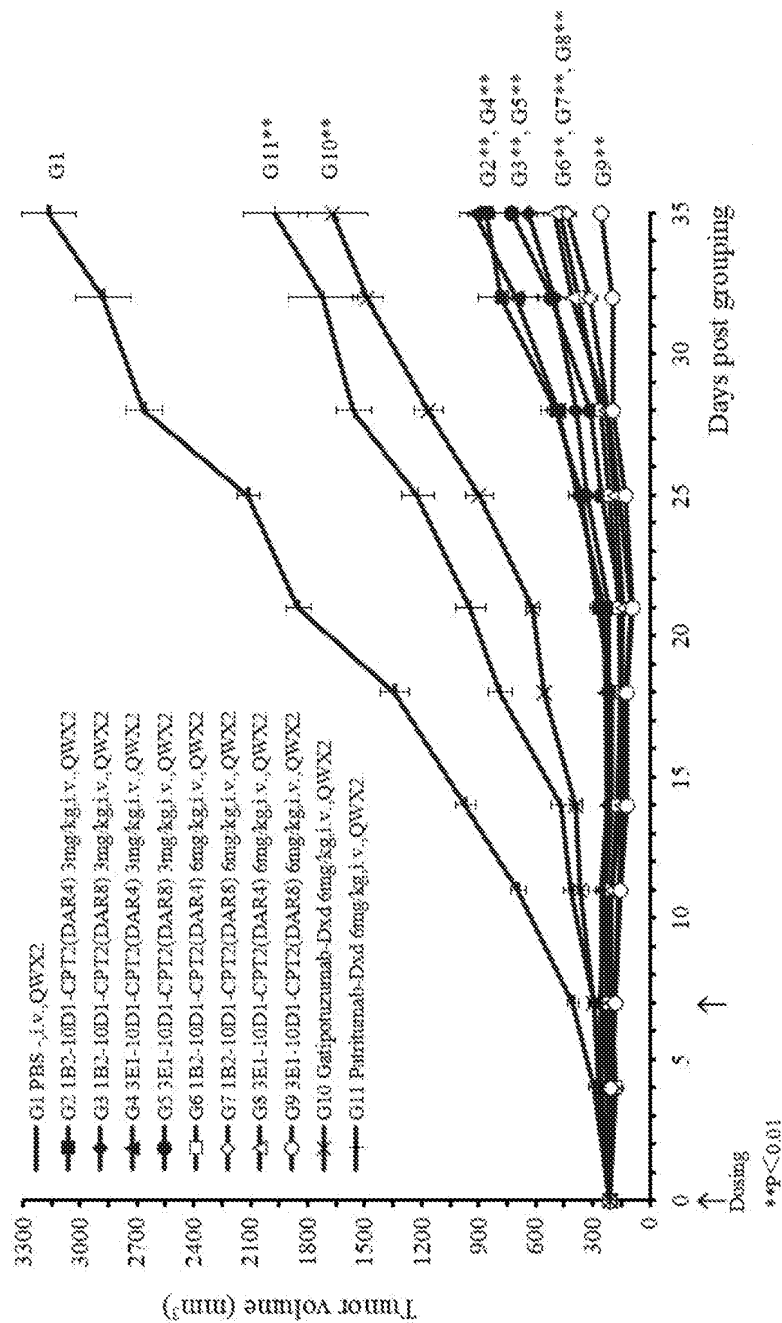


FIG. 11

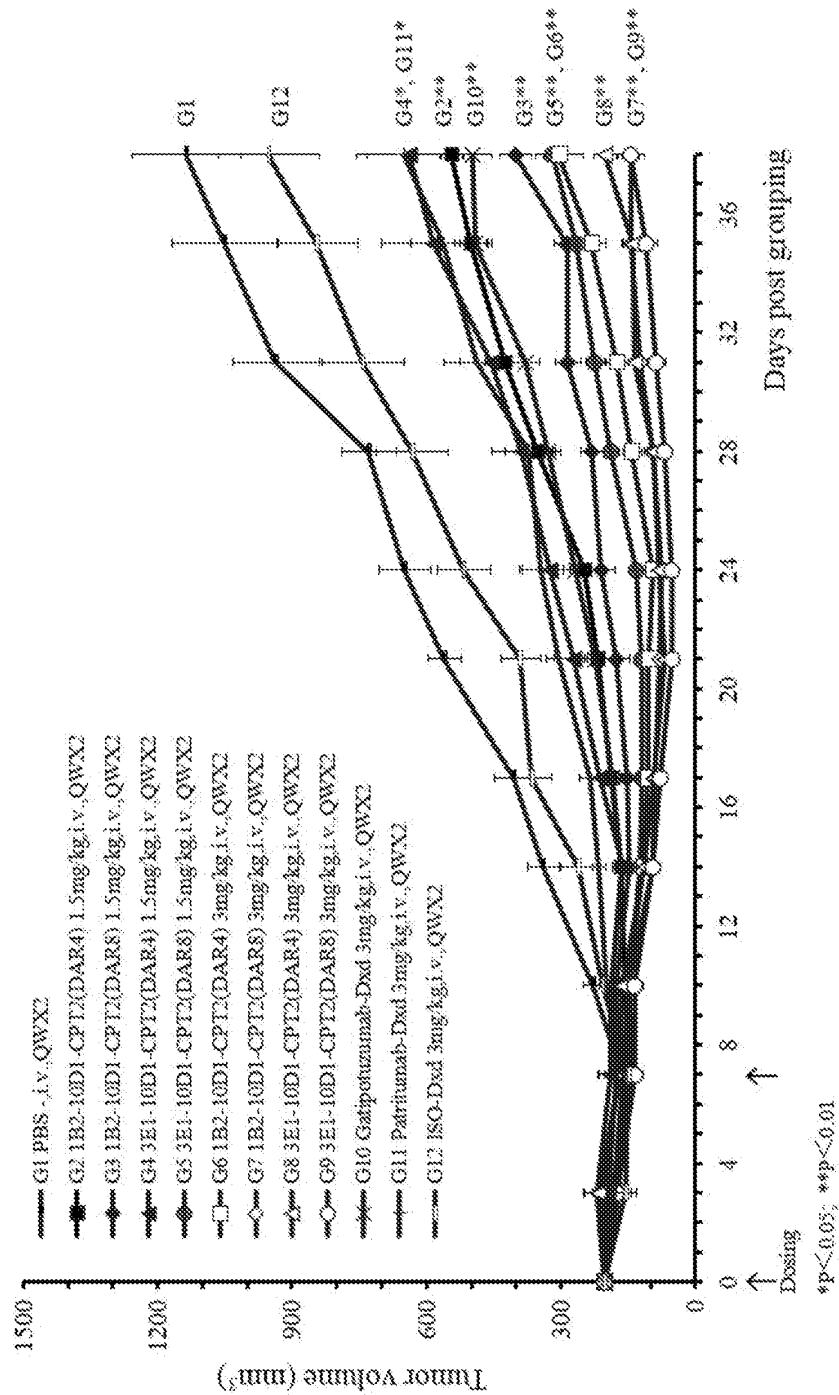


FIG. 12A

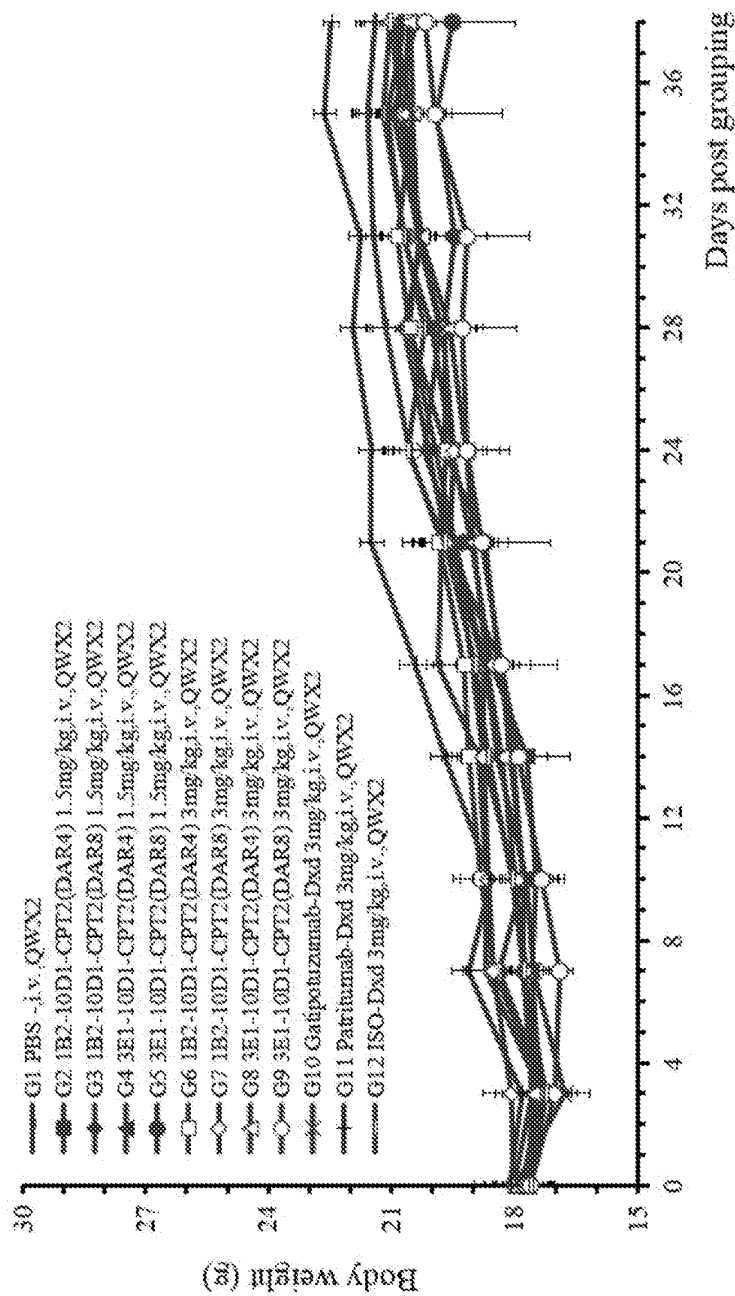


FIG. 12B

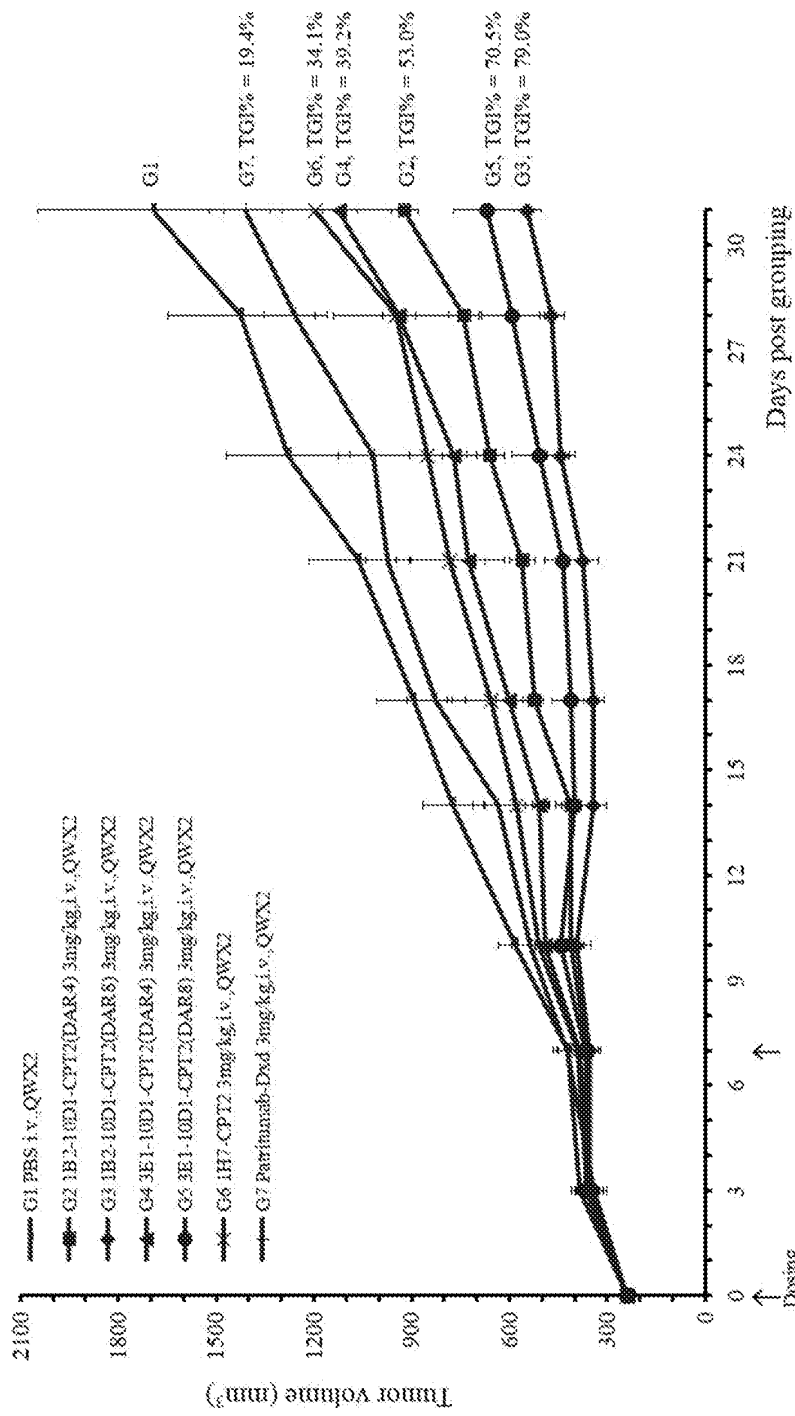


FIG. 13

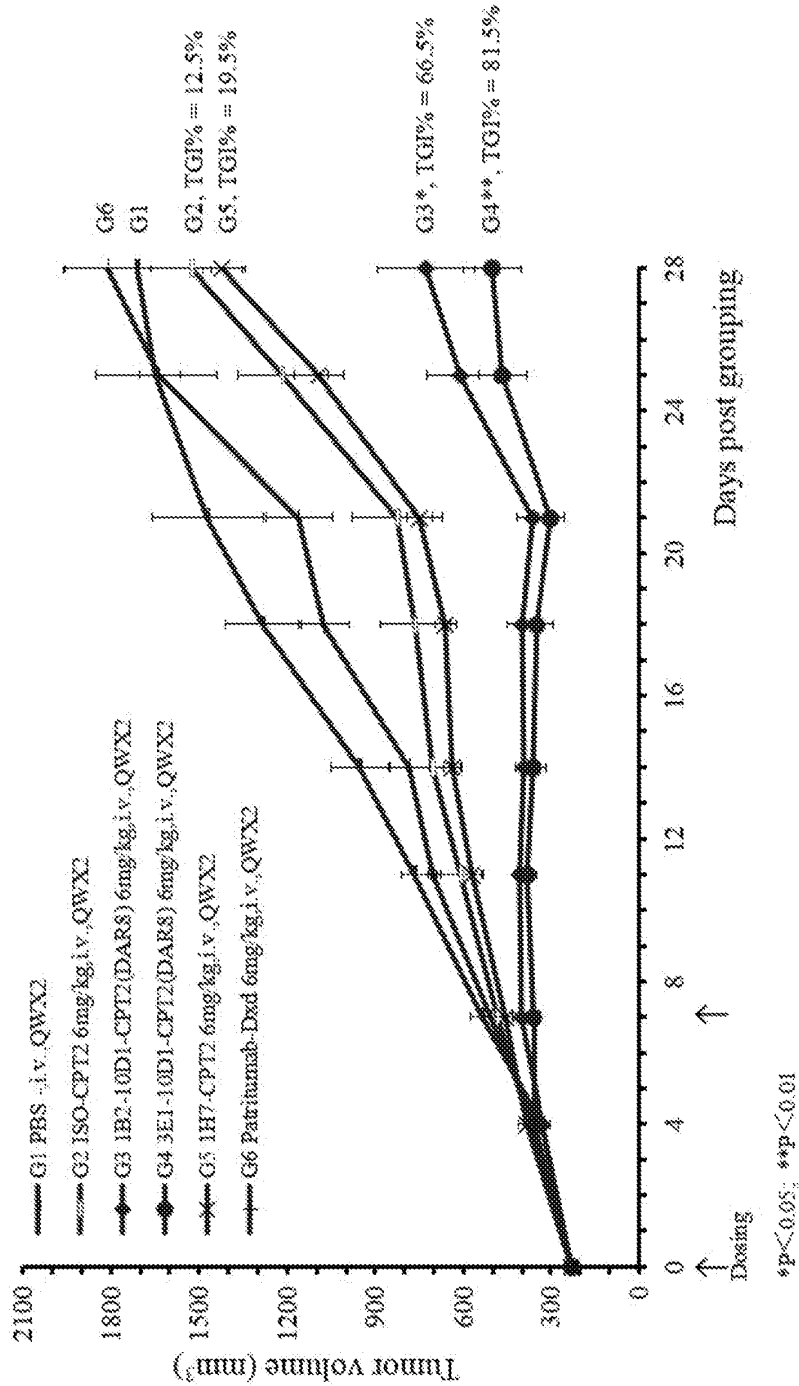


FIG. 14

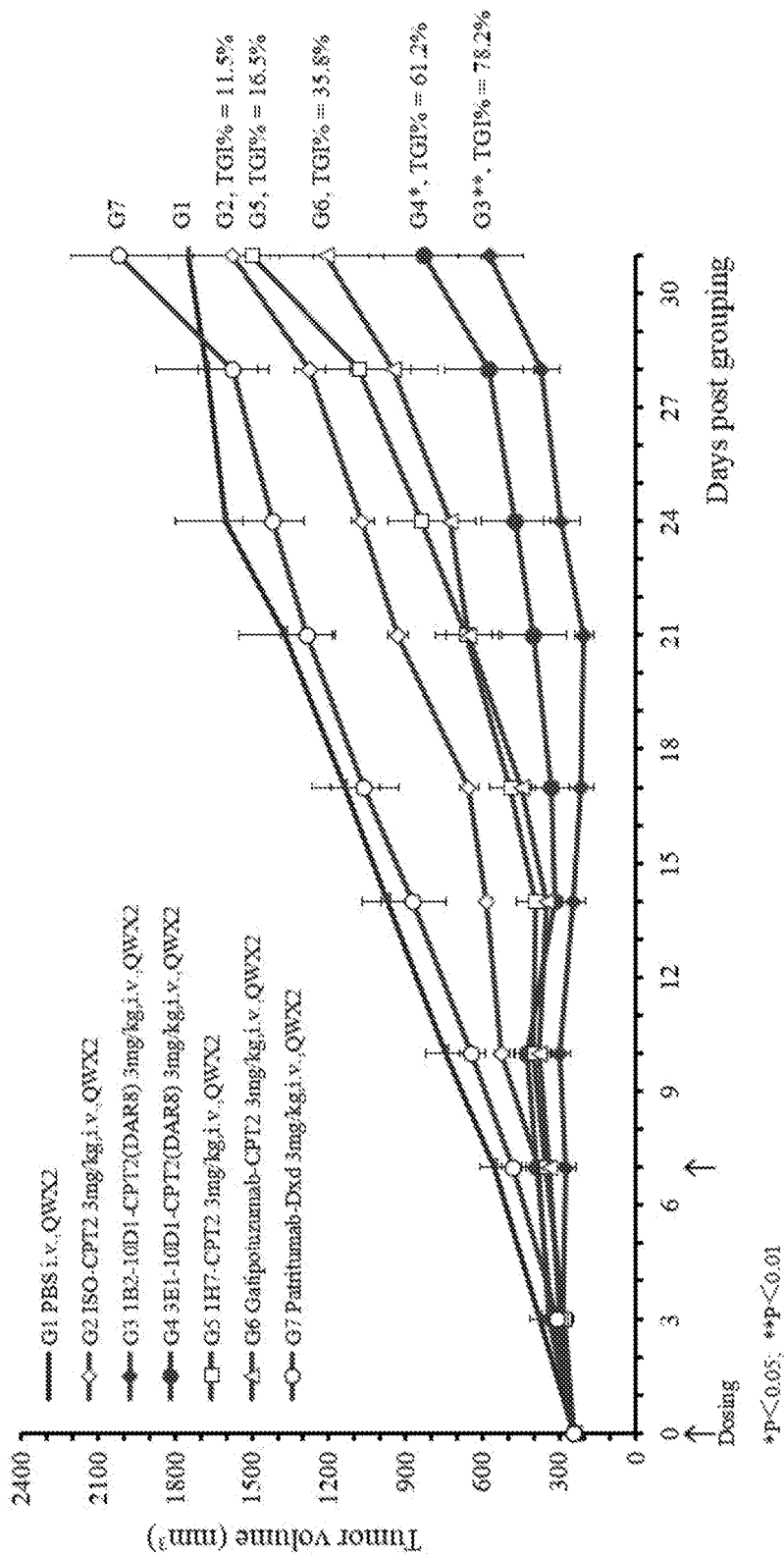


FIG. 15A

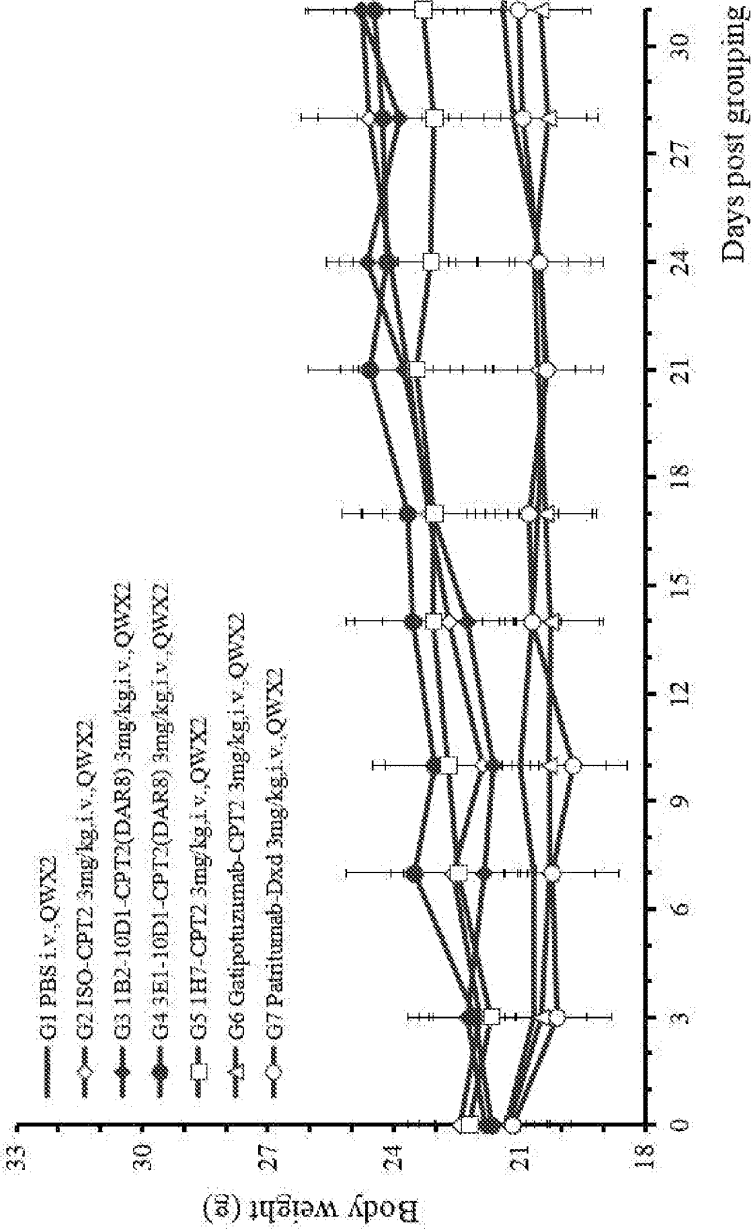


FIG. 15B

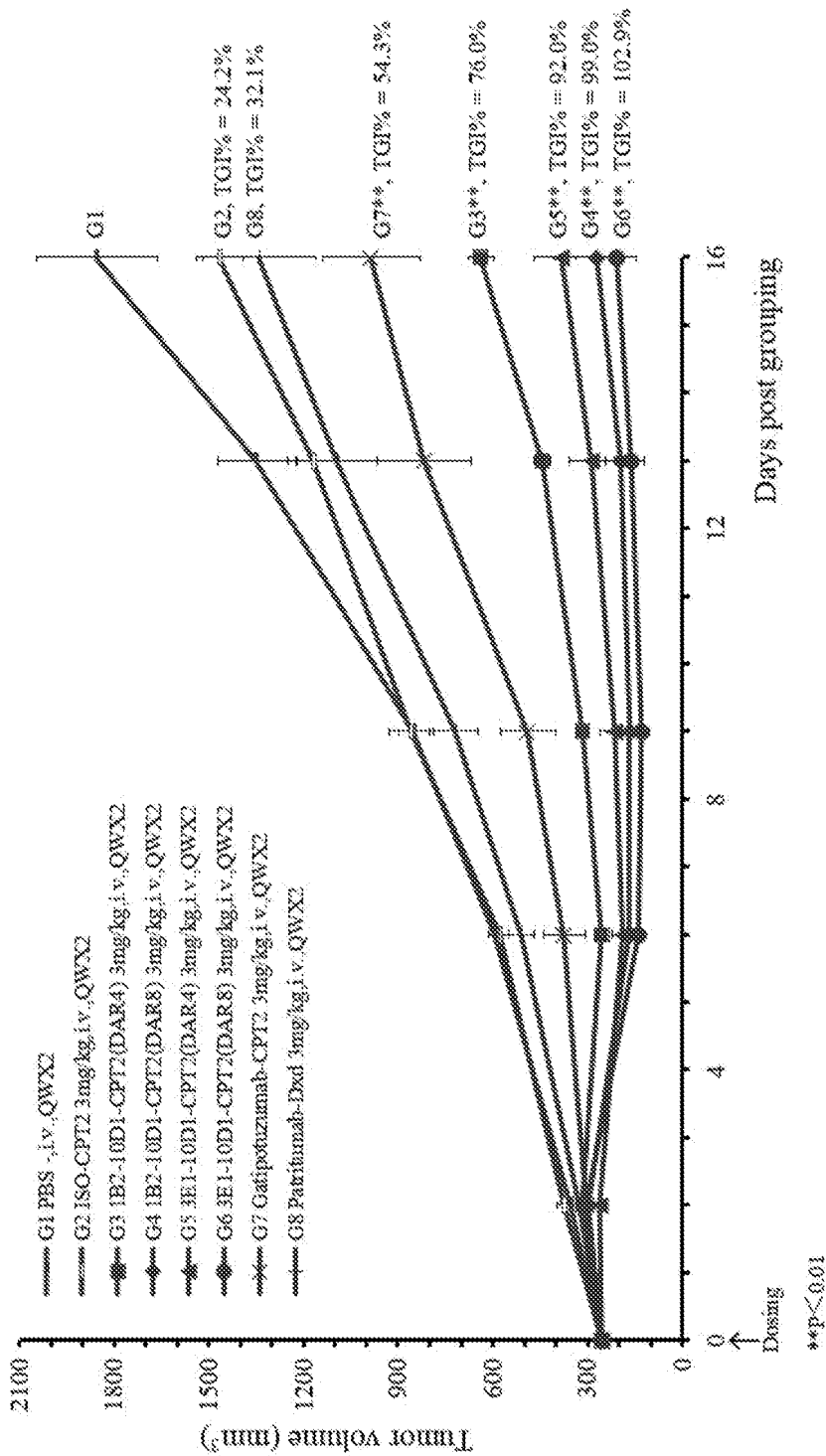
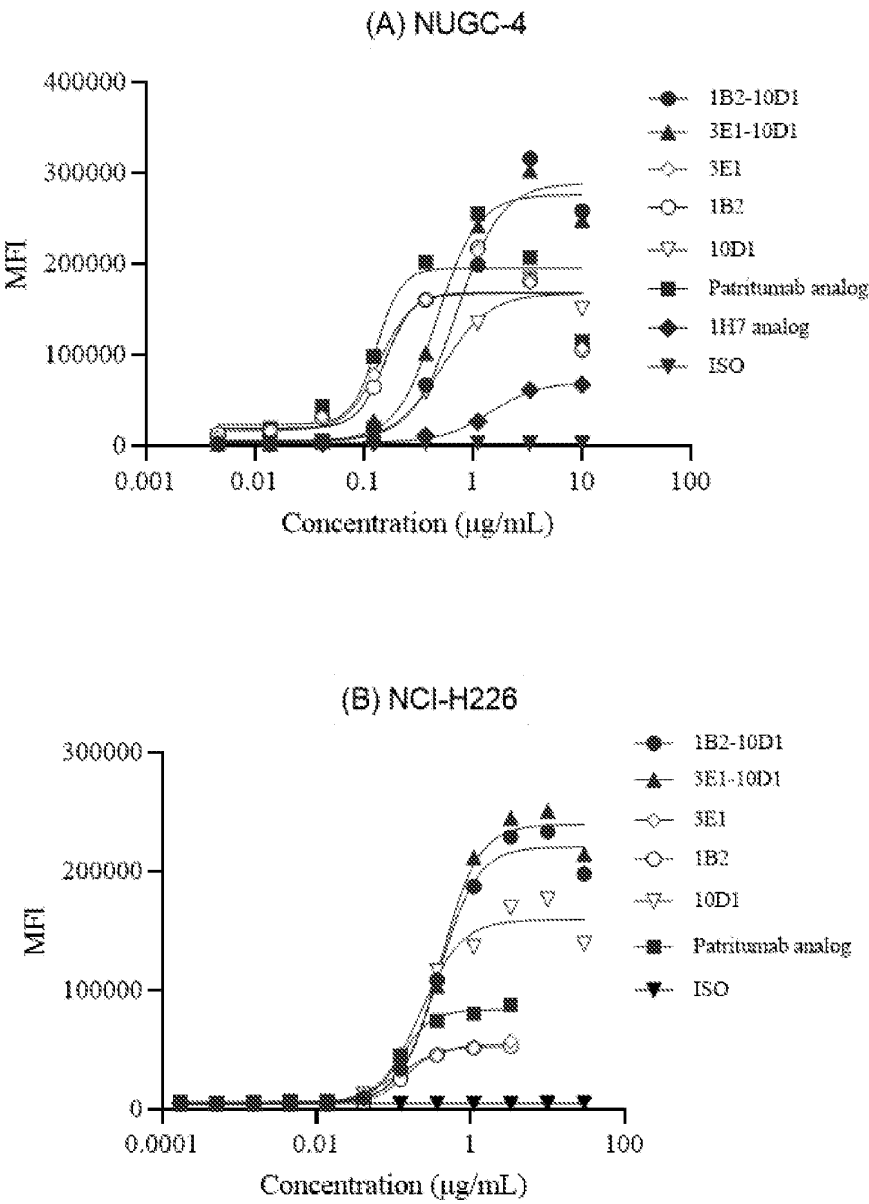


FIG. 16



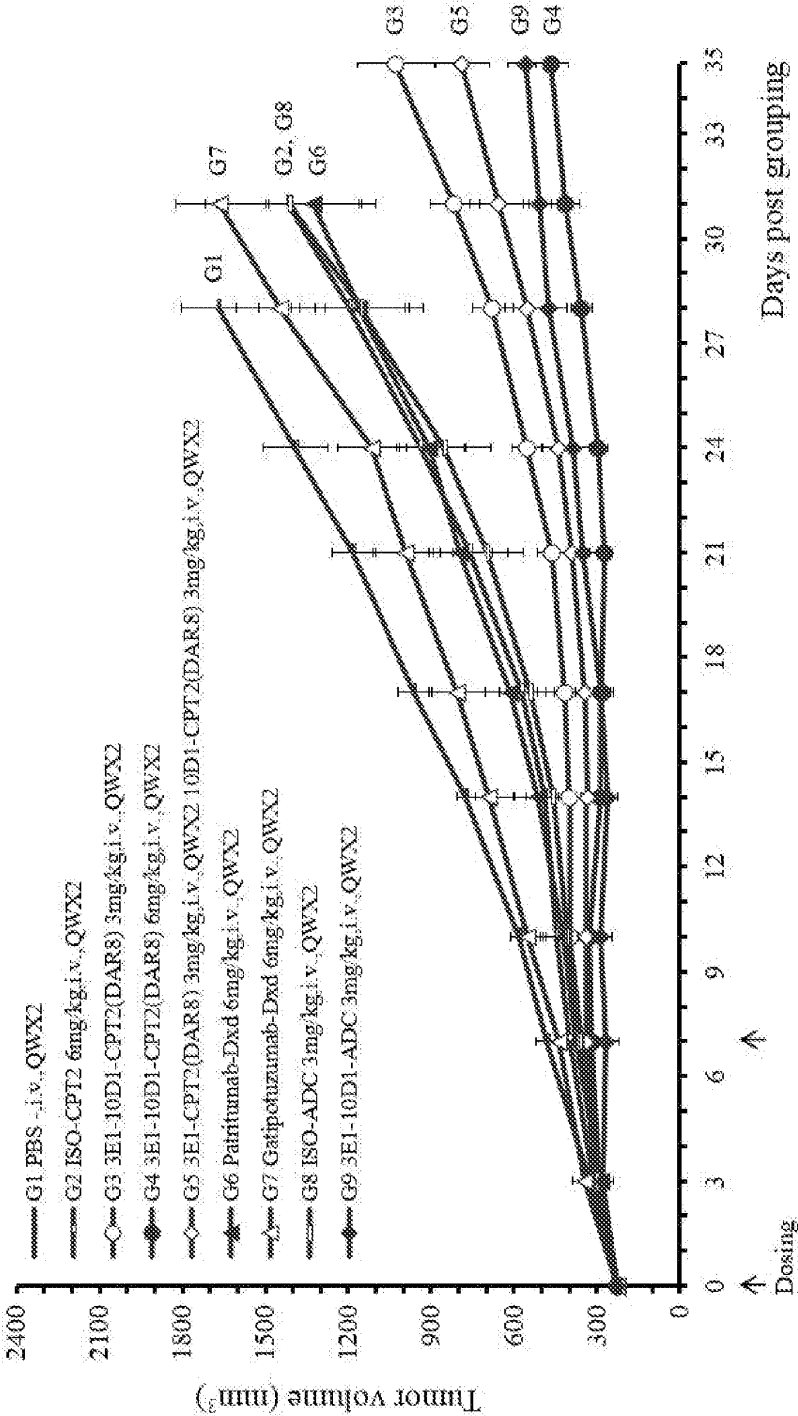


FIG. 18

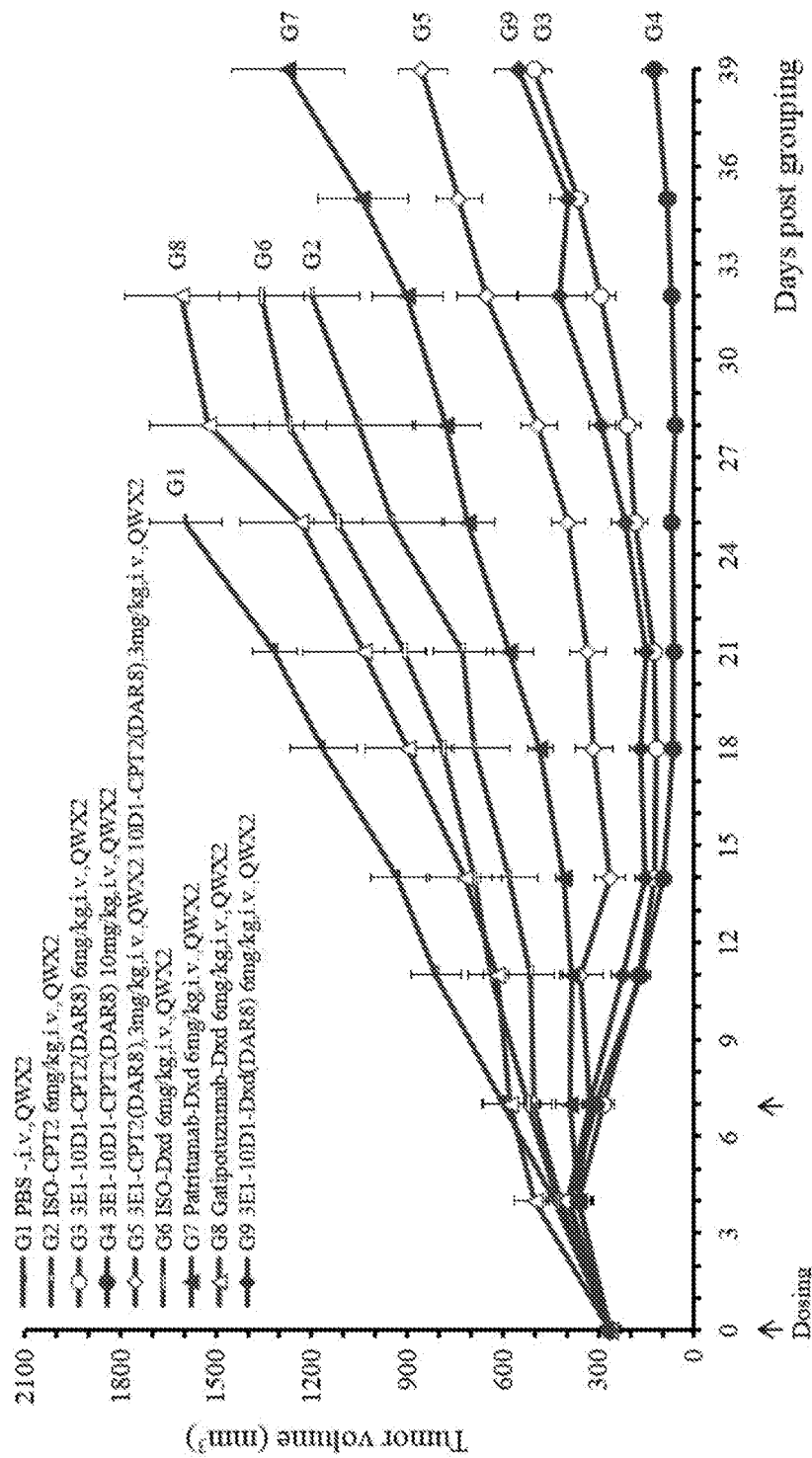


FIG. 19

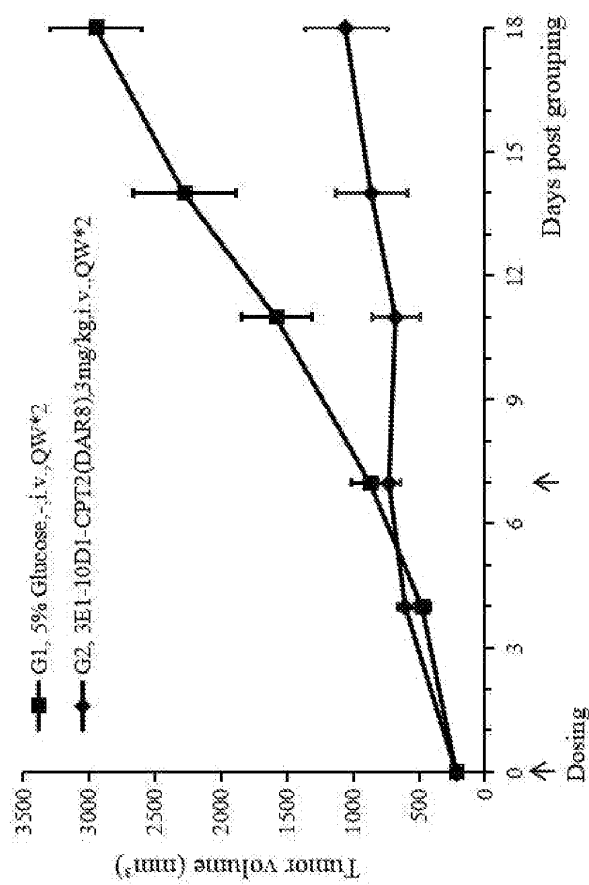


FIG. 20

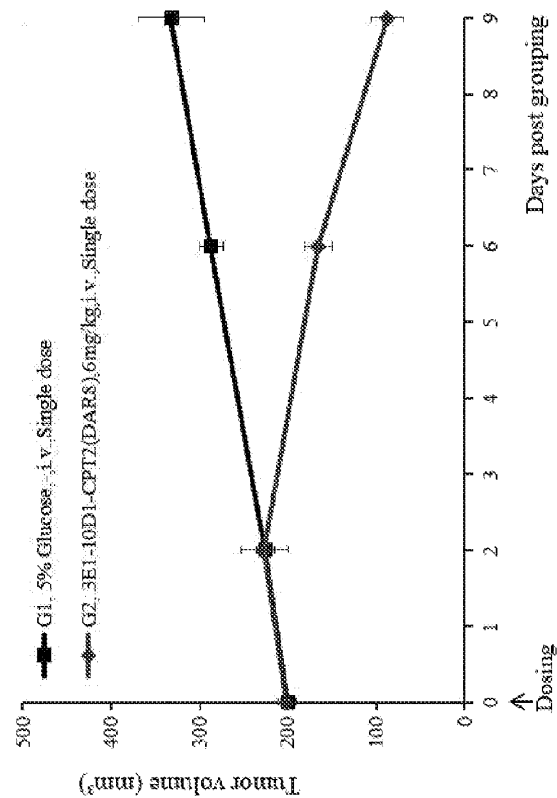


FIG. 21