

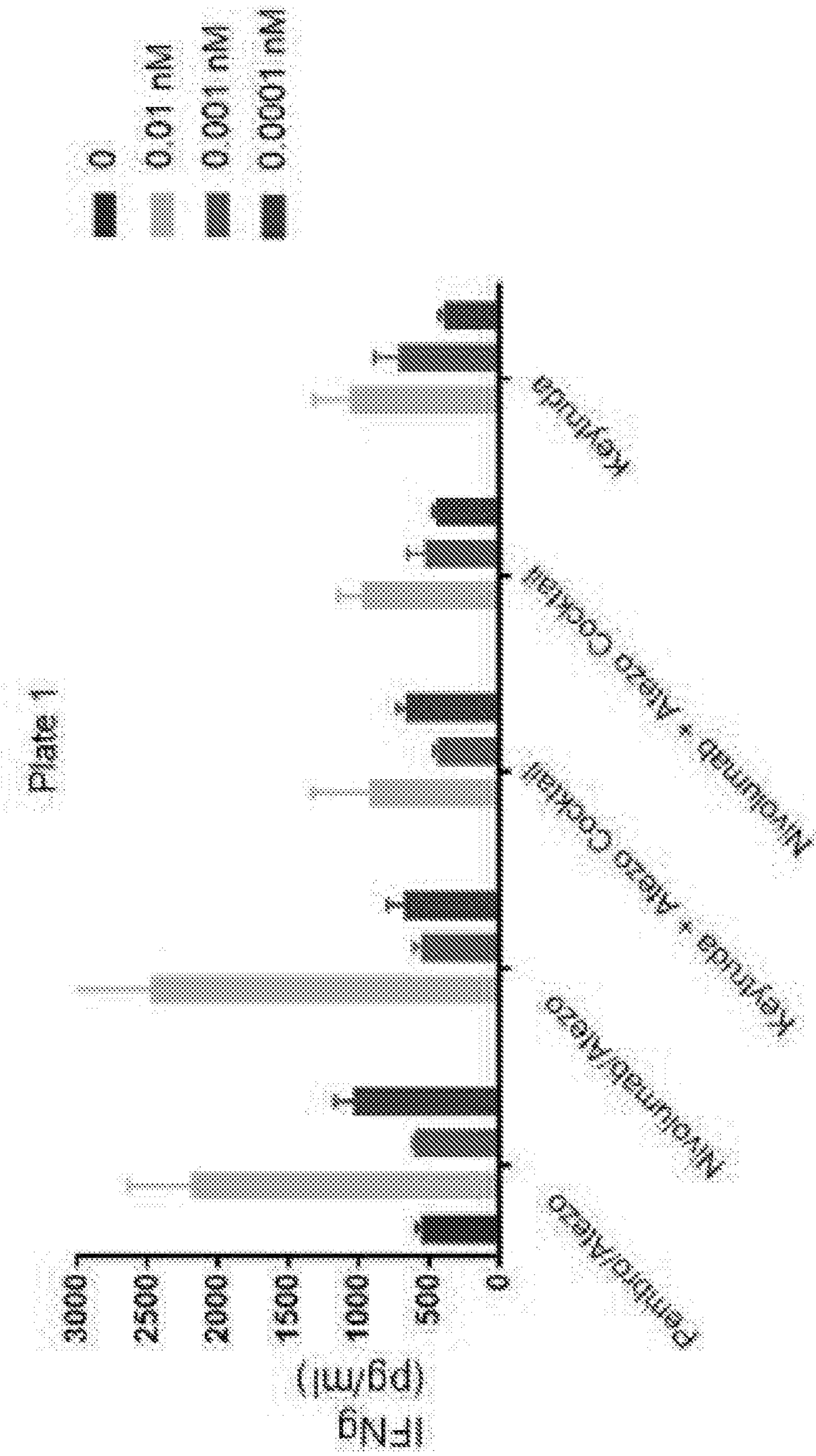


FIGURE 1

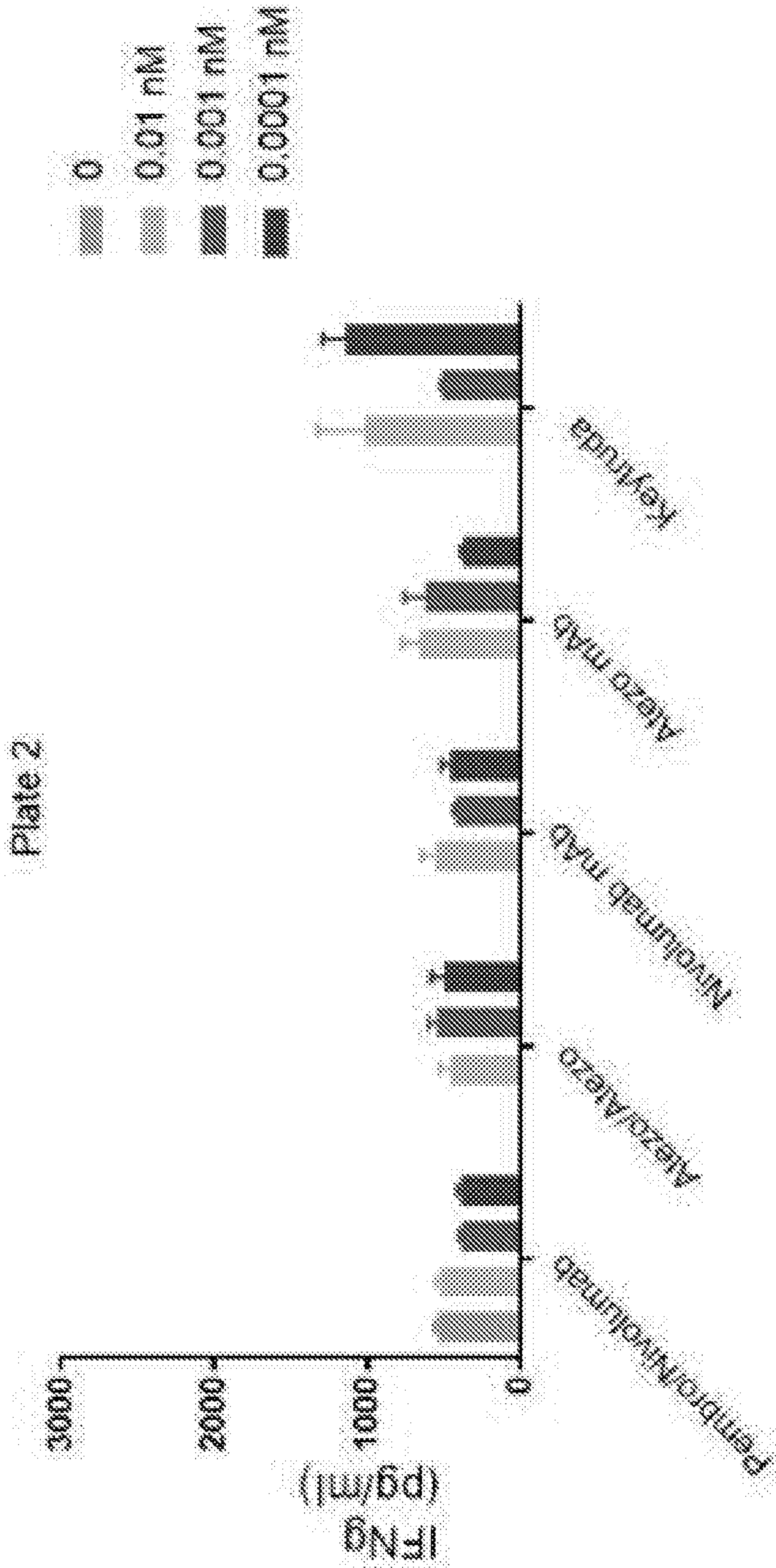
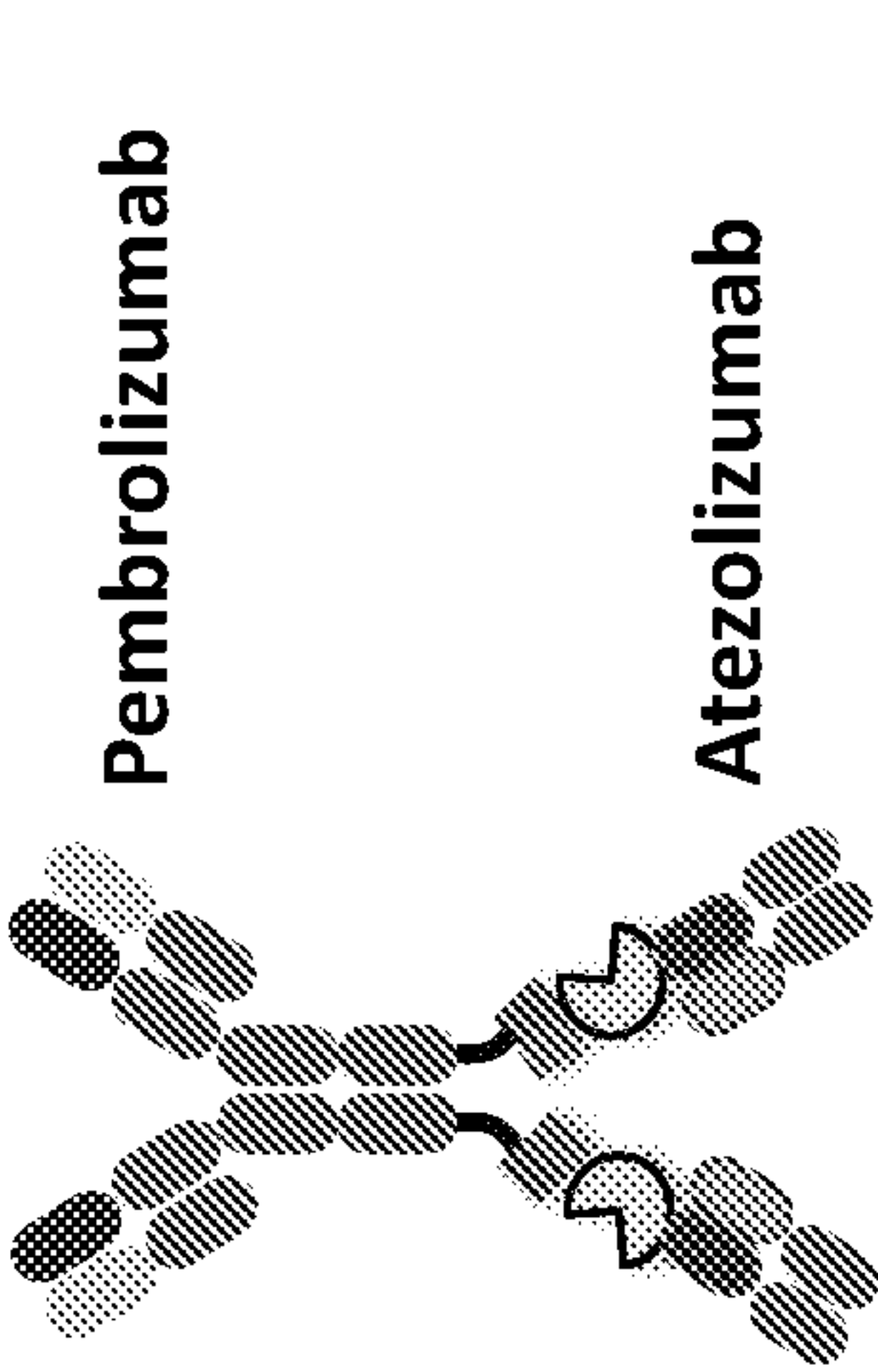
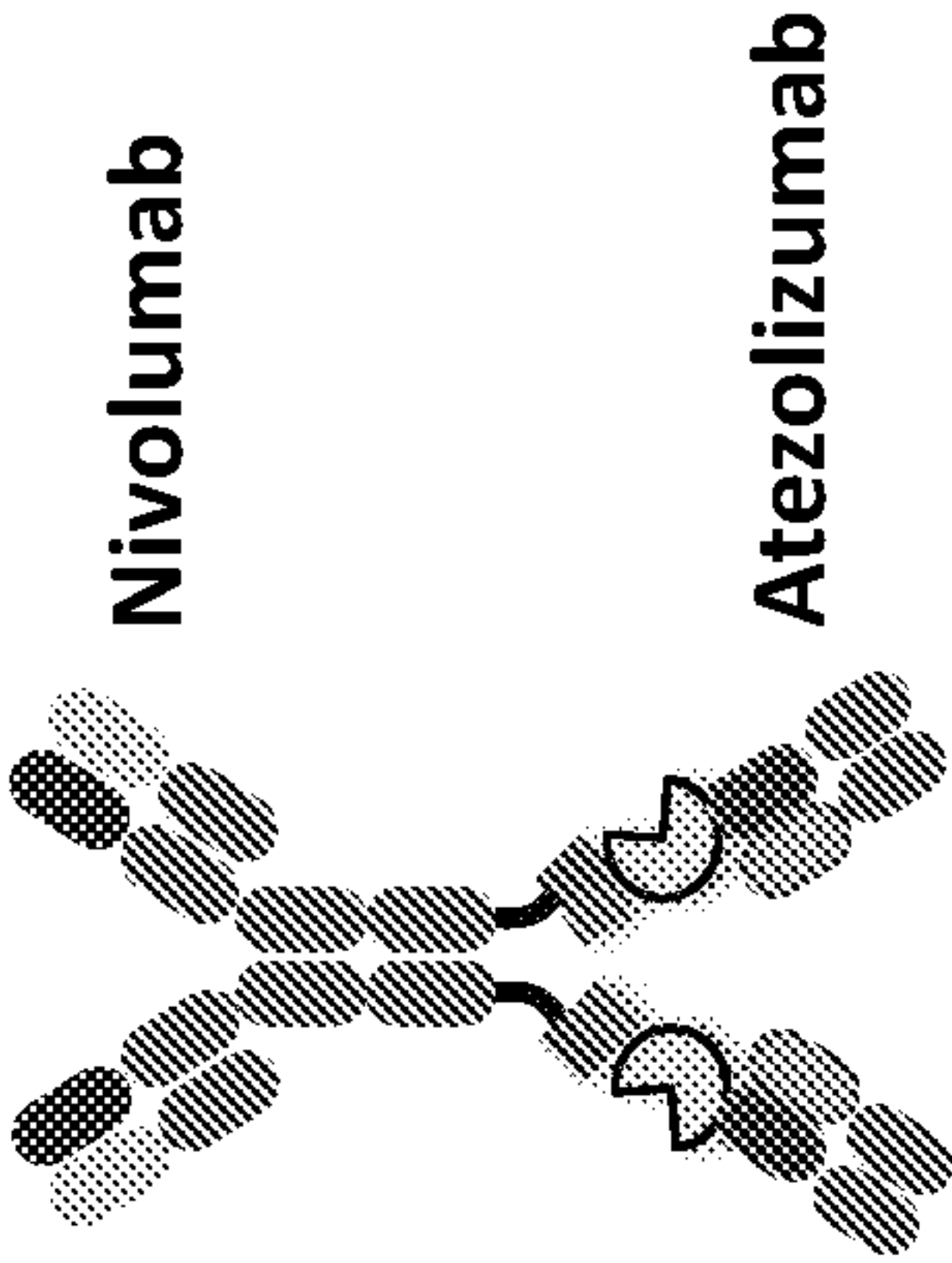


FIGURE 2



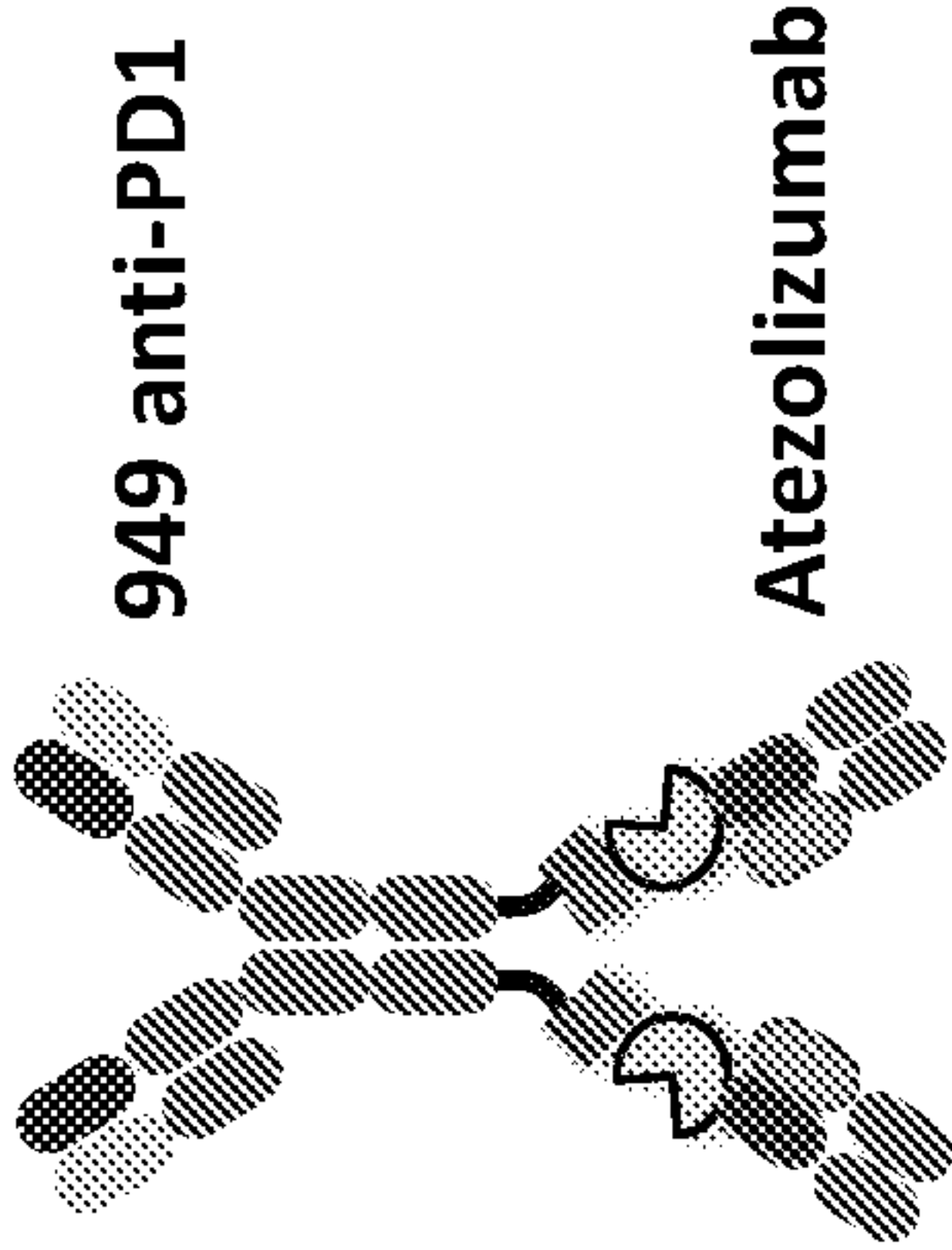
- Pembrolizumab_aglyco-IgG1- (G4S)₄
 - H chain
GTQVQLVQSGVEVKKPGASVKVCKASGYTFTNYYMYWVRQAPGQGLEWMGGINPSNGGTNFKNRVTLTTDSSTTTAYMELKSLQFDDTA VYYCA
RRDYRFDMGFDYWGGGTTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQT
YICNVNHHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYAST
YRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPPVLDSD
GSFFLYSKLTVDKSRWQQGNVVFSCSVMHEALHNHYTQKSLSLSPGKGGGGGGGGGGGGGS
 - L chain
TGEIVLTQSPATLSLSPGERATLSCRASKGVSTSGYSYLHWYQQKPGQAPRLLIYLA SYLESGVPARFSGSGSGTDFTLTISSEPEDFAVYYCQHSDPLPLTFG
GGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEKHKVYACEVTHQOGL
SSPVTKSFNRGECLE
- Atezolizumab_HC Fab-(G4S)₄
 - H chain
GTEVQLVESGGGLVQPGGSLRLSCAASGFTFSDSWIHWRQAPGKGLEWVAWISPYGGSTYYADSVKGRFTISADTSKNTAYLQMNSLRAEDTA VYYCARR
HWPGGFDYWGGGTLVTVSAASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICN
VNHKPSNTKVDKKVEPKSCDKTHTLEGGGGGGGGGGGGGGGGGGGGGS
 - L chain
TGDIQMTQSPSSLSASVGDRVTITCRASQDVSTAVAWYQQKPGKAPKLLIYSA SFLYSGVPSRFSGSGSGTDFTLTISSEPEDFATYYCQQYL YHPATFGQGT
KVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEKHKVYACEVTHQOGLSSPV
TKSFNRGECLE

FIGURE 3



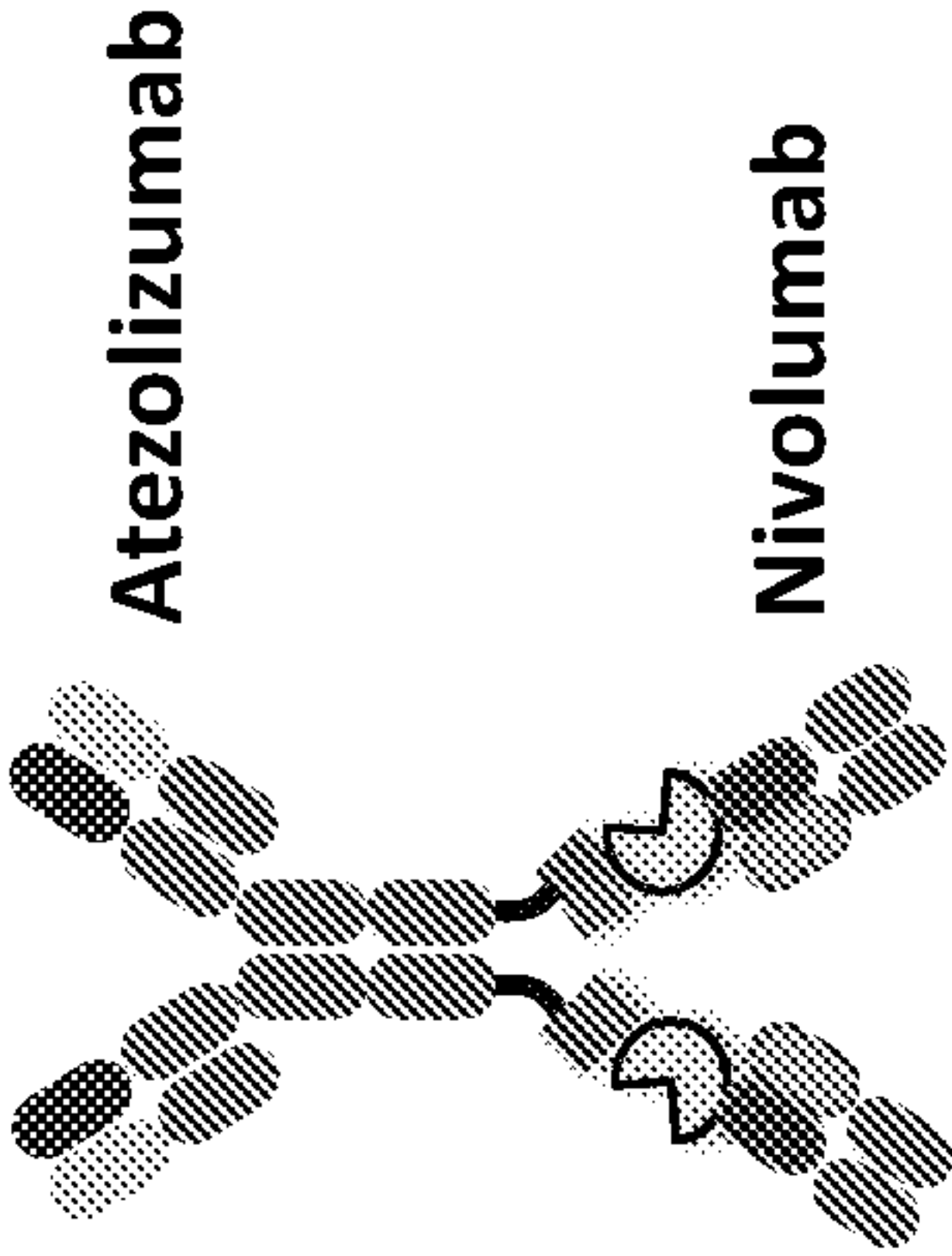
- Nivolumab_aglyco-IgG1-(G4S)₄
 - H chain
GTQVQLVESGGGVVQPGRSLRLDCKASGITFSNSGMHWVRQAPGKGLEWVAVIWYDGSKRYYADSVKGRFTISRDN SKNTLFLQMNSLRAEDTAVYYCAT
NDDYWGGQGLTVTVSSASTKGPSVFPLAPSSKSTSGGTAAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHK
PSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDITLMISRTPETCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVVSVLT
VLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYITLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFFLYSKL
TVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKGGGGGGGGGGGGGS
 - L chain
TGEIVLTQSPATLSLSPGERATLSCRASQSVSSYLAWYQQKPGQAPRLLIYDASNRAATGIPARFSGSGSGTDFTLTISSELPEDFAVYYCQQSSNWPRTFGQGTK
VEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPV
KSFNRGECLE
- Atezolizumab_HC Fab-(G4S)₄
 - H chain
GTEVQLVESGGGLVQPGGSLRLSCAASGFTFSDSWIHWRQAPGKGLEWVAWISPYGGSTYYADSVKGRFTISADTSKNTAYLQMNSLRAEDTAVYYCARR
HWPGGFDYWGGQGLTVTVSAAATKGPSVFPLAPSSKSTSGGTAAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICN
VNHKPSNTKVDKKVEPKSCDKTHTLEGGGGGGGGGGGGGGGGGGGGGS
 - L chain
TGDIQMTQSPSSLSASVGDRVTITCRASQDVSTAVAWYQQKPGKAPKLLIYSASFLYSGVPSRFSGSGSGTDFTLTISLQPEDFATYYCQQYL YHPATFGQGT
KVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPV
TKSFNRGECLE

FIGURE 4



- 949_aglyco-IgG1
 - H chain
GTQVQLQQSGAELVKPGASVKMSCKAFGYTFTTYPIEWMKQNHGKSLEWIGNFHPYNDDTKYNEKFKGAKLTVEKSSTTVYLELSRLTSDDSA VYYCAR
ENYGSHGGFVYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTY
ICNVNHKPSNTKVDKKVEPKSCDKTHTCTPPCAPPELLGGPSVFLFPPKPKDITLMISRTPETCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYASTY
RVVSVLTVLTQDNLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYVTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNNYKTTTPPVLDSDG
SFFLYSKLTVDKSRWQQGNVVFSCSVMHEALHNHYTQKSLSLSPGKGGGGGGGGGGGGGS
 - L chain
TGENVLTQSPA IMSASPGEKVTMTCRASSSVISSYLHWYQQKSGASPKLWYSTSNLASGVPDRFSGSGSGTSYSLTISSEAEADAATYYCQQYNGYPLTFGA
GTKLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEKHKVYACEVTHQGLSS
PVTKSFNRGECLE
- Atezolizumab_HC Fab-(G4S)₄
 - H chain
GTEVQLVESGGGLVQPGGSLRLSCAASGFTFSDSWIHWVRQAPGKGLEWVAWISPYGGSTYYADSVKGRFTISADTSKNTAYLQMNSLRAEDTAVYYCARR
HWPGGFDYWGQGTLVTVSAASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICN
VNHKPSNTKVDKKVEPKSCDKTHTLTLEGGGGGGGGGGGGGGGS
 - L chain
TGD IQMTQSPSSLSASVGDRVTITCRASQDVSTAVAWYQQKPKAPKLLIYASFLYSGVPSRFSGSGGTDFTLTISSLQPEDFATYYCQQYL YHPATFGQGT
KVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPV
TKSFNRGECLE

FIGURE 5



• Atezolizumab_aglyco-IgG1- (G4S)₄

– H chain

GTEVQLVESGGGLVQPGGSLRLSCAASGFTFSDSWIHWRQAPGKGLEWVAWISPYGGSTYYADSVKGRFTISADTSKNTAYLQMNSLRAEDTAVYYCARR
HWPGGFDYWGQGTLVTVSAASTKGPSVFPLAPSSKSTSGGTAAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICN
VNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDITLMISRTPETCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYASTYRVV
SVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYITLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFL
YSKLTVDKSRWQQGNVVFSCSVMHEALHNHYTQKSLSLSPGKGGGGGGGGGGGGGGS

– L chain

TGDIQMTQSPSSLSASVGDRVTITCRASQDVSTAVAWYQQKPGKAPKLLIYSASFLYSGVPSRFSGSGGTDFLTITSSLPQEDFATYYCQQYLYHPATFGQGT
KVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPV
TKSFNRGECLE

• Nivolumab_HC Fab-(G4S)₄

– H chain

GTQVQLVESGGGVVQPGRSLRLDCKASGITFSNSGMHWVRQAPGKGLEWVAVIWYDGSKRYYADSVKGRFTISRDN SKNTLFLQMNSLRAEDTAVYYCAT
NDDYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVN HK
PSNTKVDKKVEPKSCDKTHTLTLEGGGGGGGGGGGGGGGGS

– L chain

TGEIVLTQSPATLSLSPGERATLSCRASQSVSSYLAWYQQKPGQAPRLLIYDASN RATGIPARFSGSGGTDFLTITSSLEPEDFAVYYCQQSSNWPRTFGQGTK
VEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPV
KSFNRGECLE

FIGURE 6

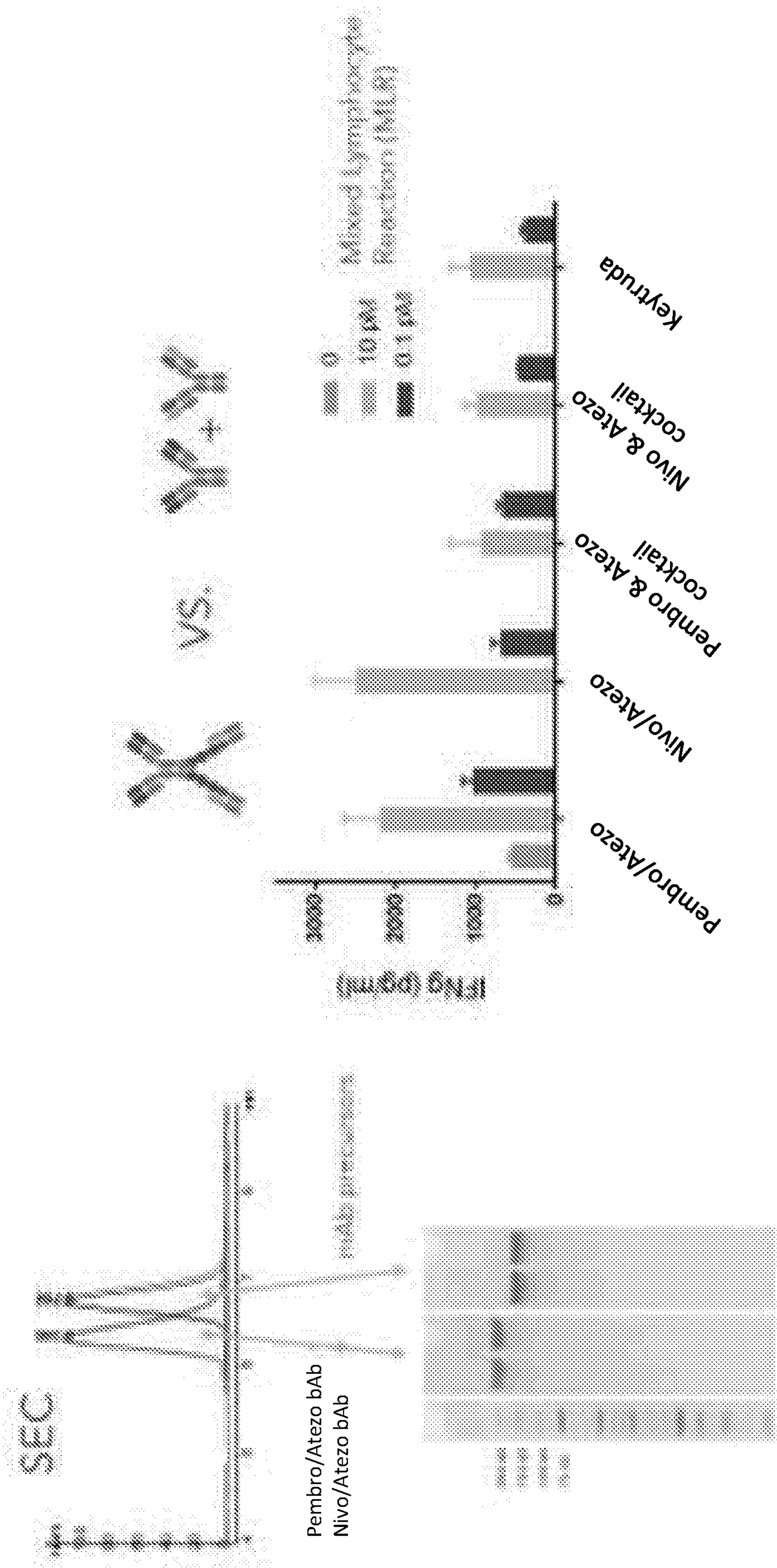


FIGURE 7

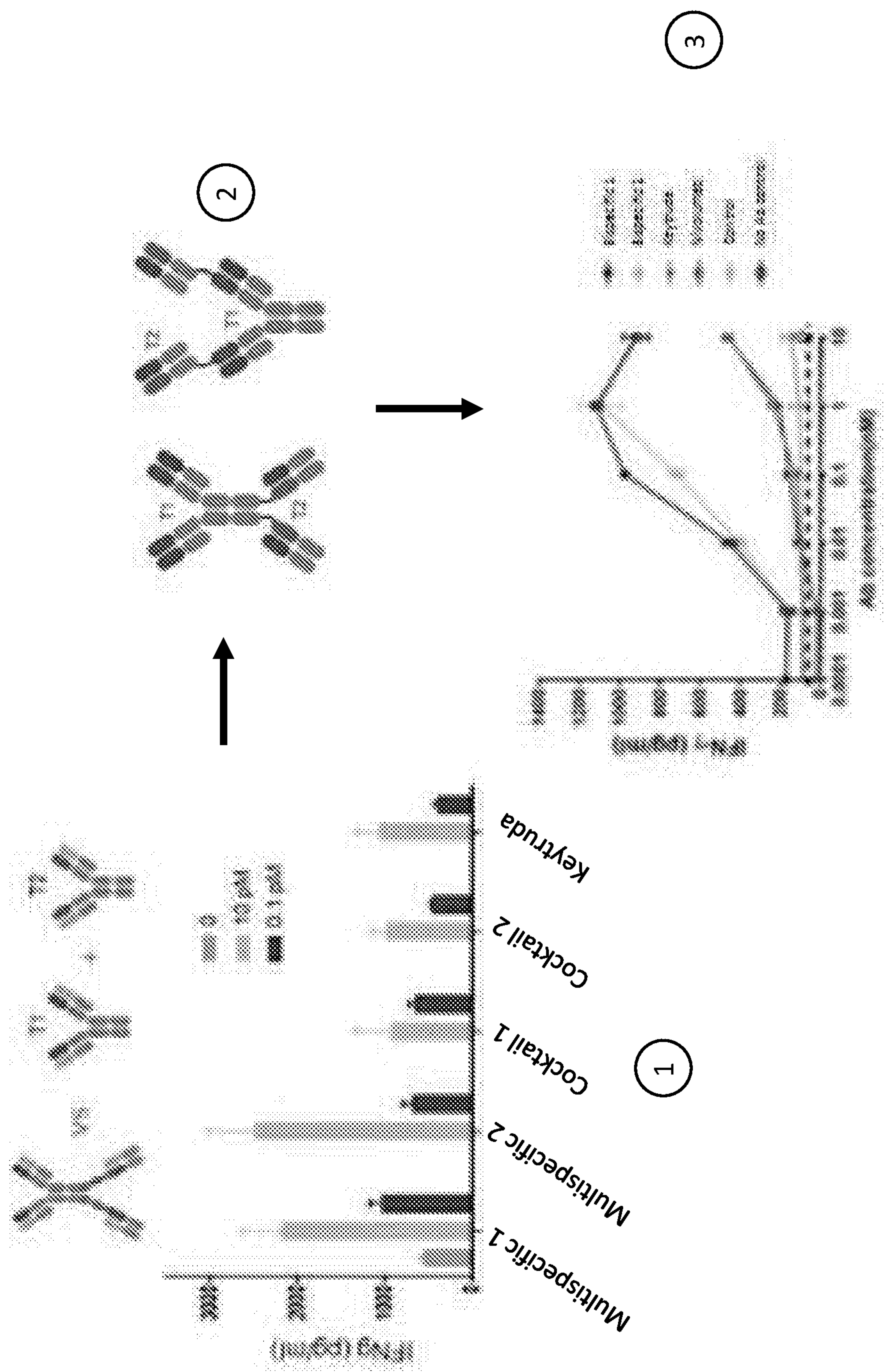


FIGURE 8

Figure 9A

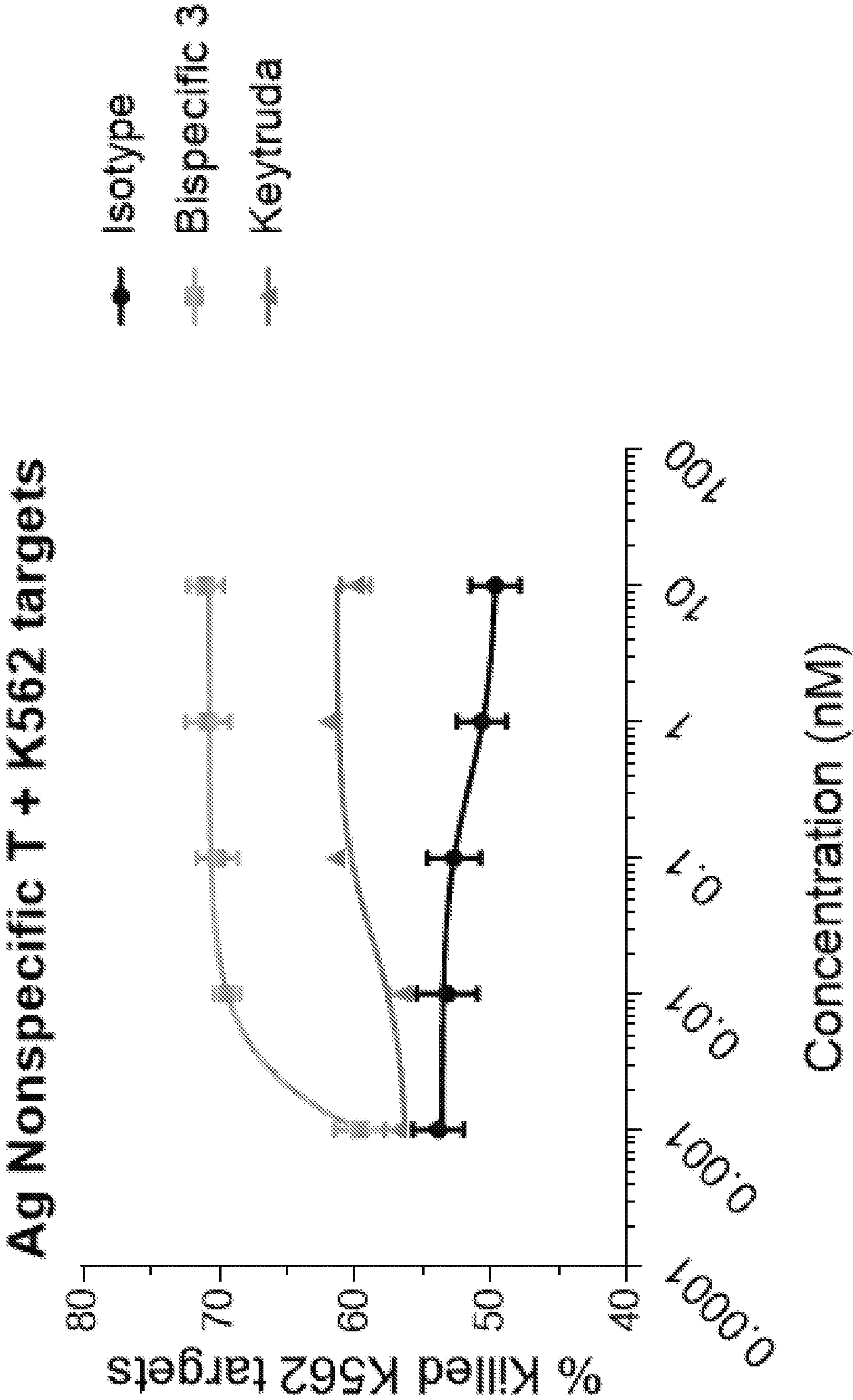


Figure 9B

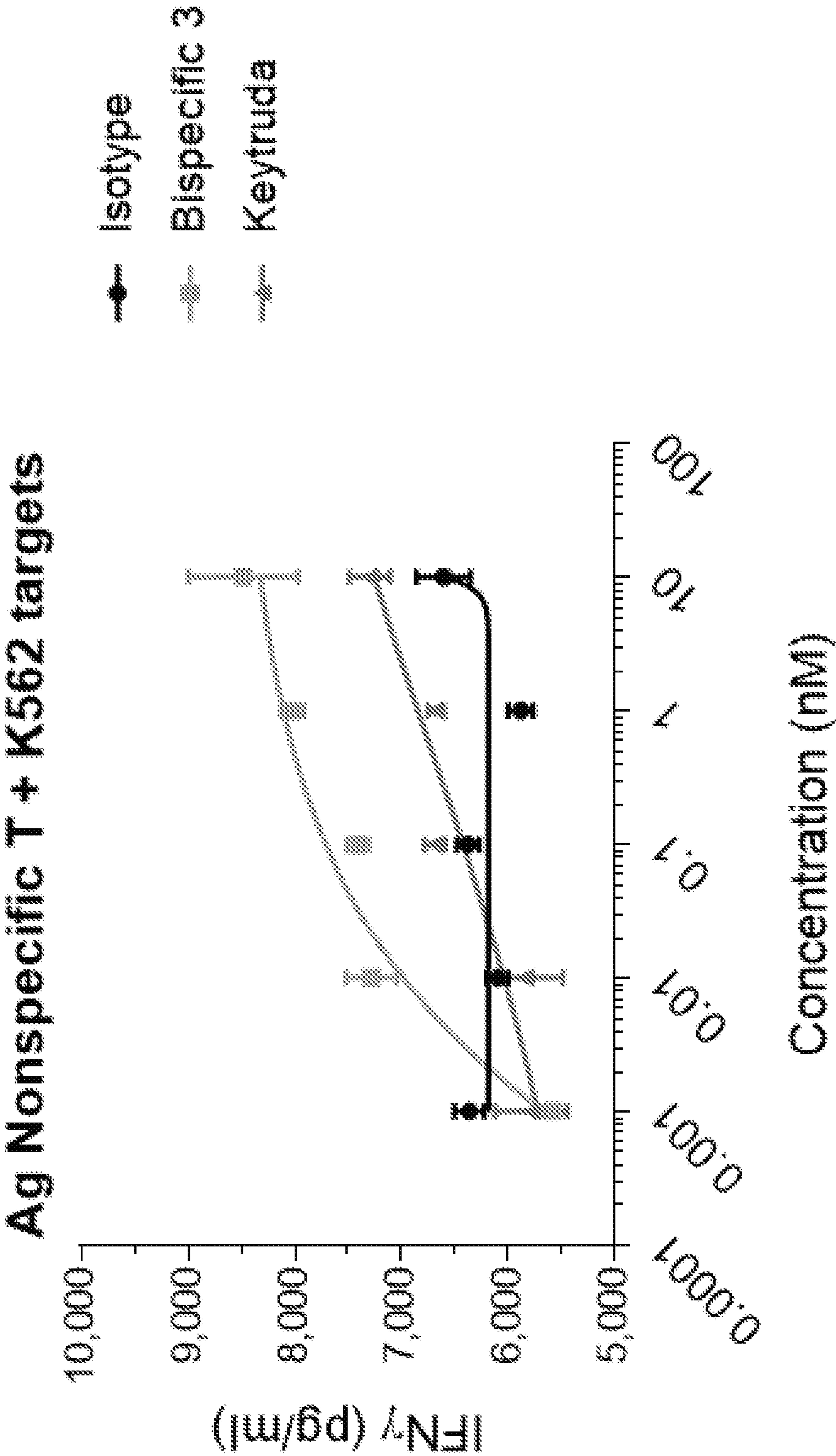
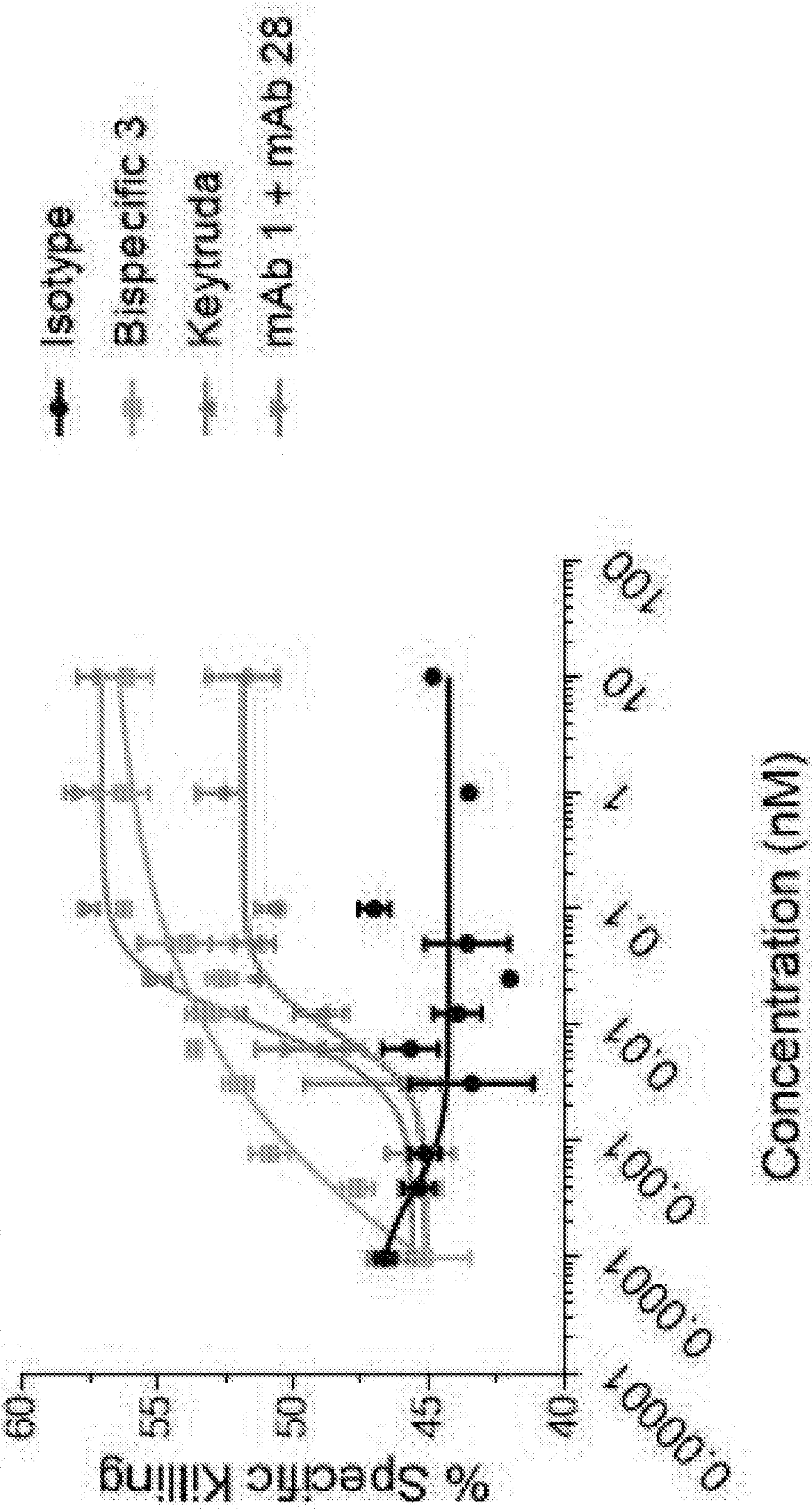


Figure 10A

Antigen-specific T cells + Tumor targets



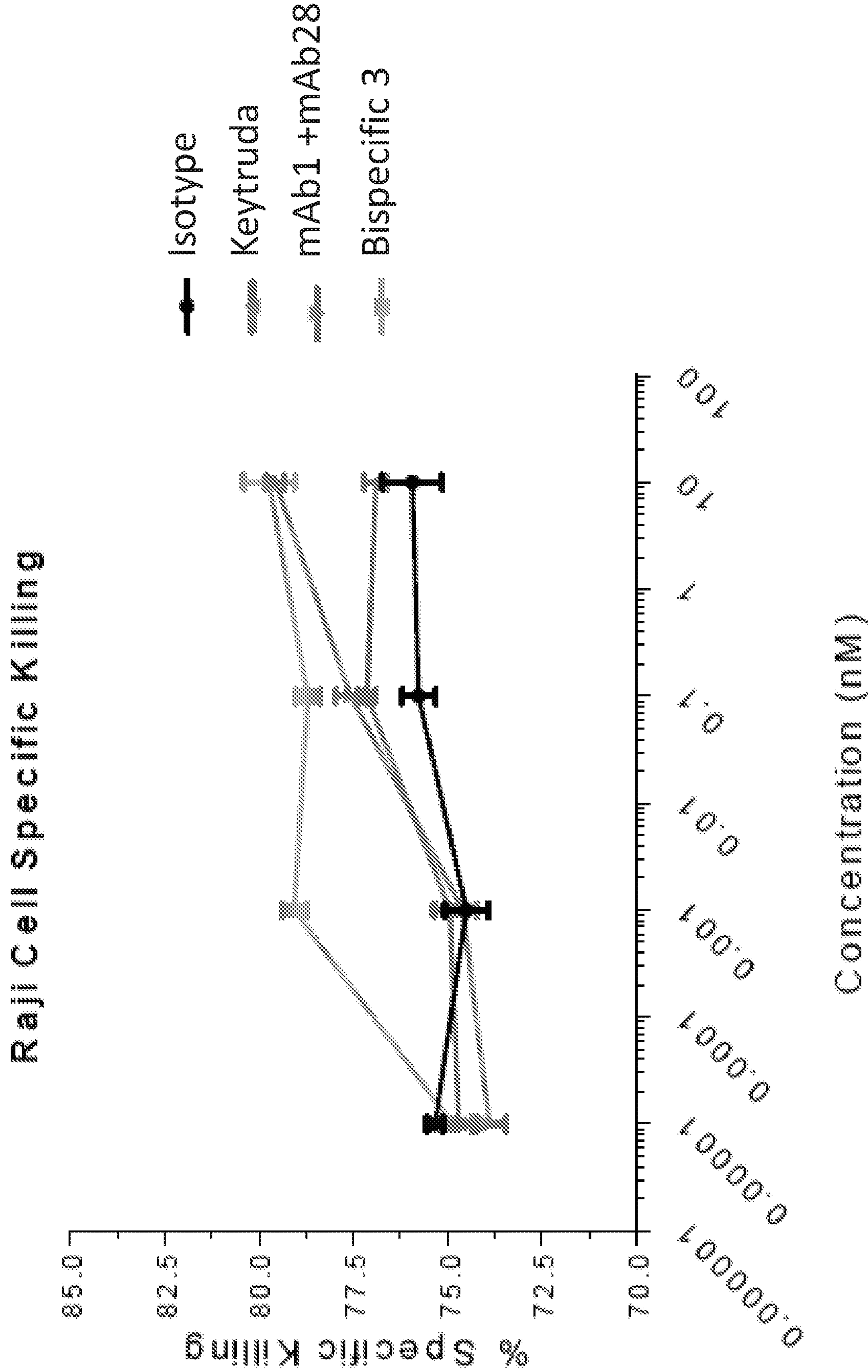


Figure 10B

Figure 11

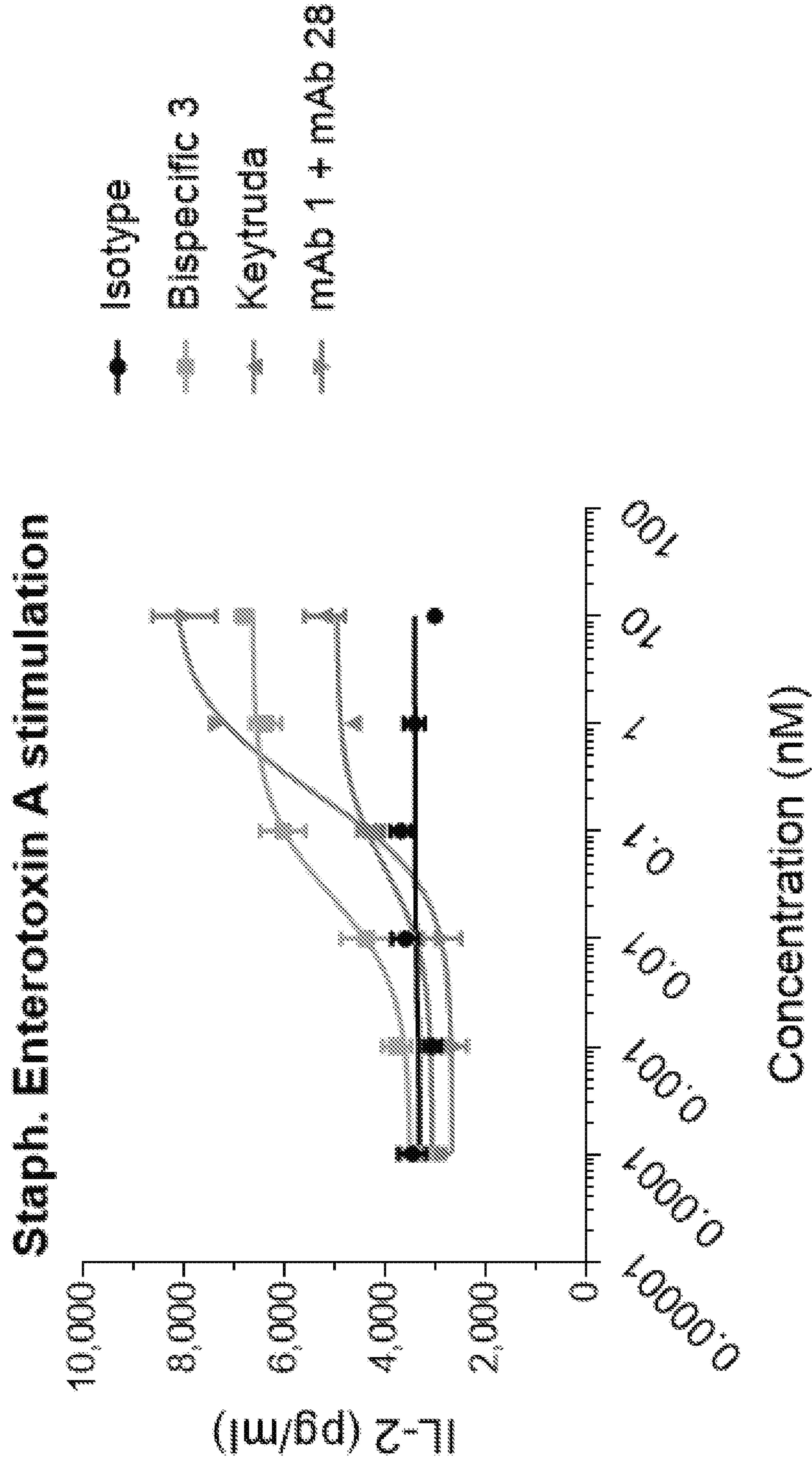


Figure 12A

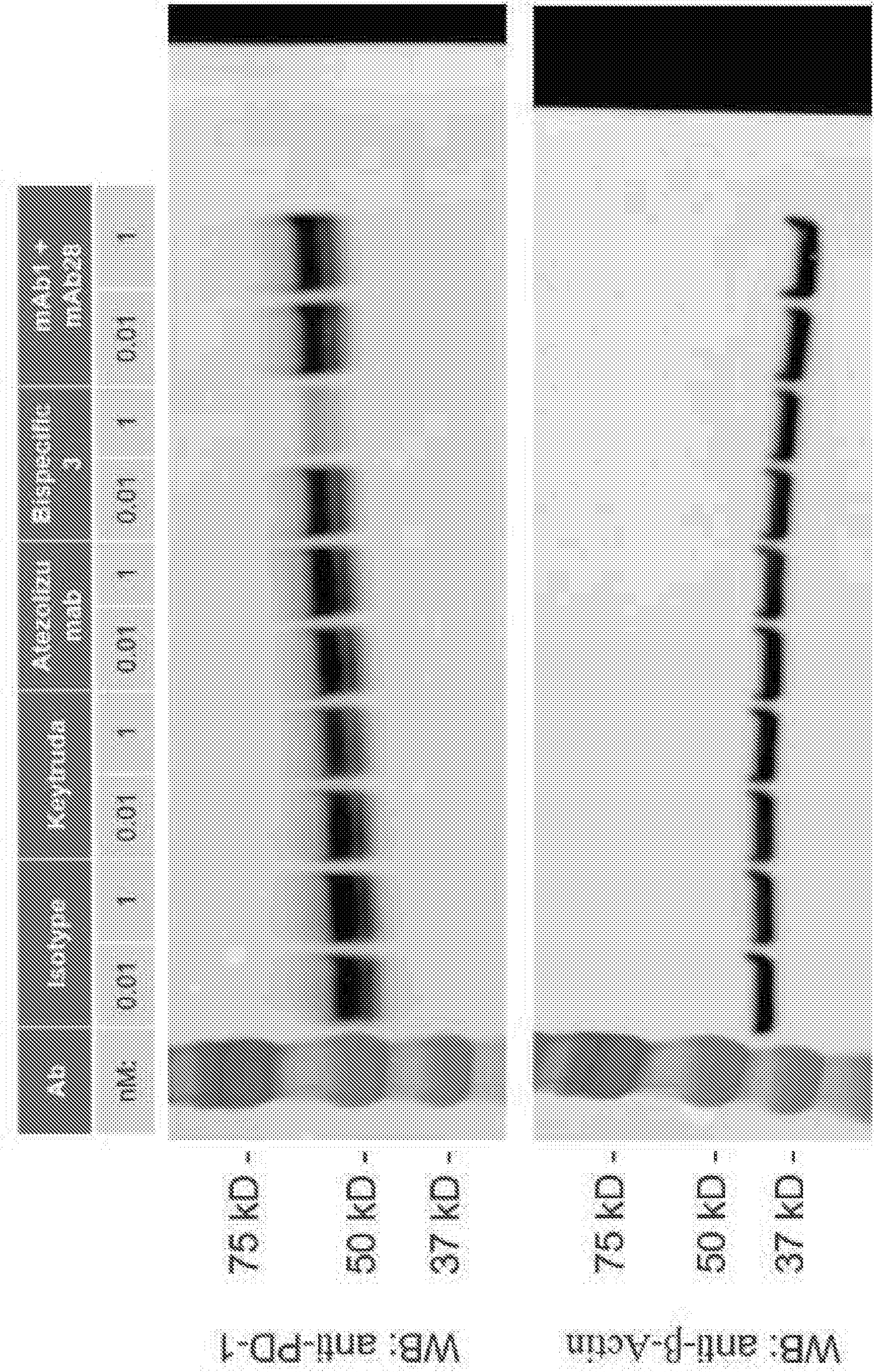


Figure 12B

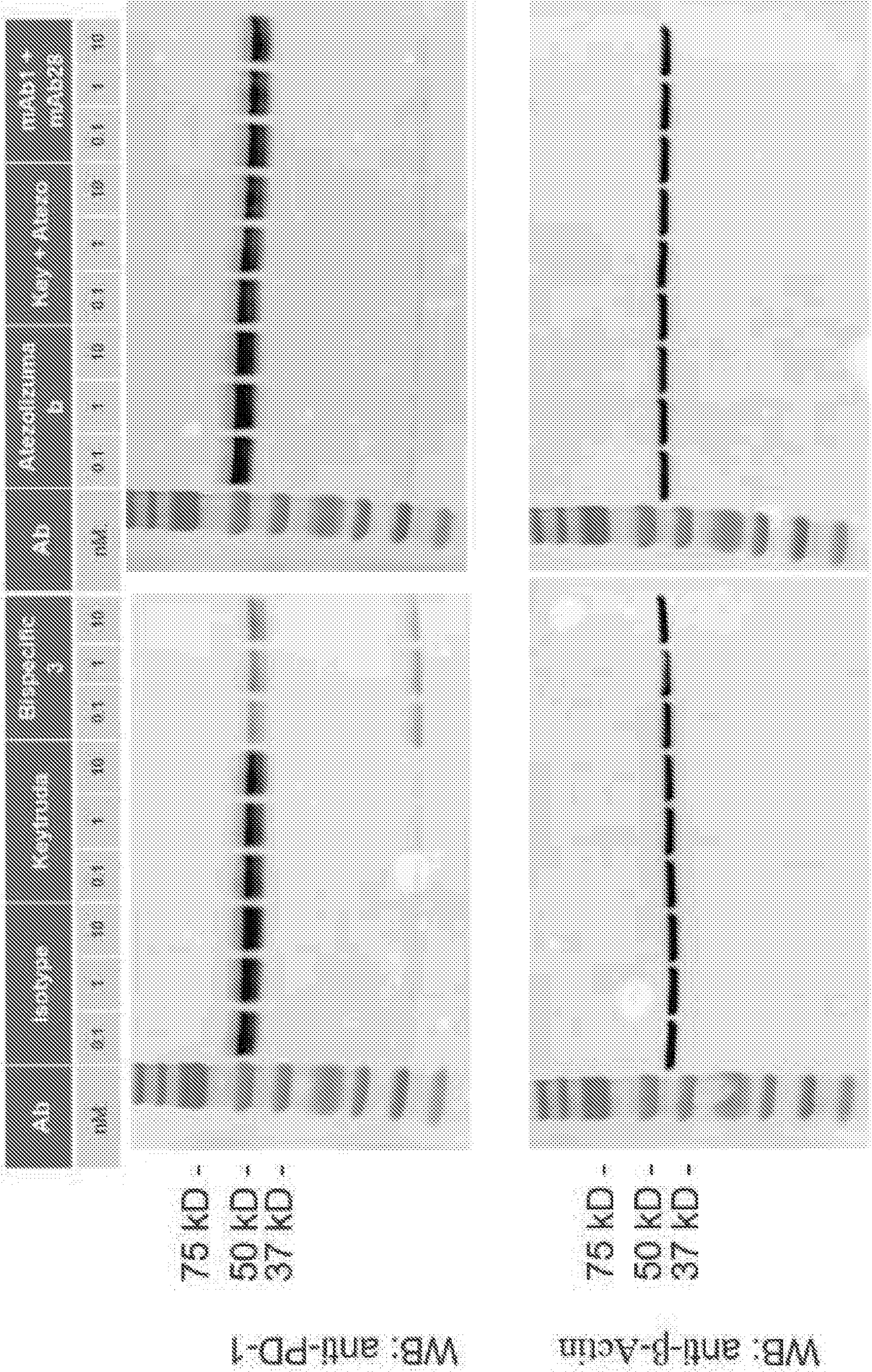


Figure 12C

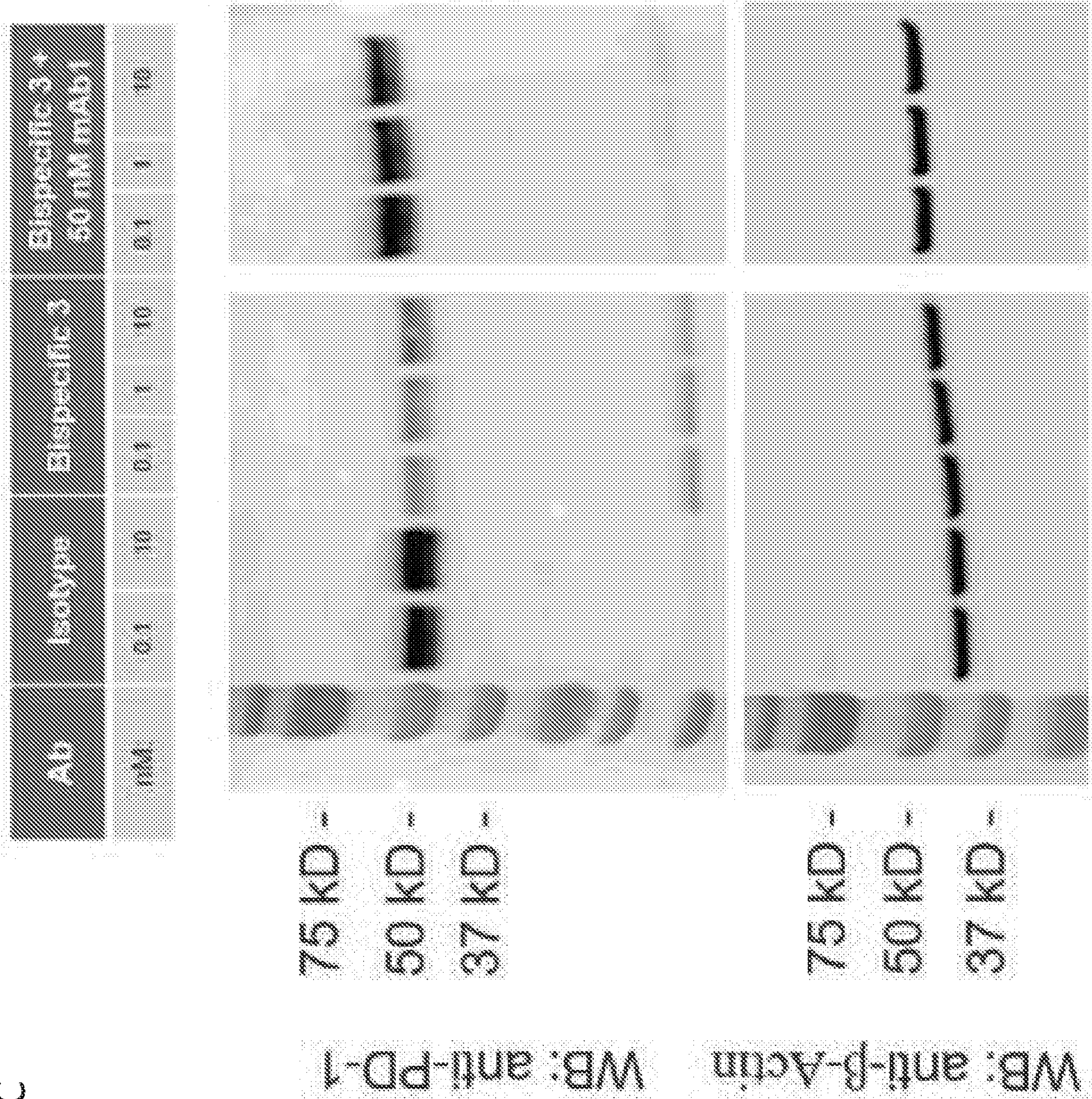


Figure 12D

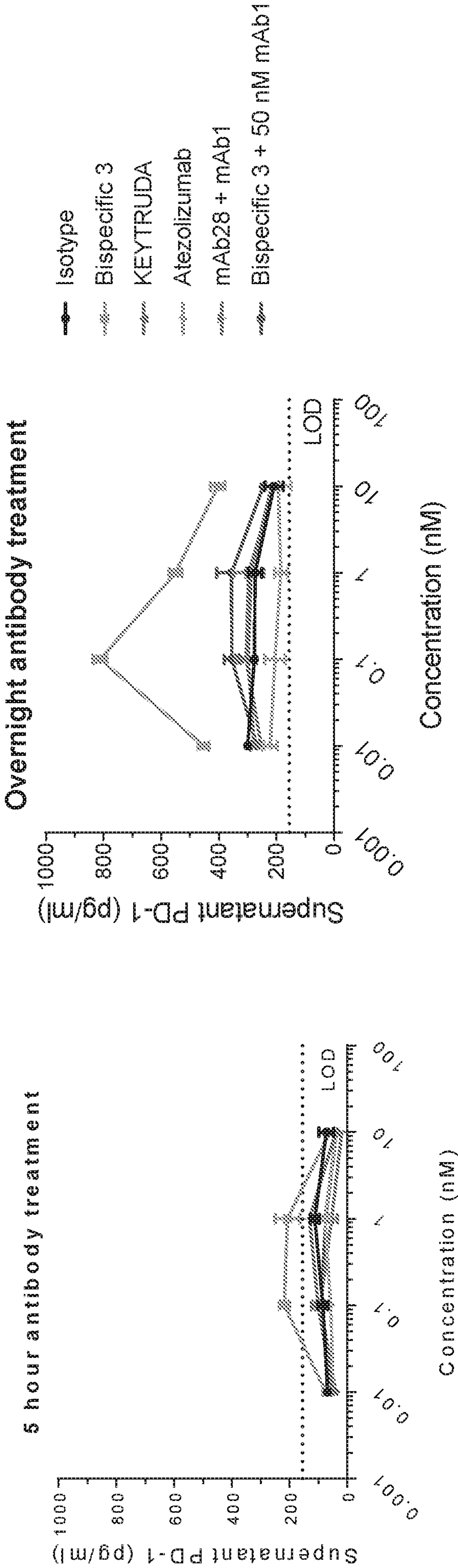
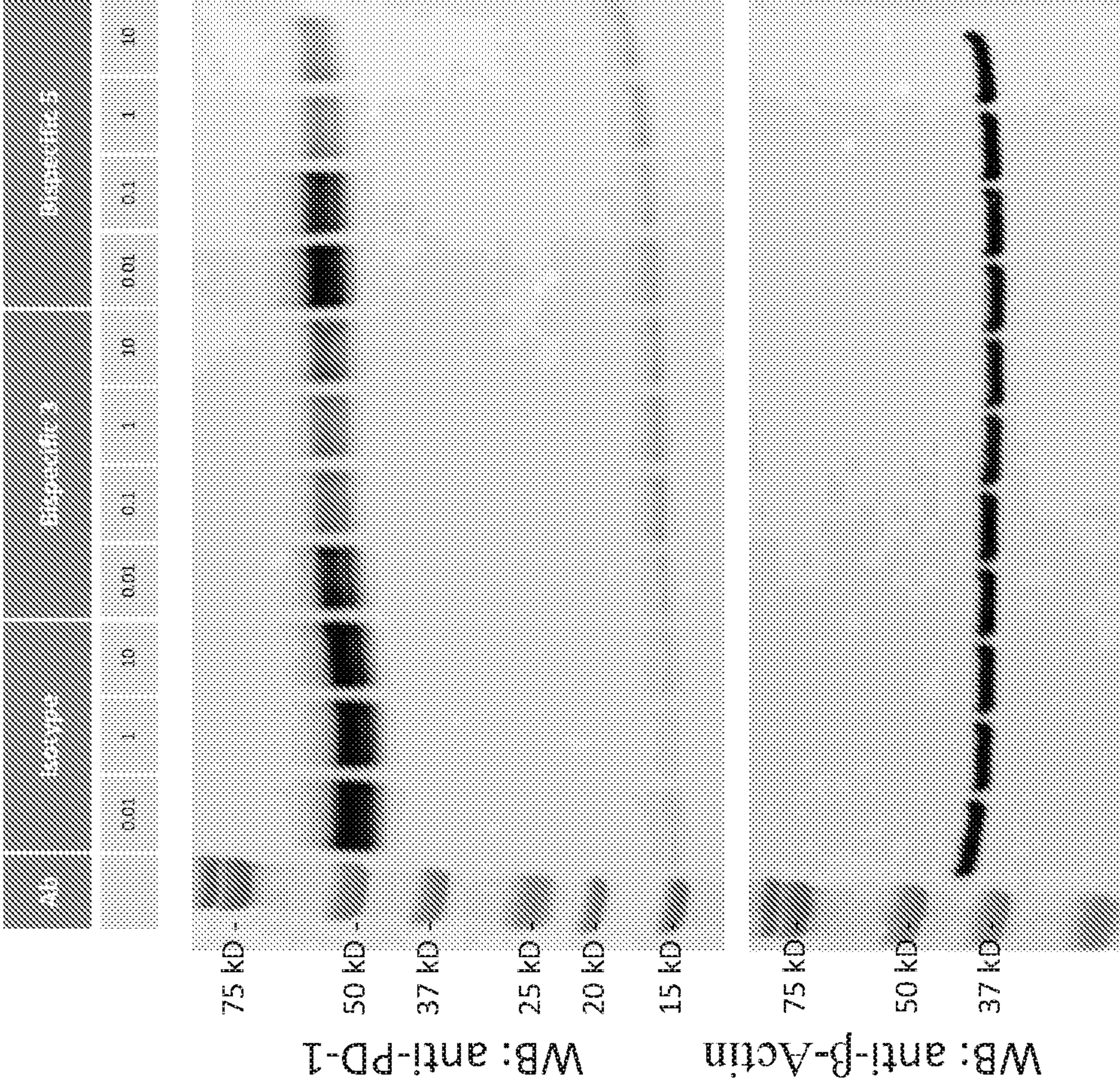


Figure 12E



Molecule	N-Term Fab	C-Term Fab	Valency
Bispecific 3	mAb28 (PD-1)	6068 (PD-L1)	2:2
Bispecific 5	mAb28 (PD-1); mAb1 (PD-L1) (monovalent)	n.a.	1:1

Figure 12F

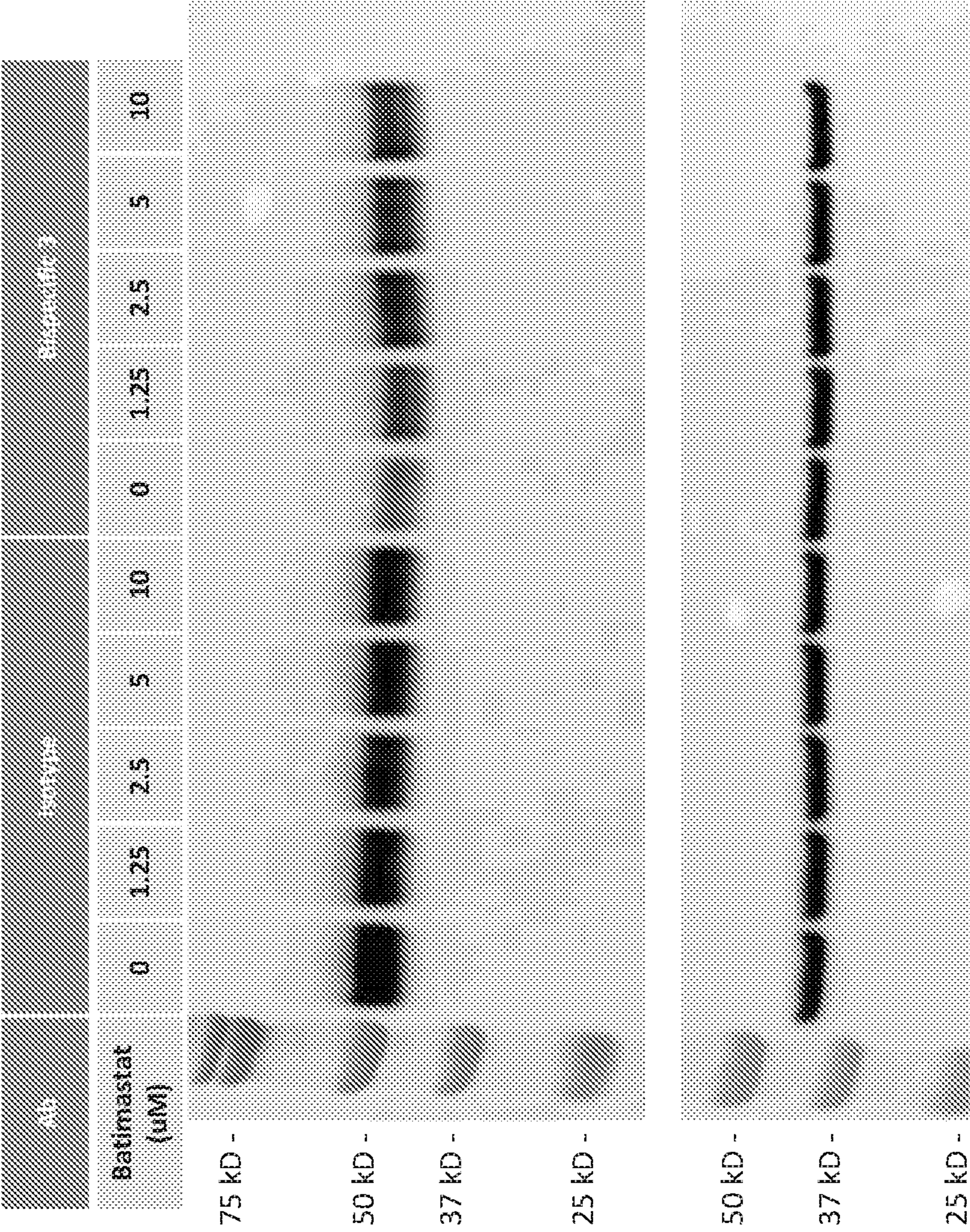


Figure 12G

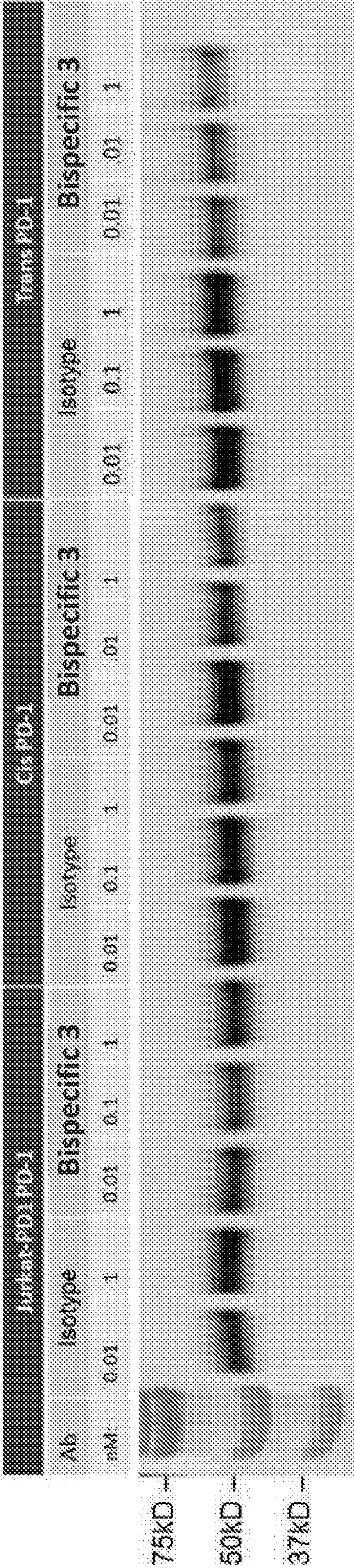


Figure 13A

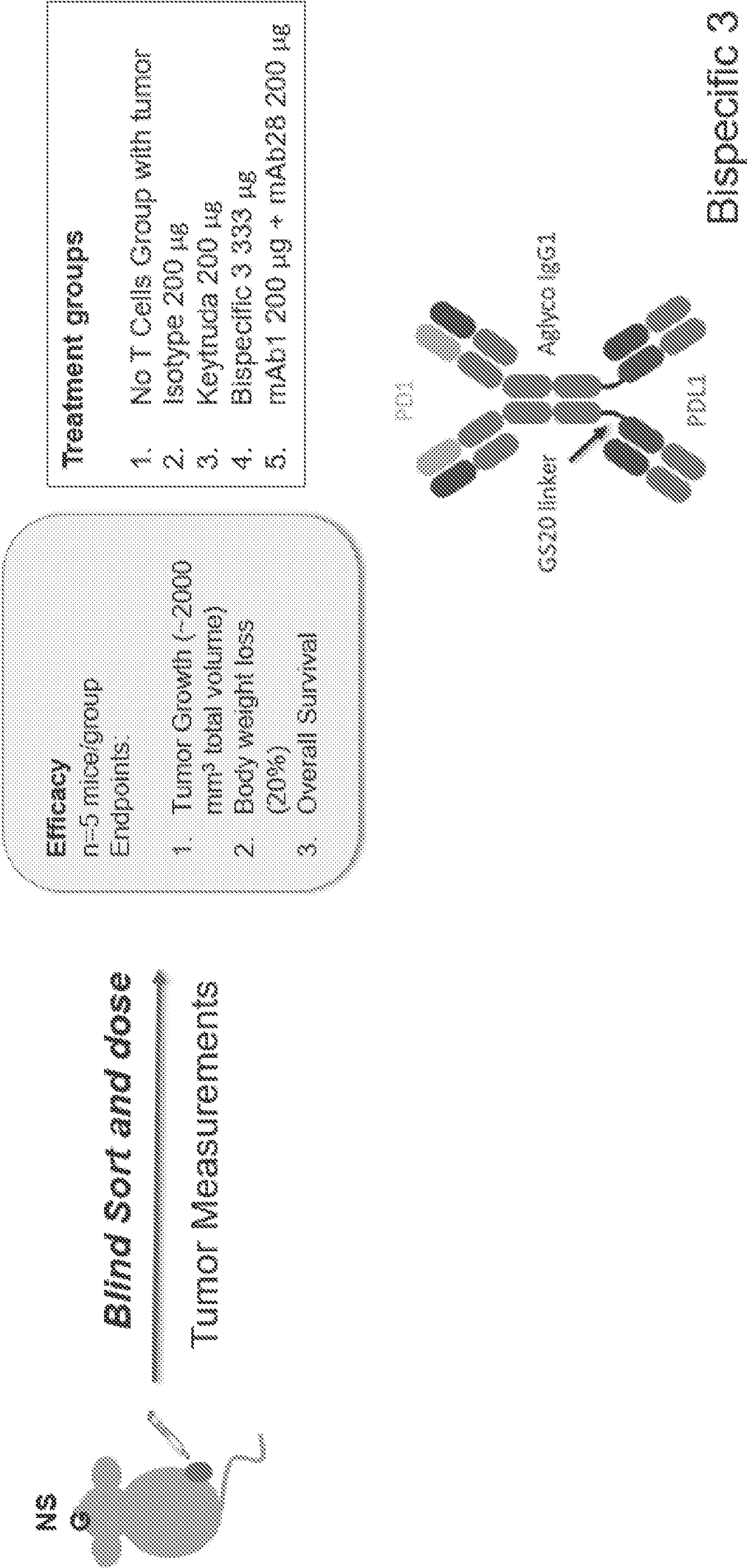
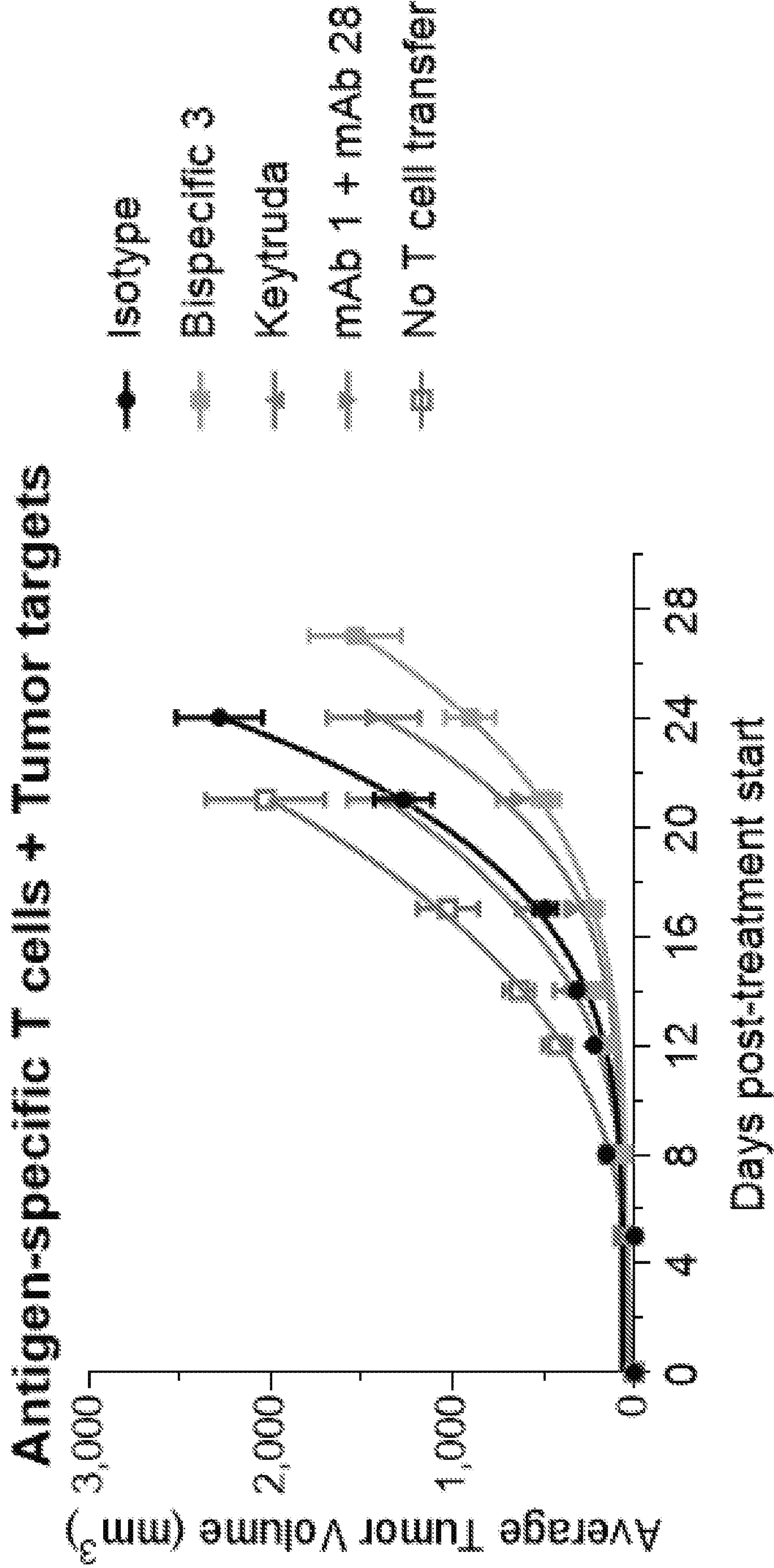


Figure 13B



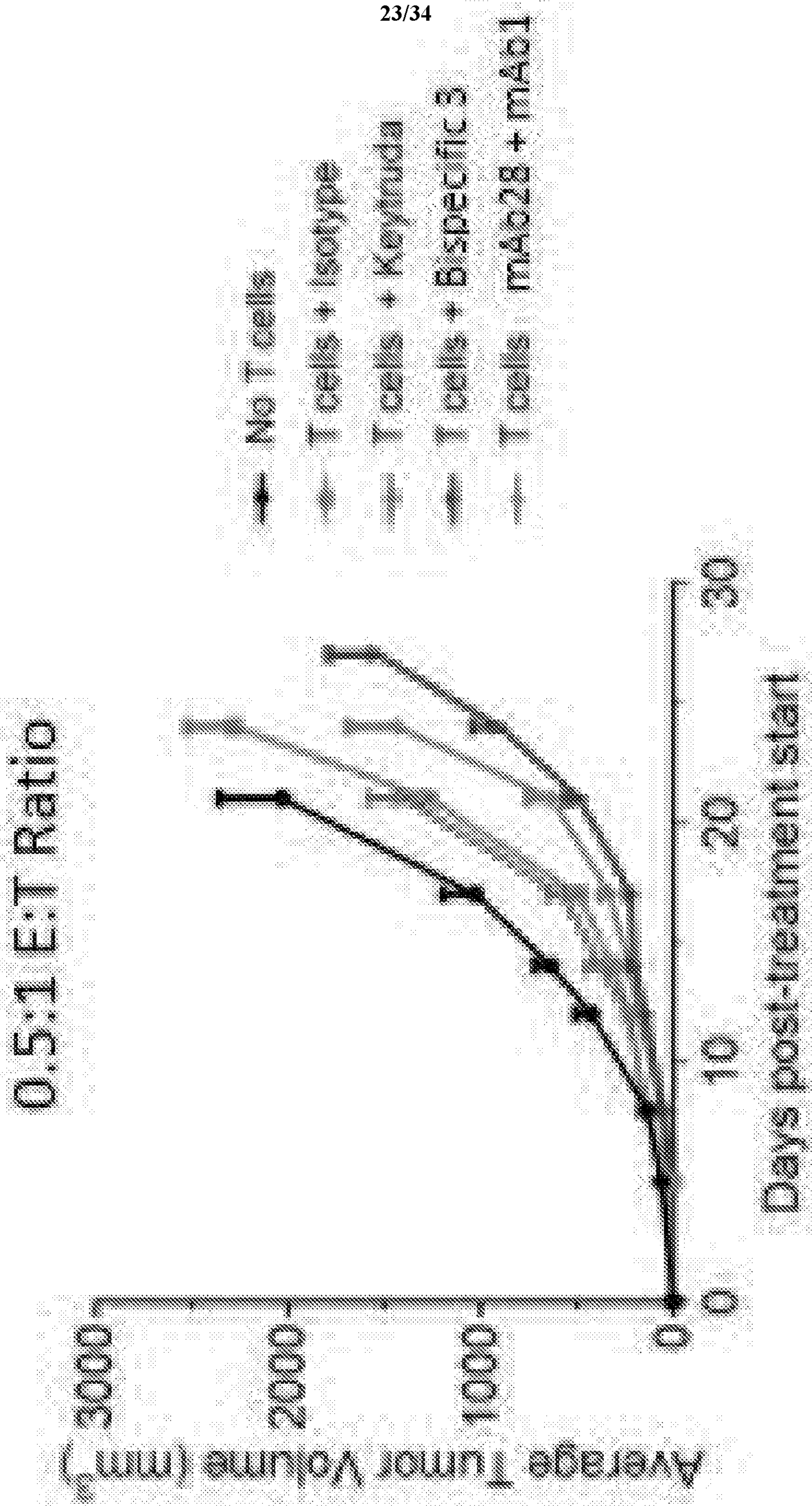


Figure 14A

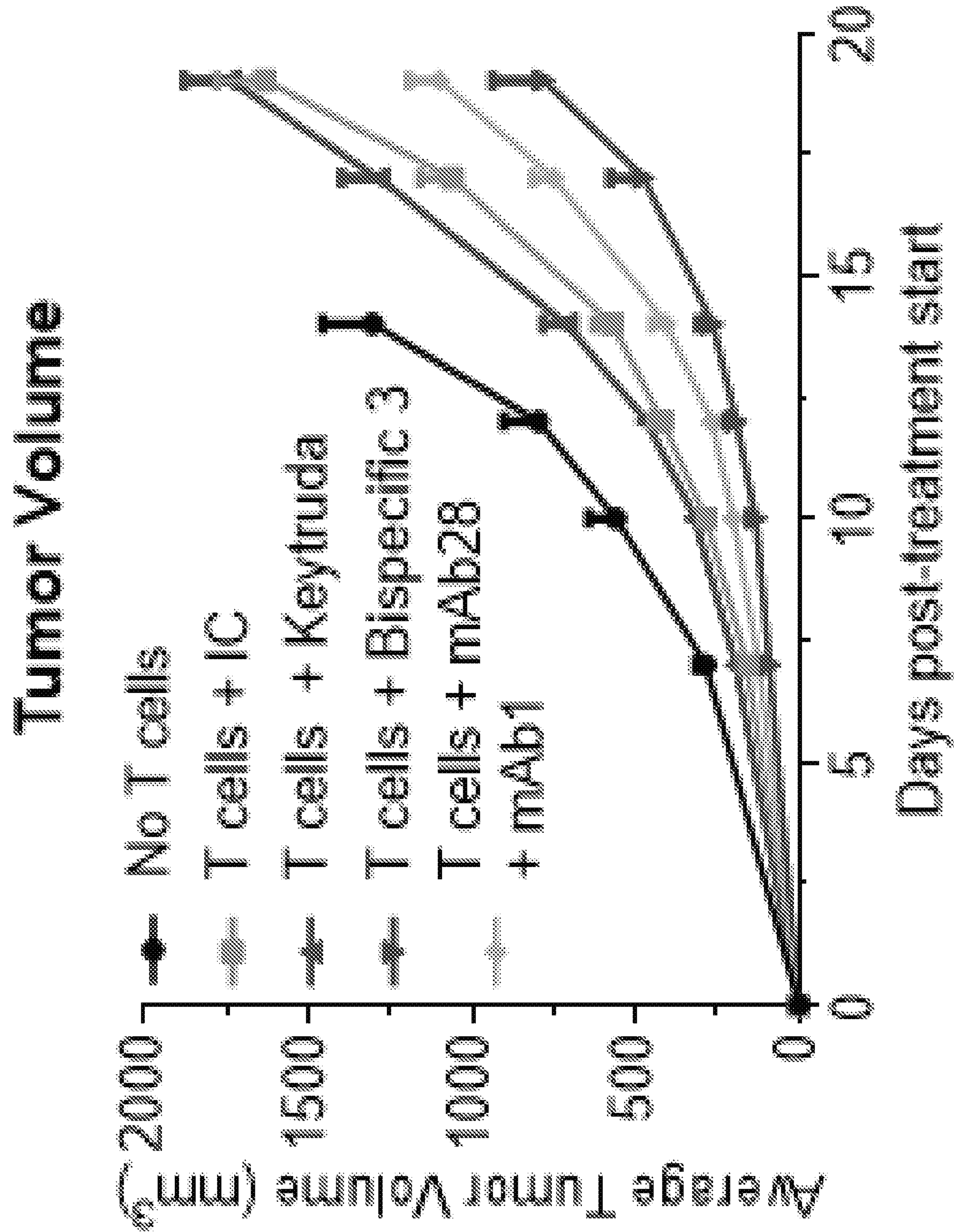


Figure 14B

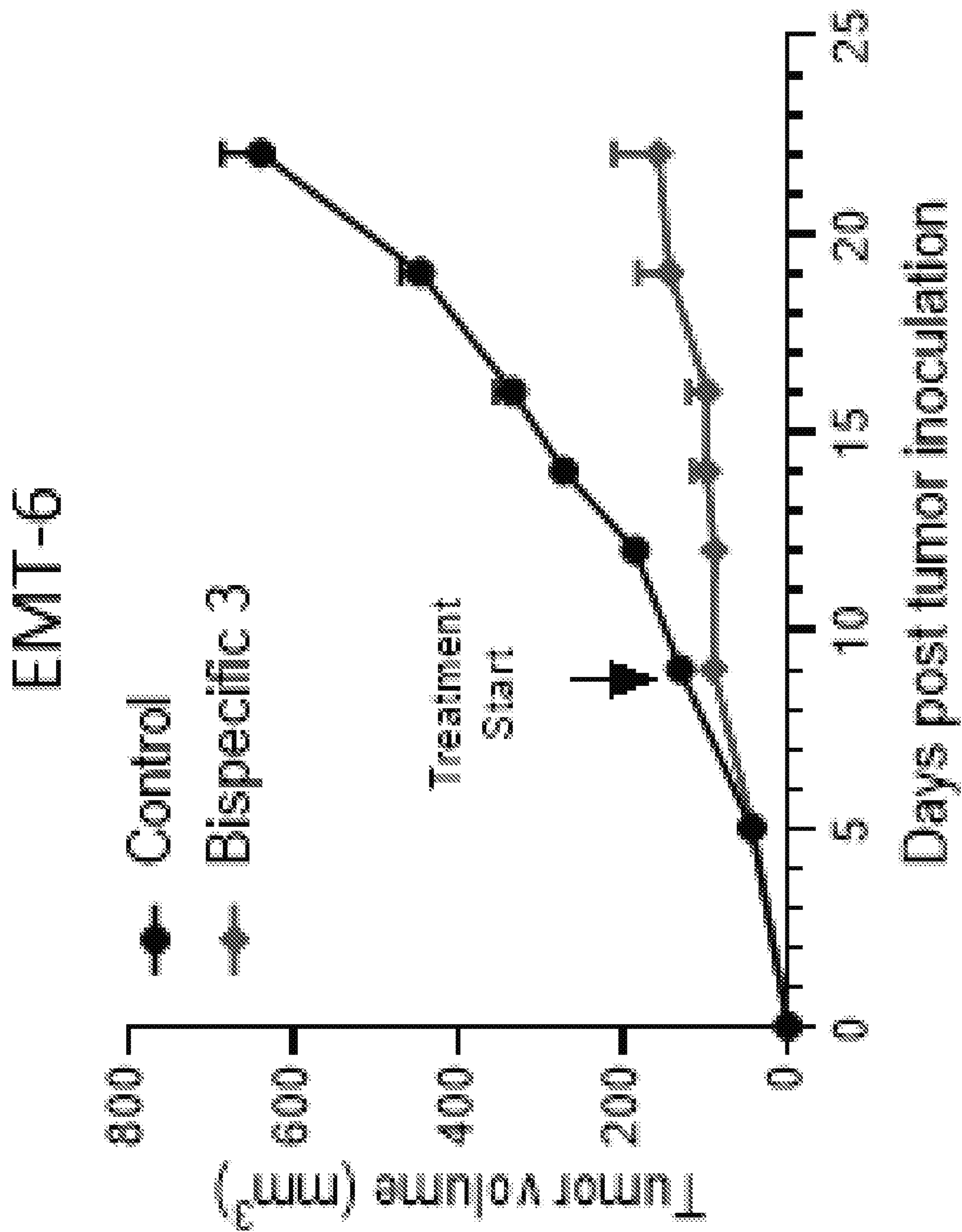


Figure 15A

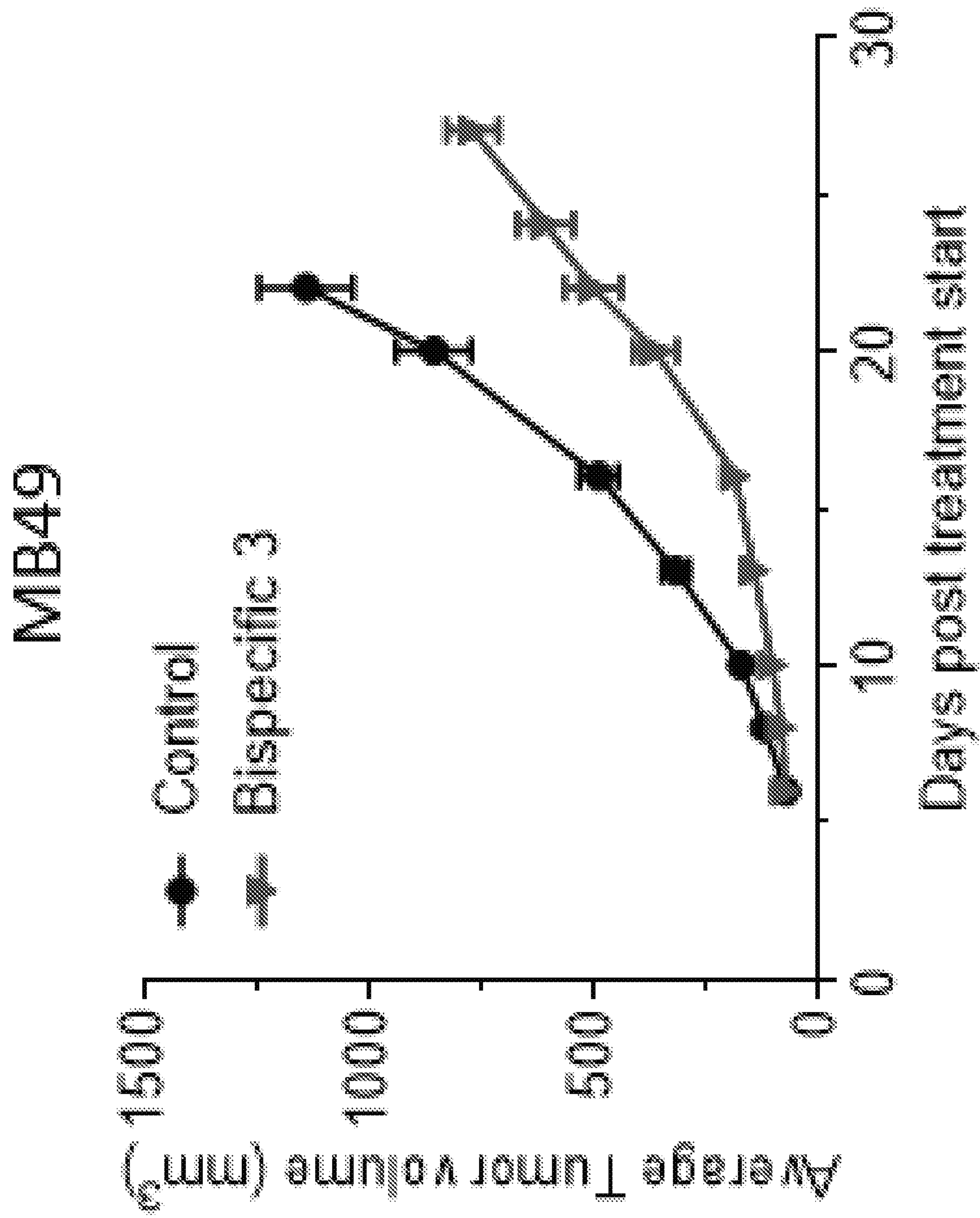


Figure 15B

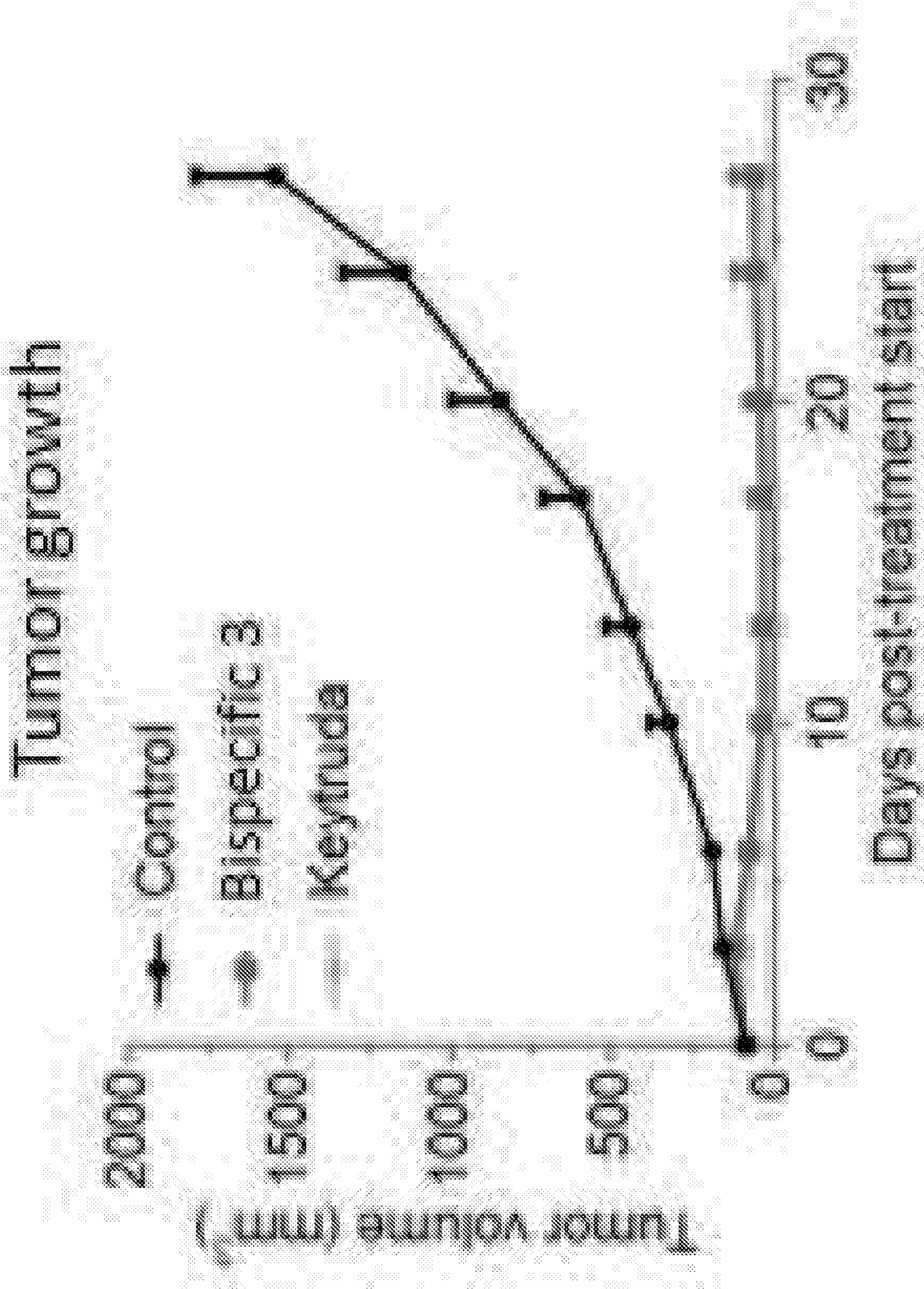
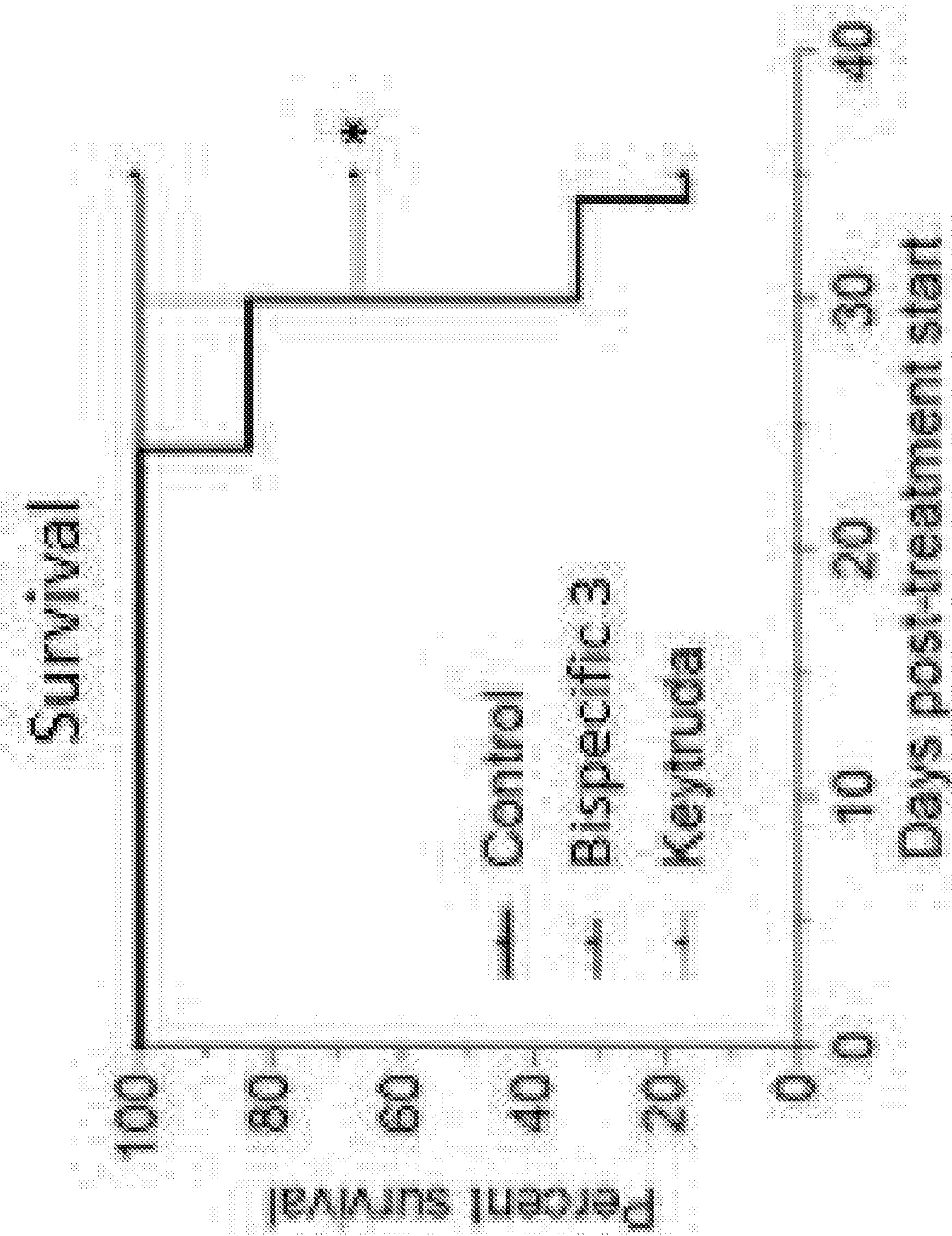


Figure 16A



* 2 mice sacrificed due to inflammatory skin lesions

Figure 16B

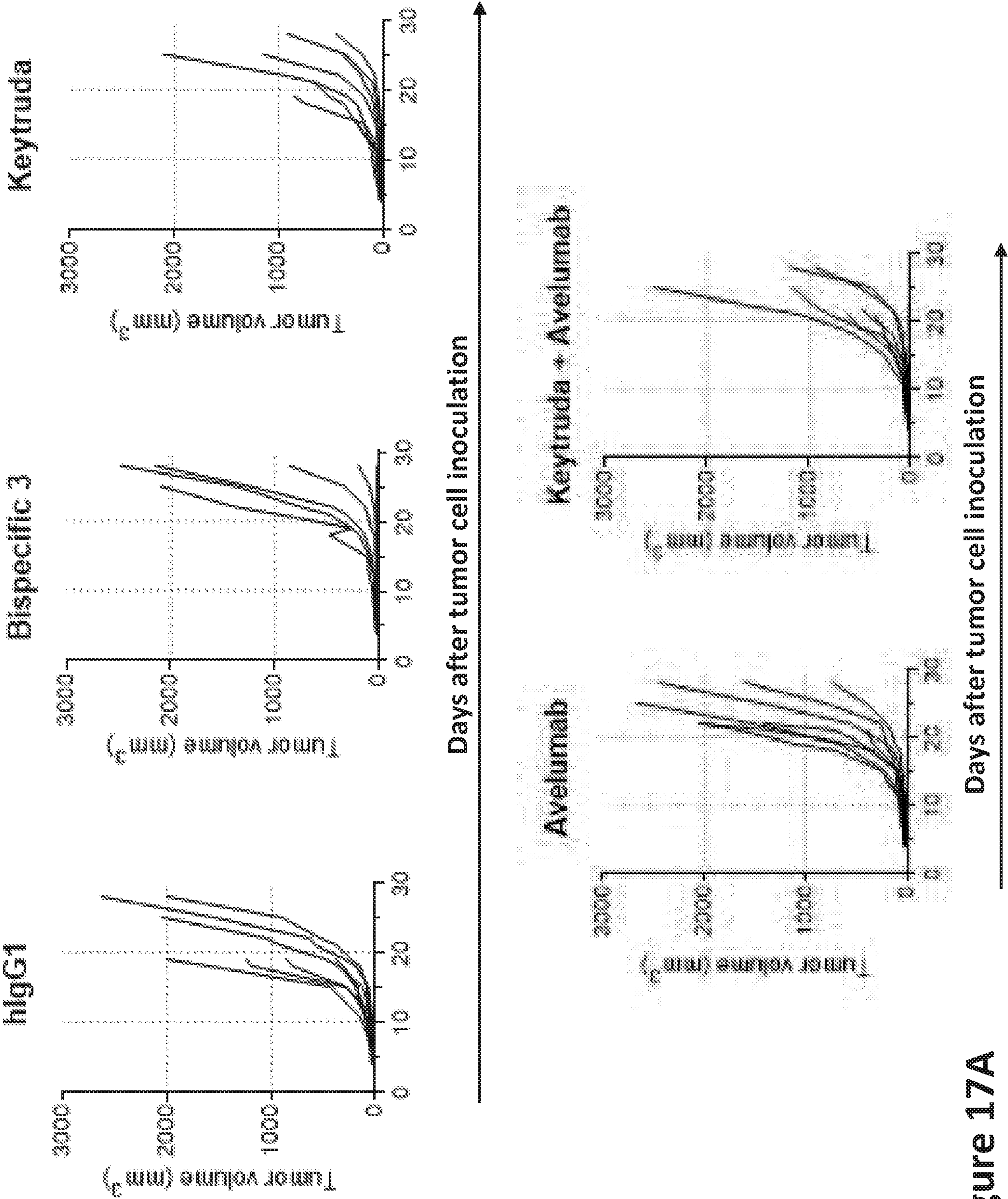


Figure 17A

**B16F10-HuPD-L1 Tumor Volume
(Day 15 cutoff)**

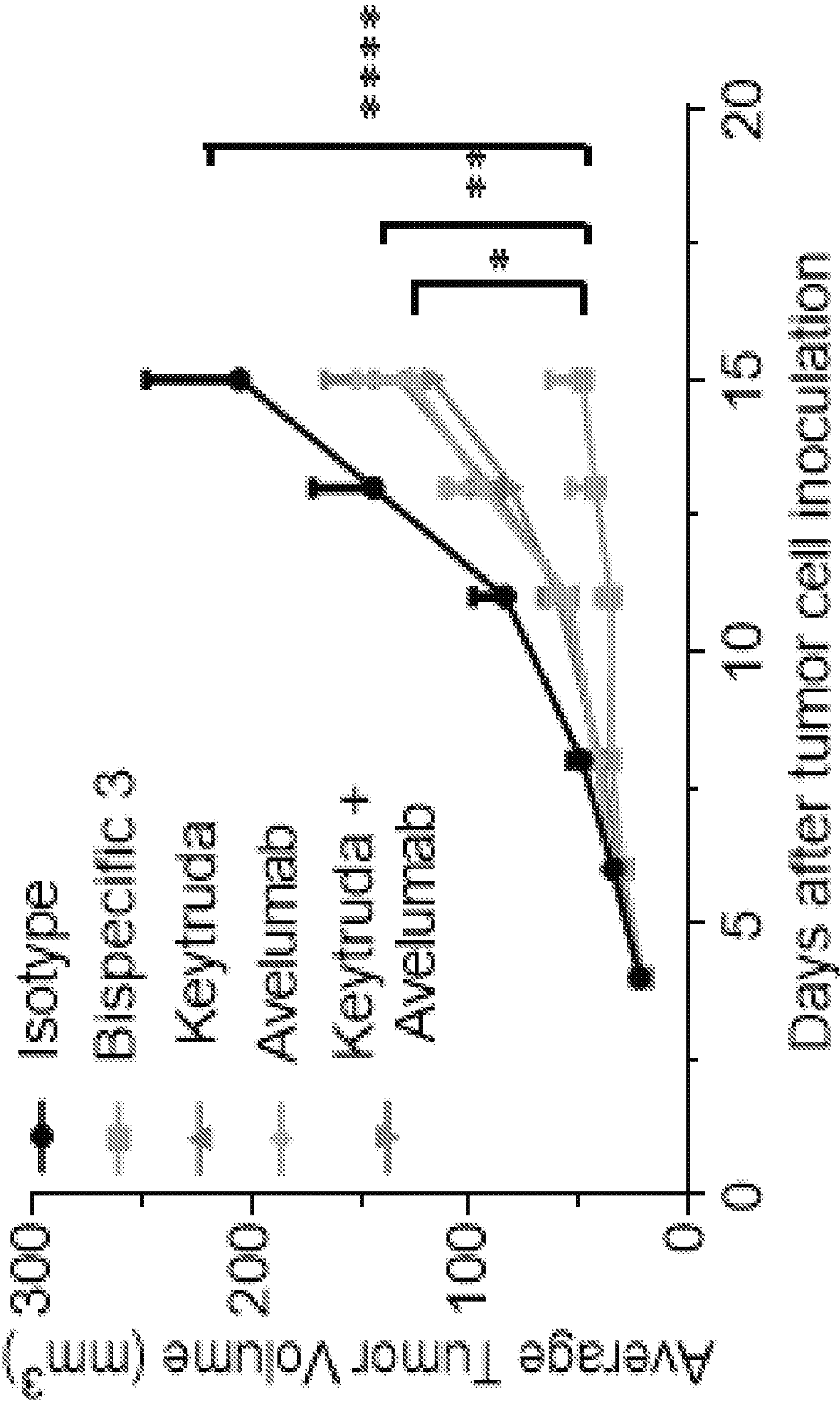


Figure 17B

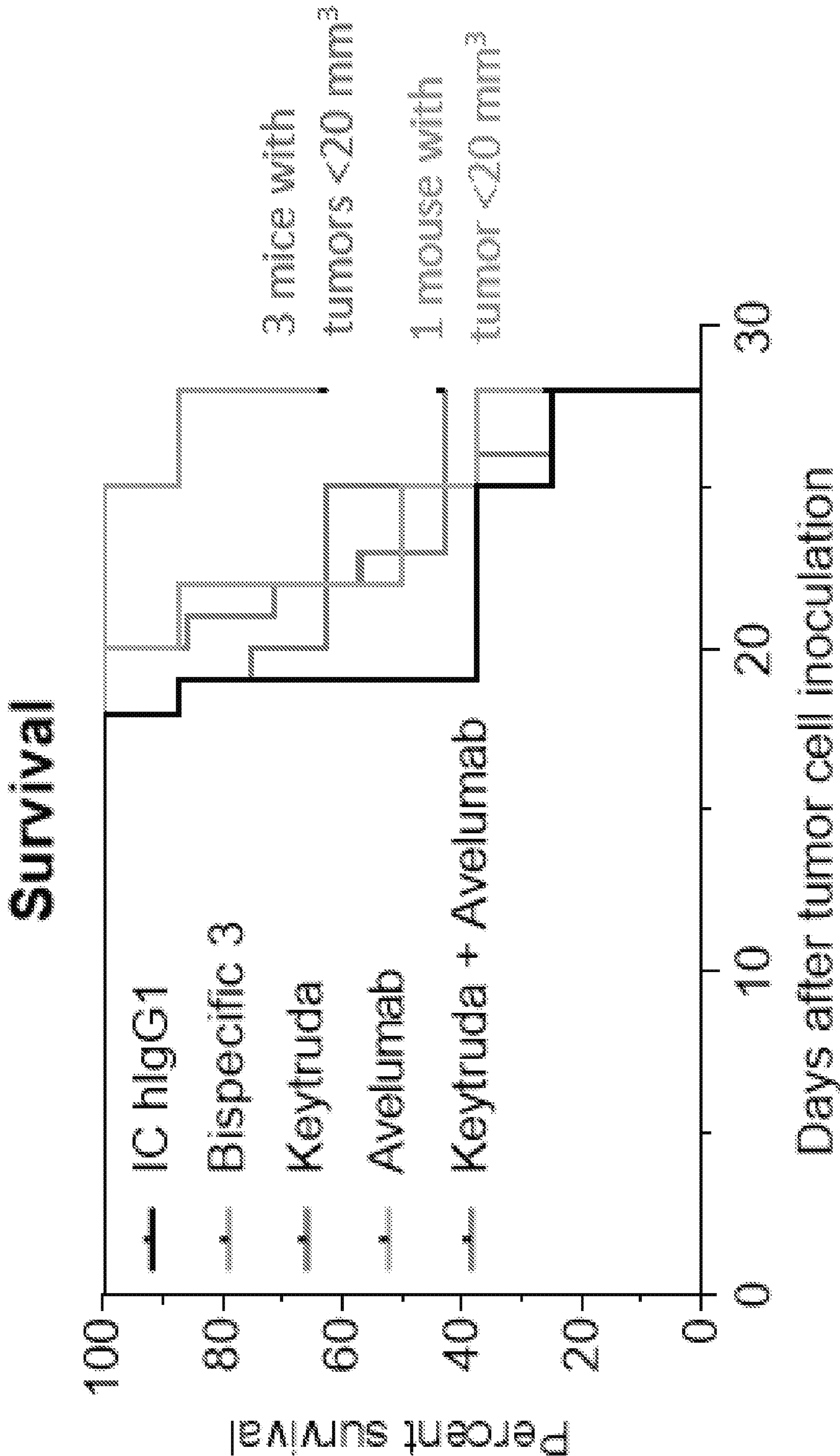


Figure 17C

Figures 17D-17F

Figure 17D

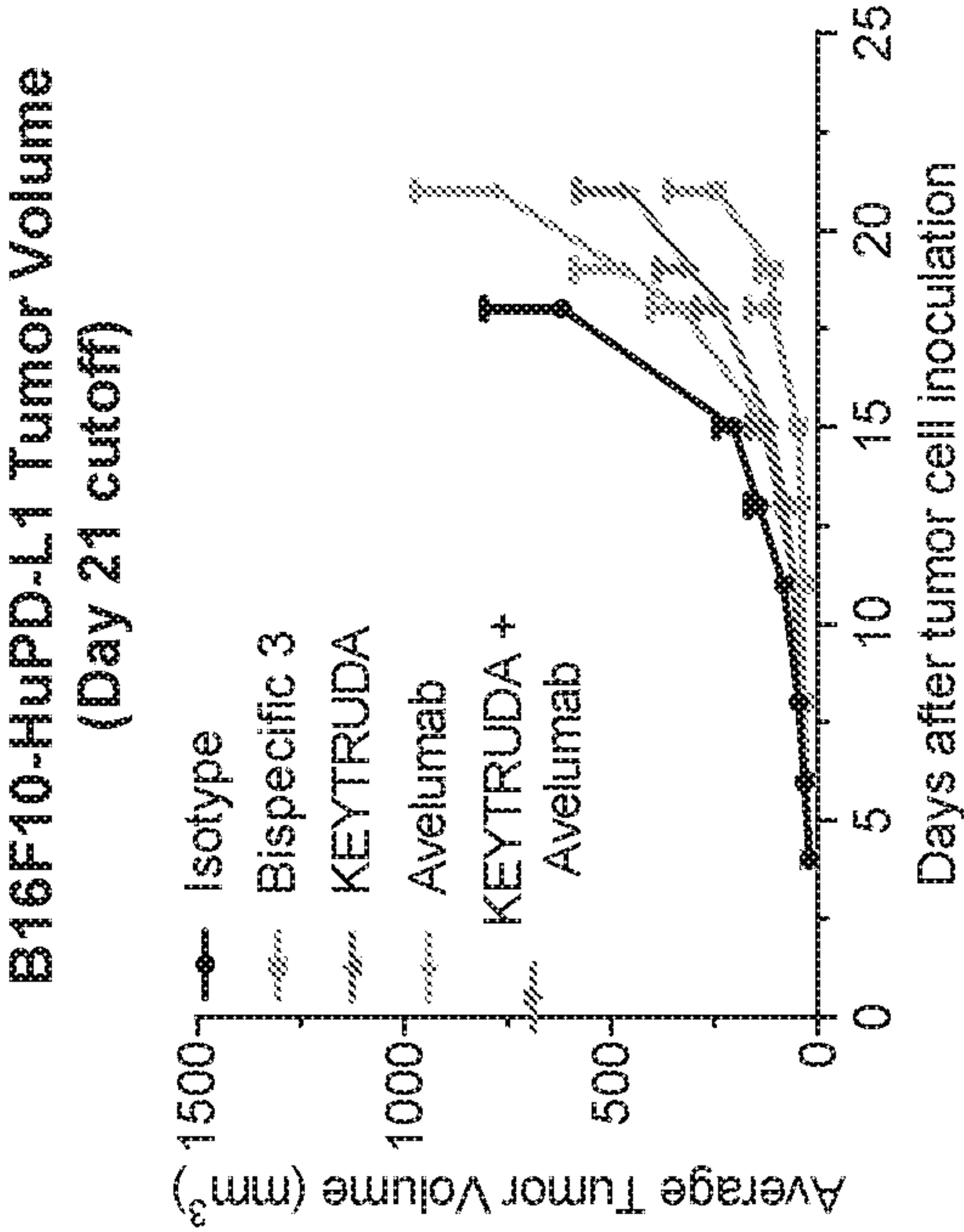


Figure 17E

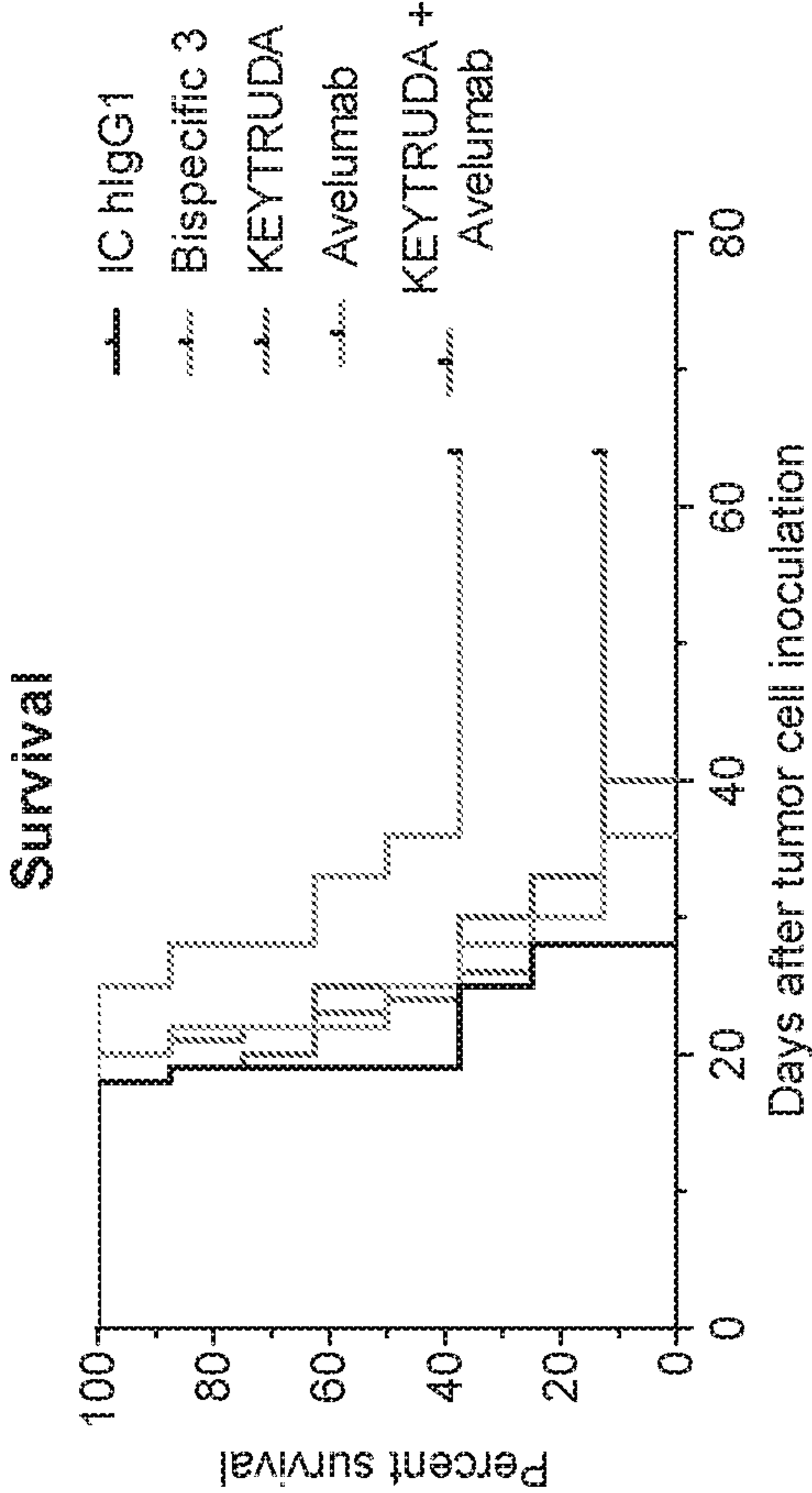


Figure 17F

Treatment	Tumor-free/Total
IC hlgG1	0/8
Bispecific 3	3/8
KEYTRUDA	0/8
Avelumab	0/8
KEYTRUDA + Avelumab	1/8

Figures 18A-18C

Figure 18A

Cell Binding: CHO/HuPD-L1

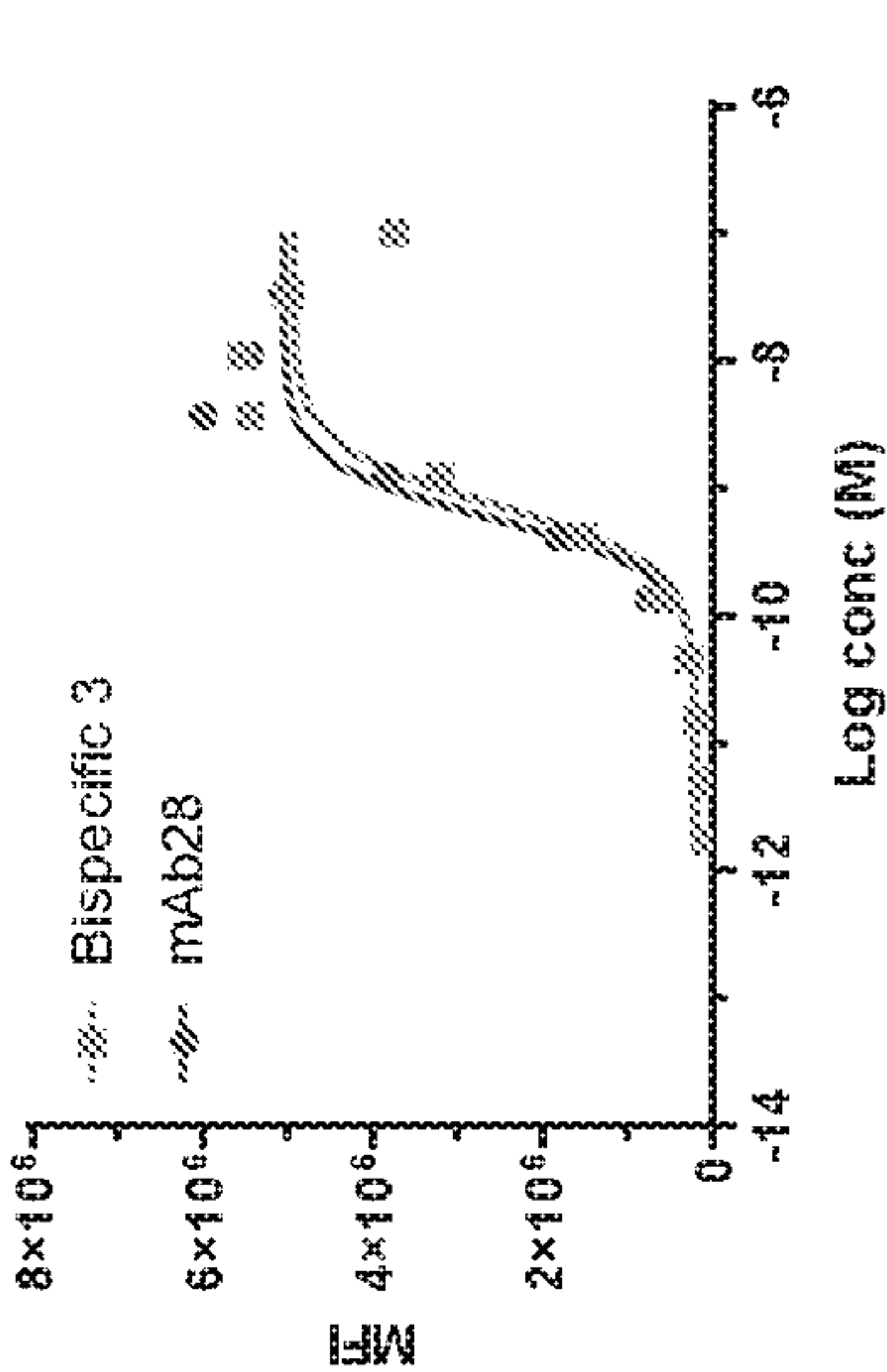


Figure 18B

Cell Binding: CHO/CyPD-L1

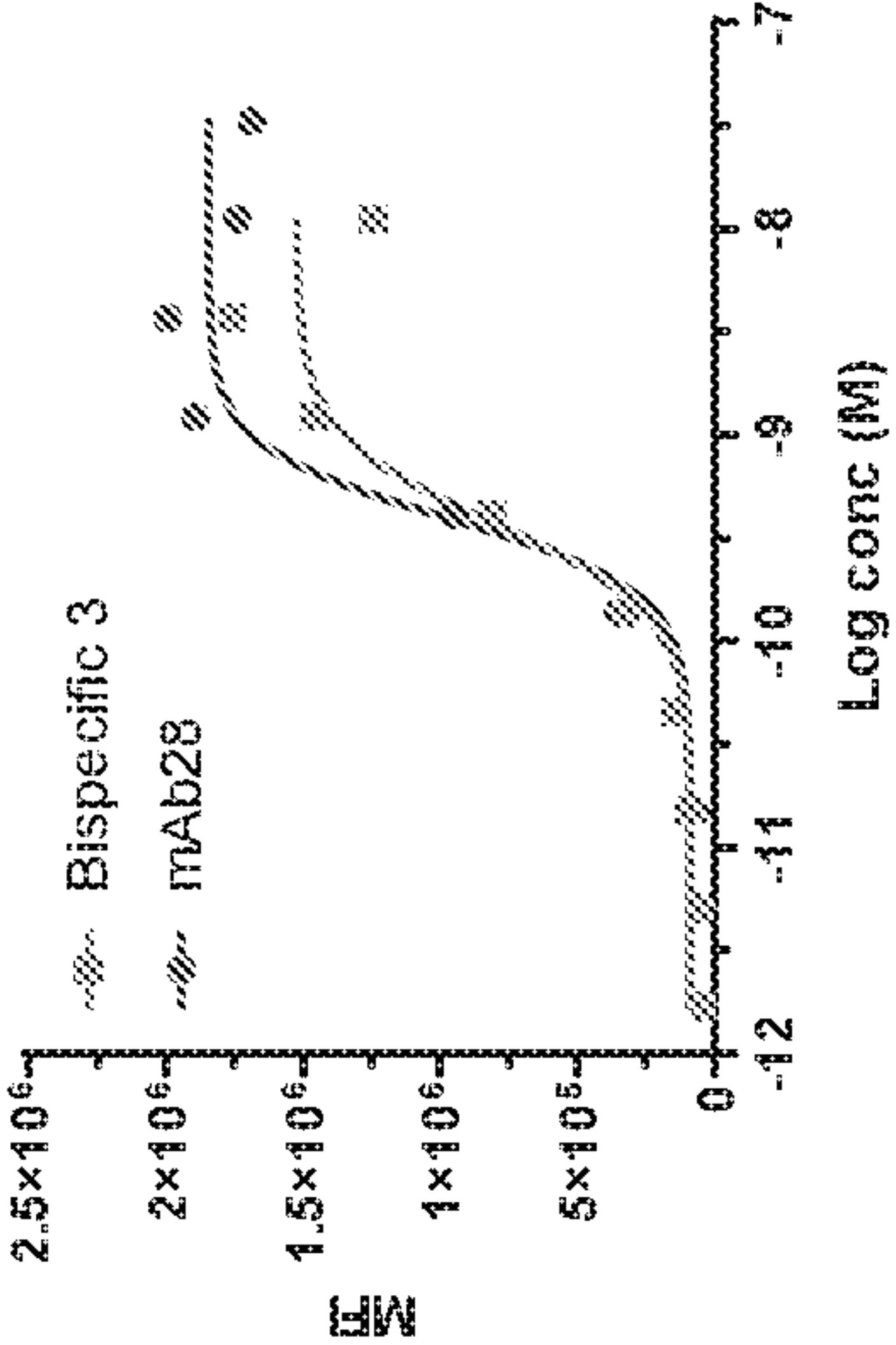
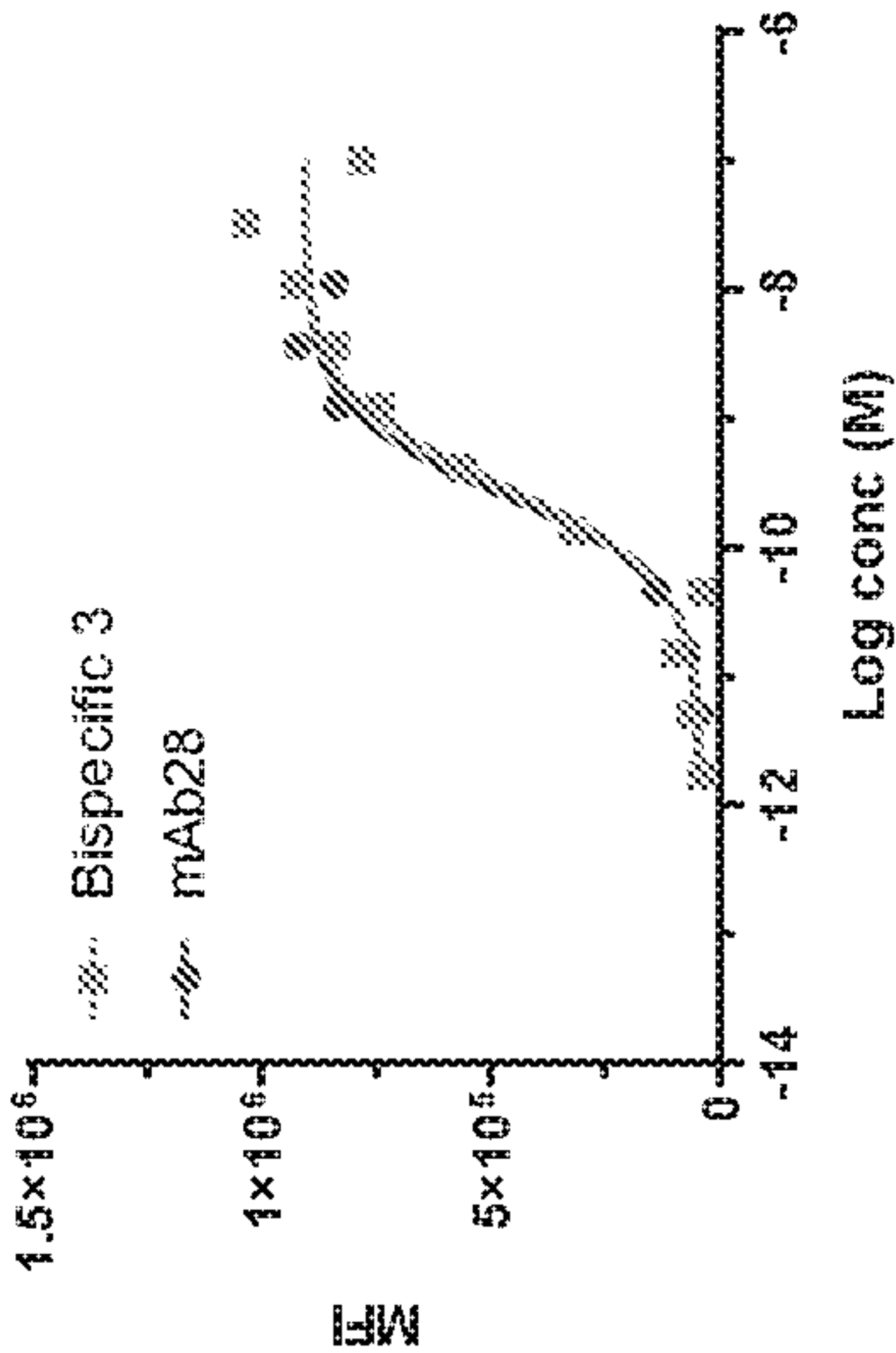
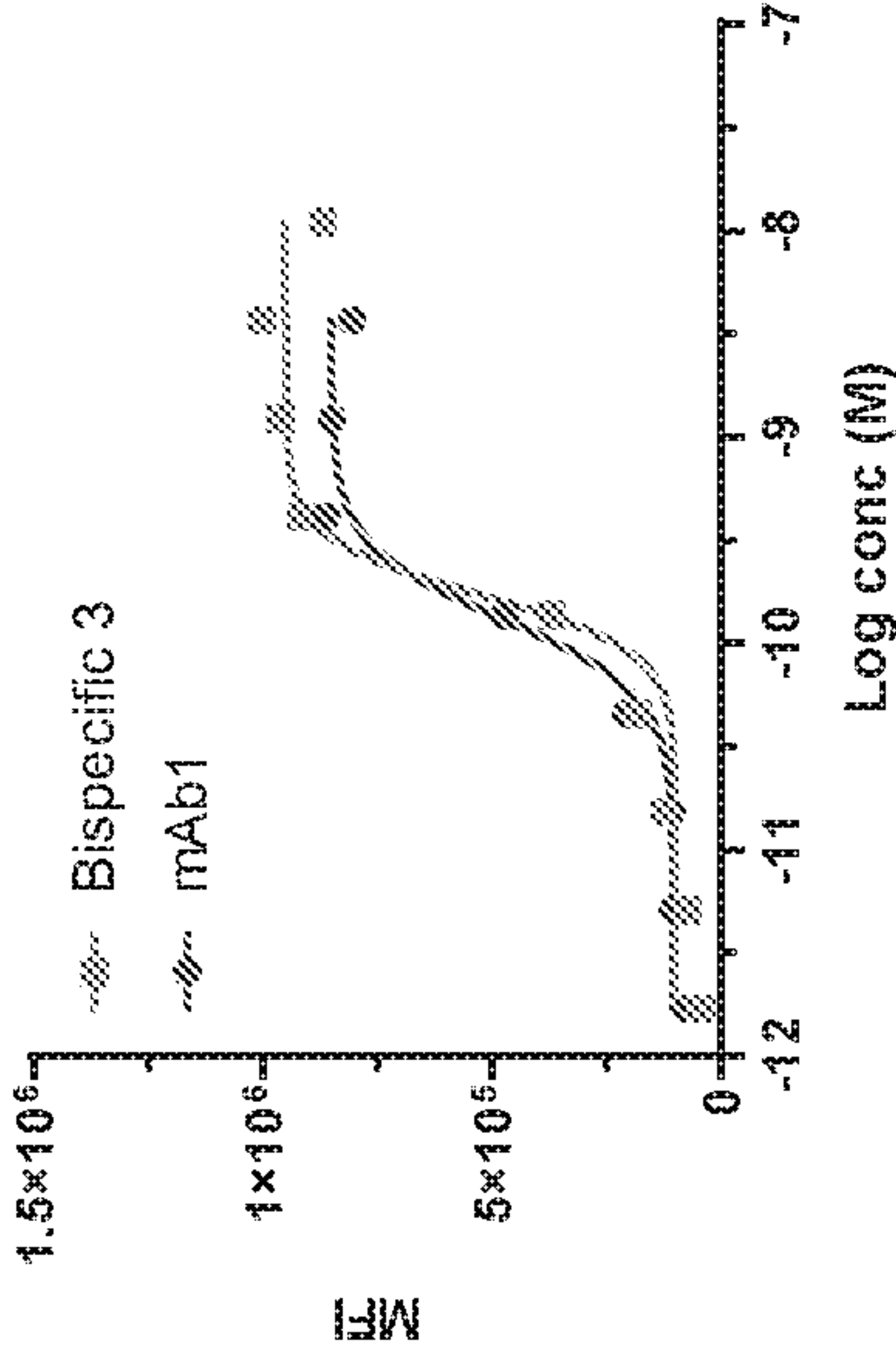


Figure 18C

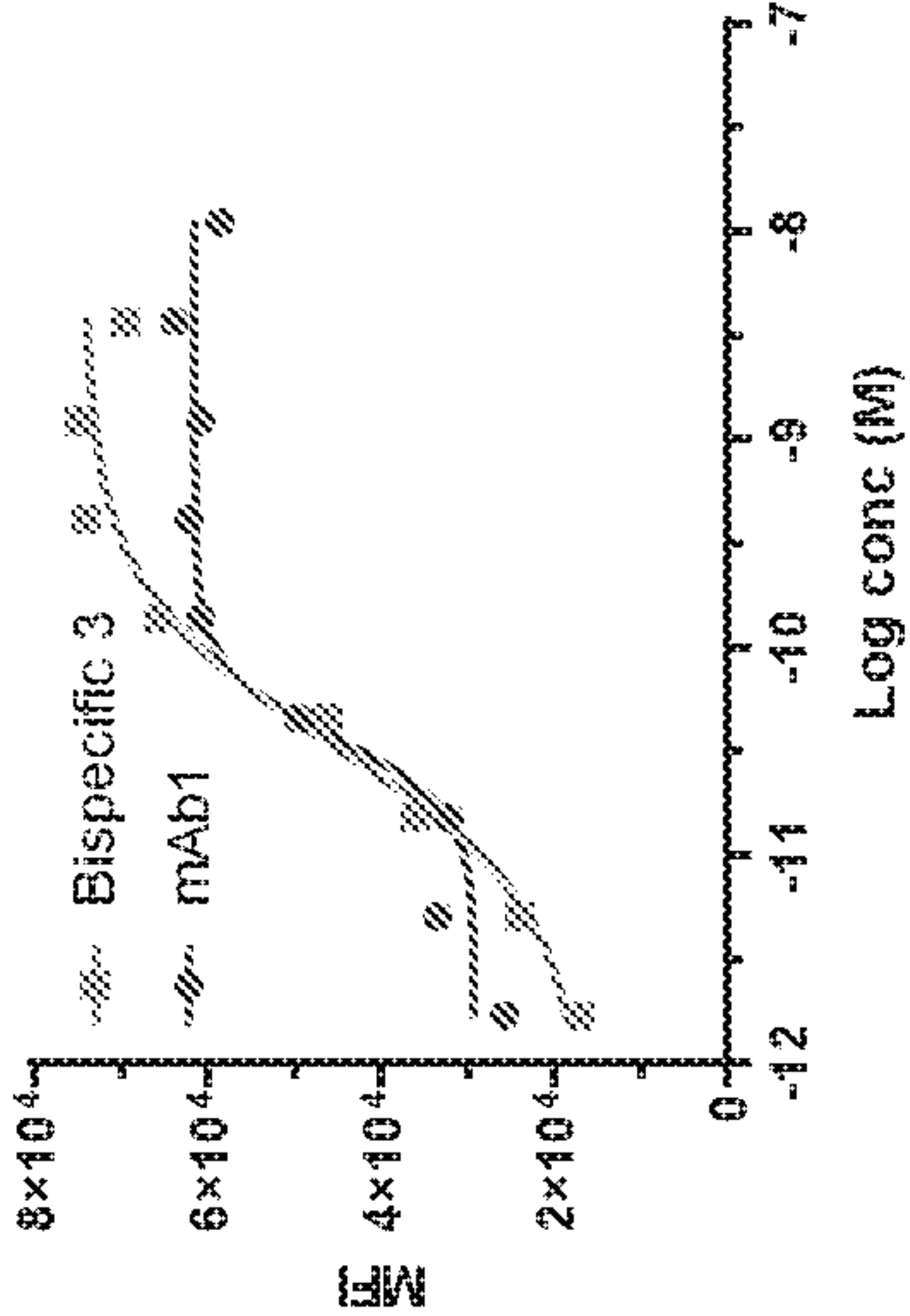
Cell Binding: CHO/MsPD-L1



Cell Binding: CHO/HuPD-L1



Cell Binding: CHO/CyPD-L1



Cell Binding: A20 (Mouse)

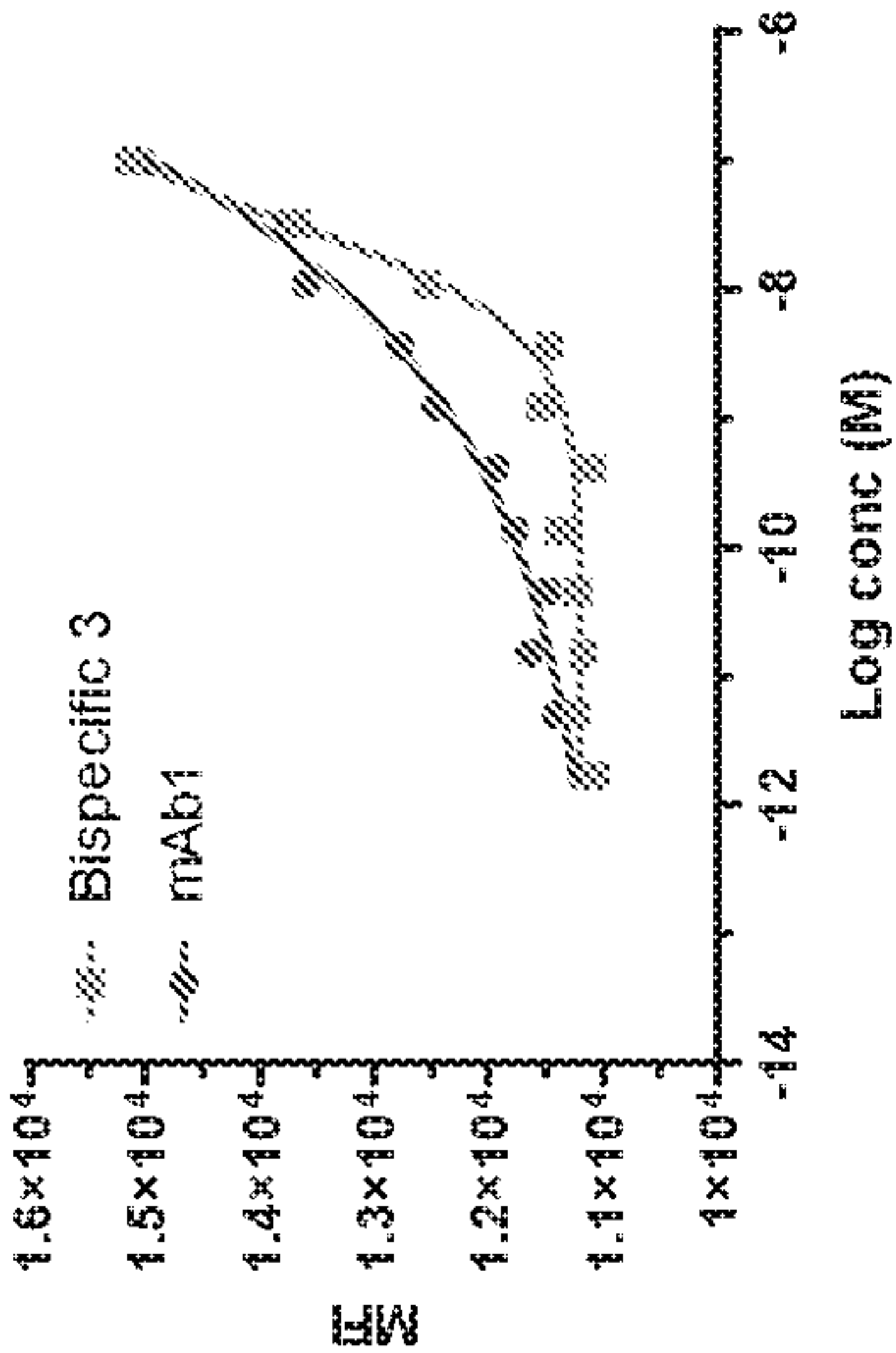
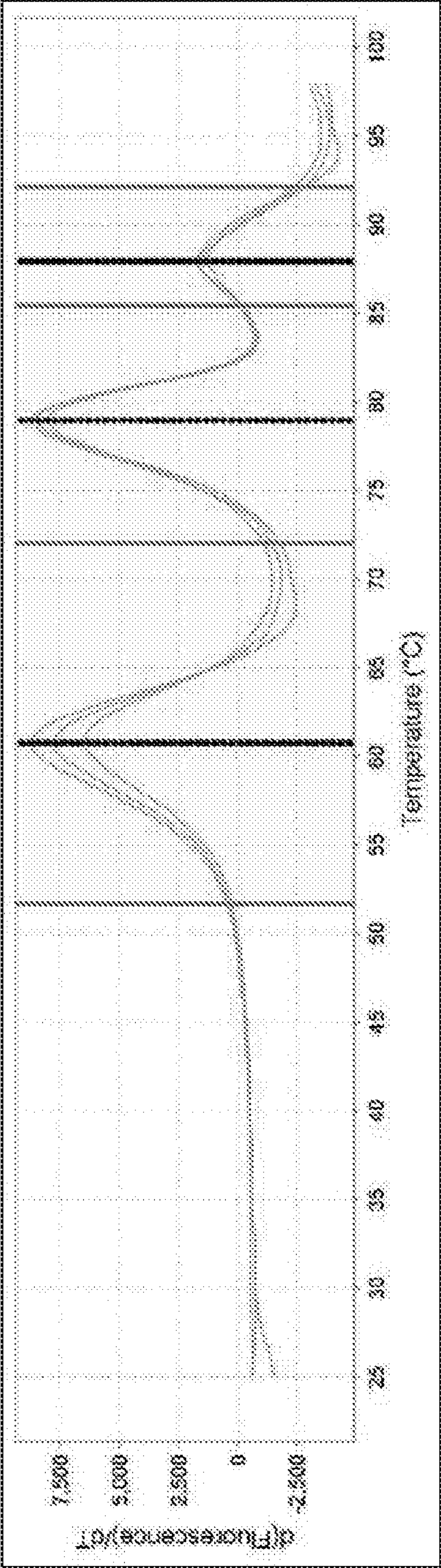
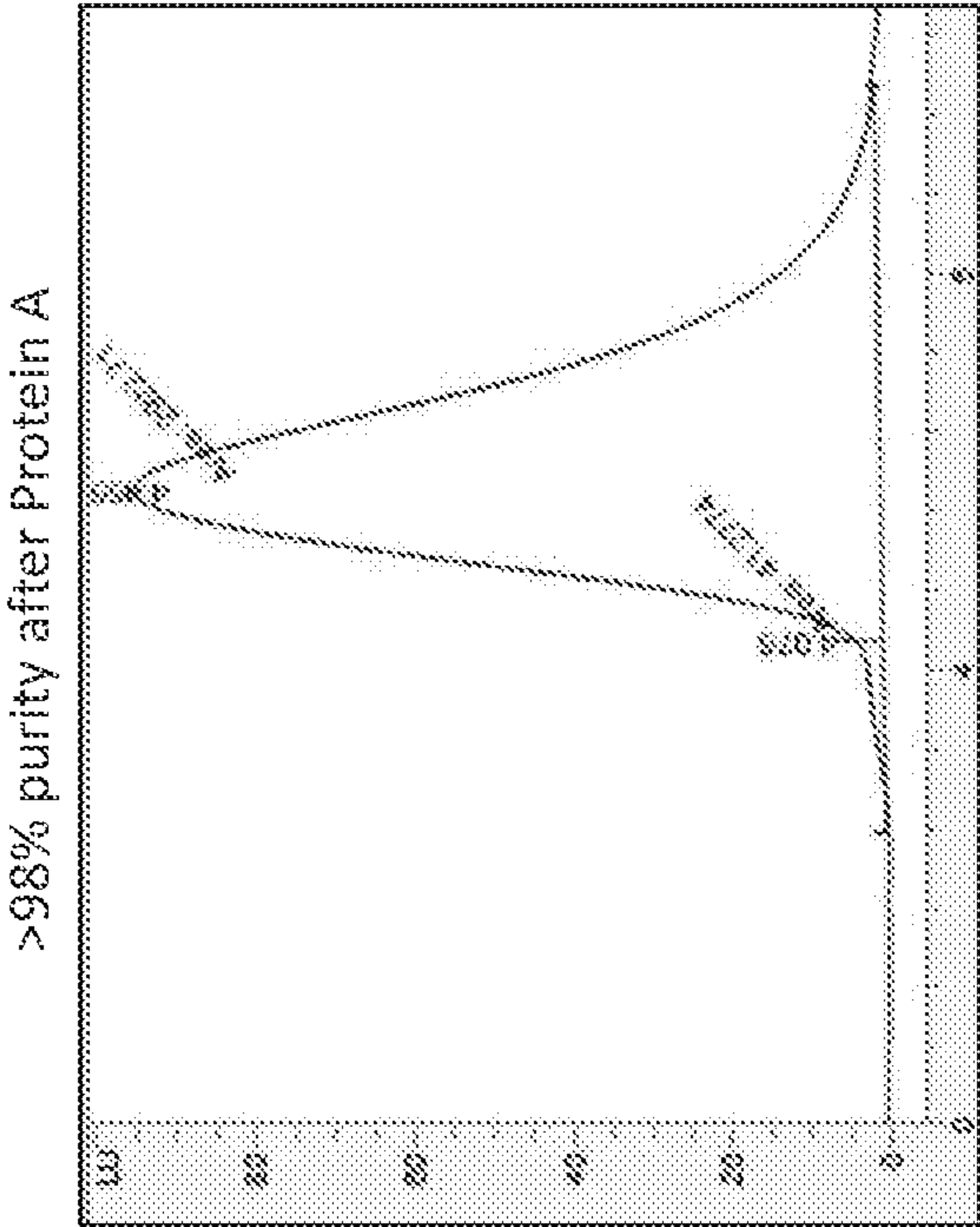


Figure 18D



High thermal stability – Tm2 = 78°C; Tm3 = 87°C