

Figure 1 - Activity Screen of AE42 Insertions and C-Terminal Fusion

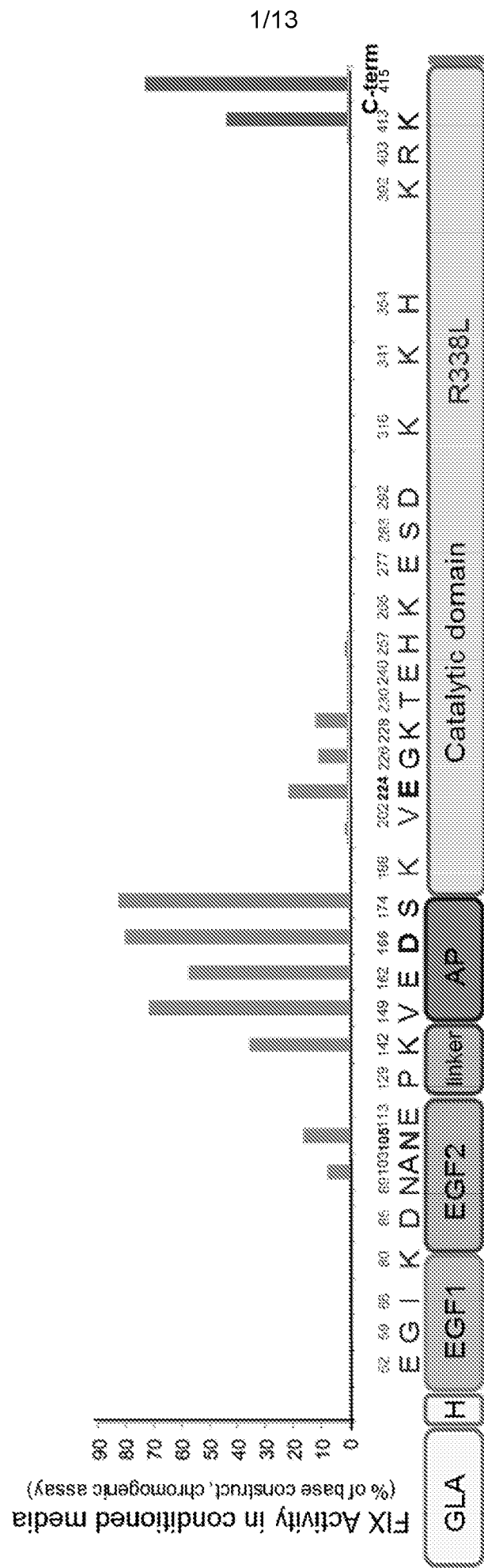


Figure 2 – Activity Screen of XTEN Insertion Sites and Lengths

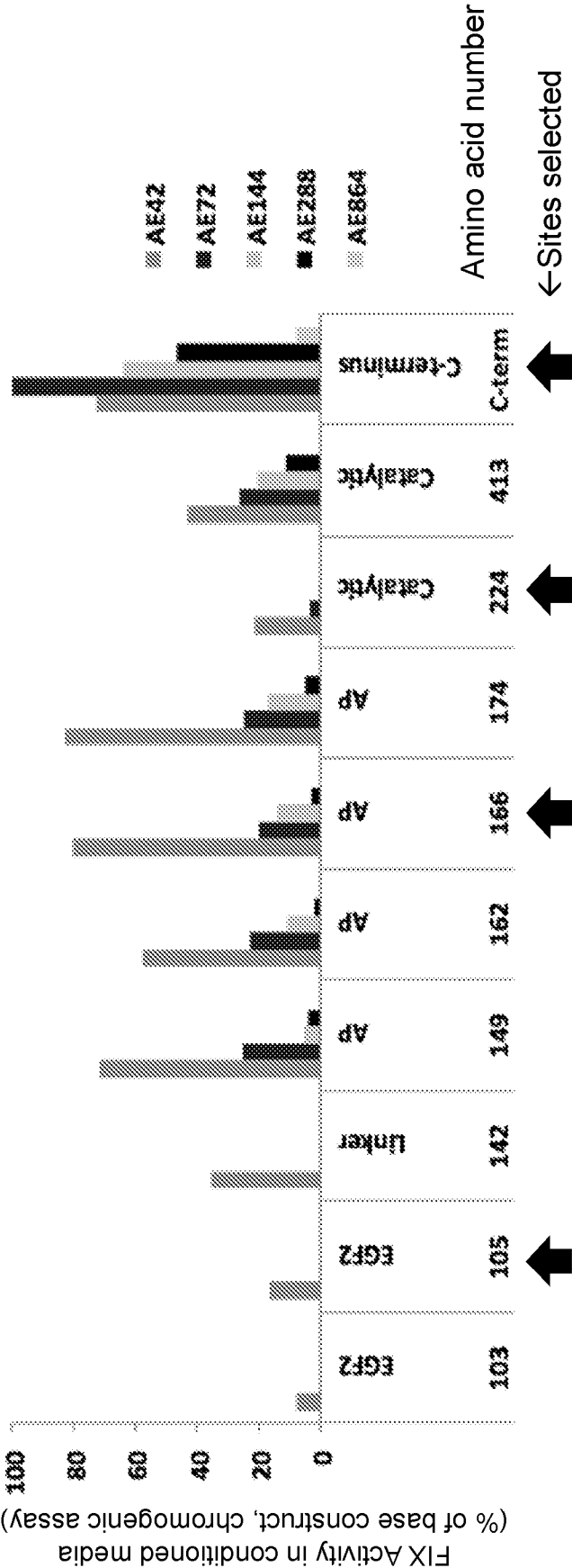


Figure 3 – Four Selected Sites for a Combination Library in
FIX

FIG. 3A

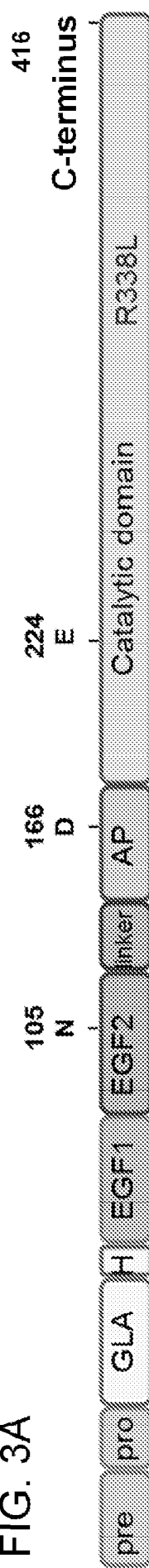


FIG. 3B

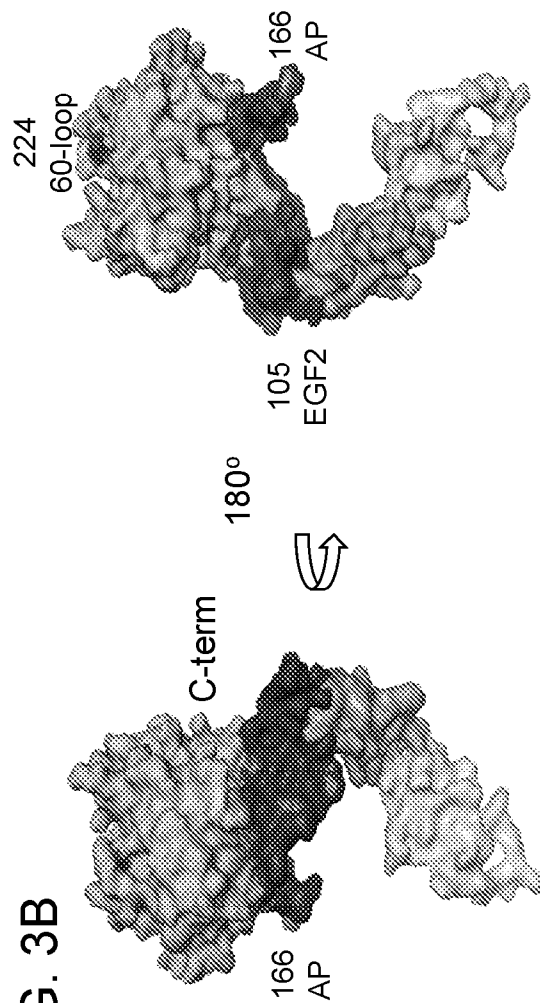


Figure 4 – Three Groups of FIX-XTEN Having Detectable Activity

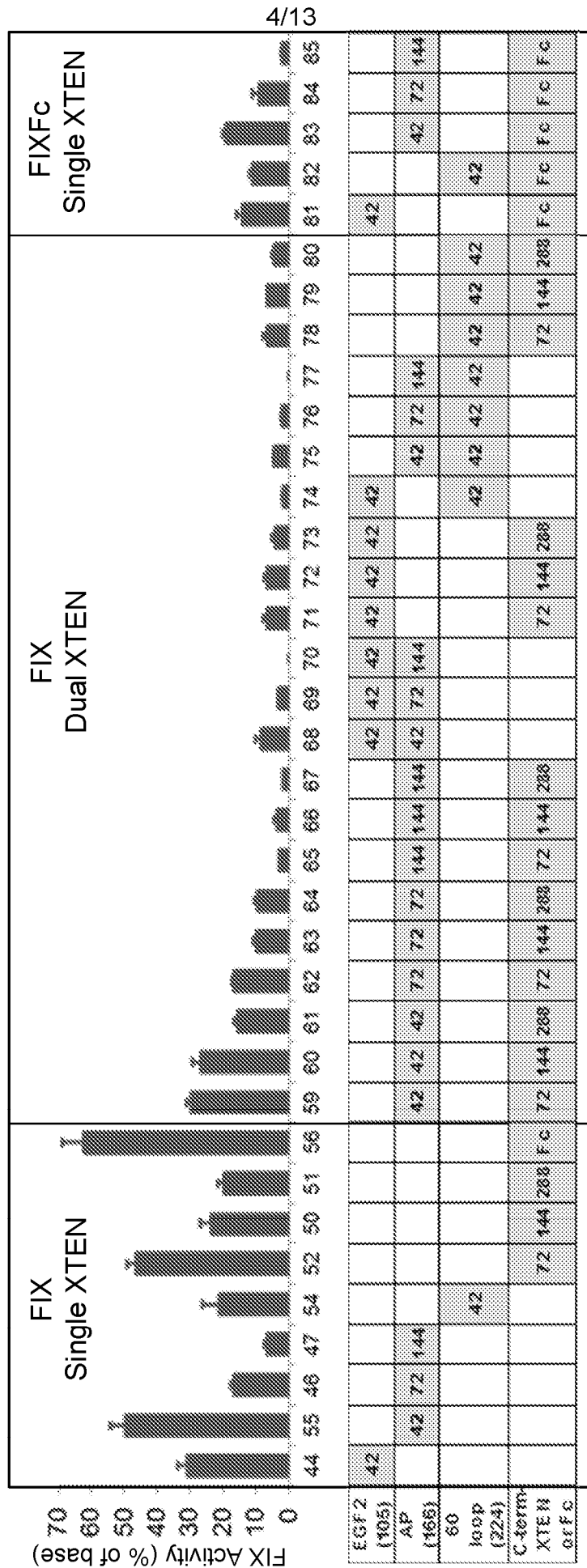


Figure 5

FIG. 5A

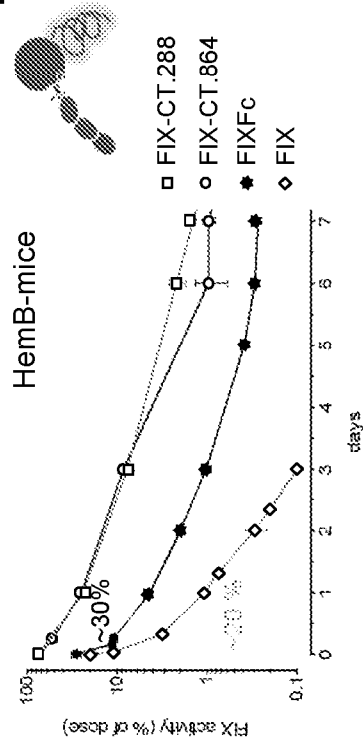


FIG. 5B

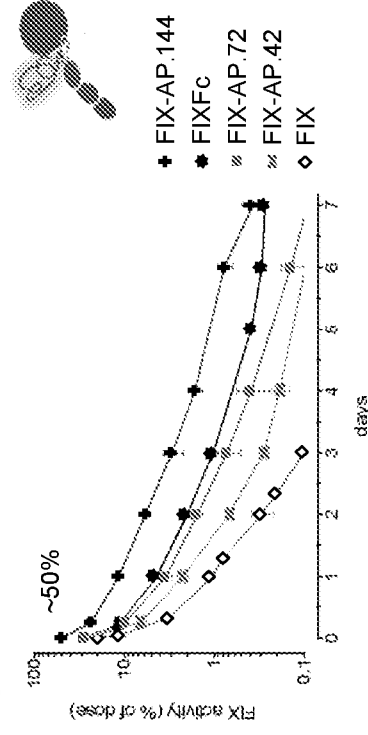


FIG. 5C

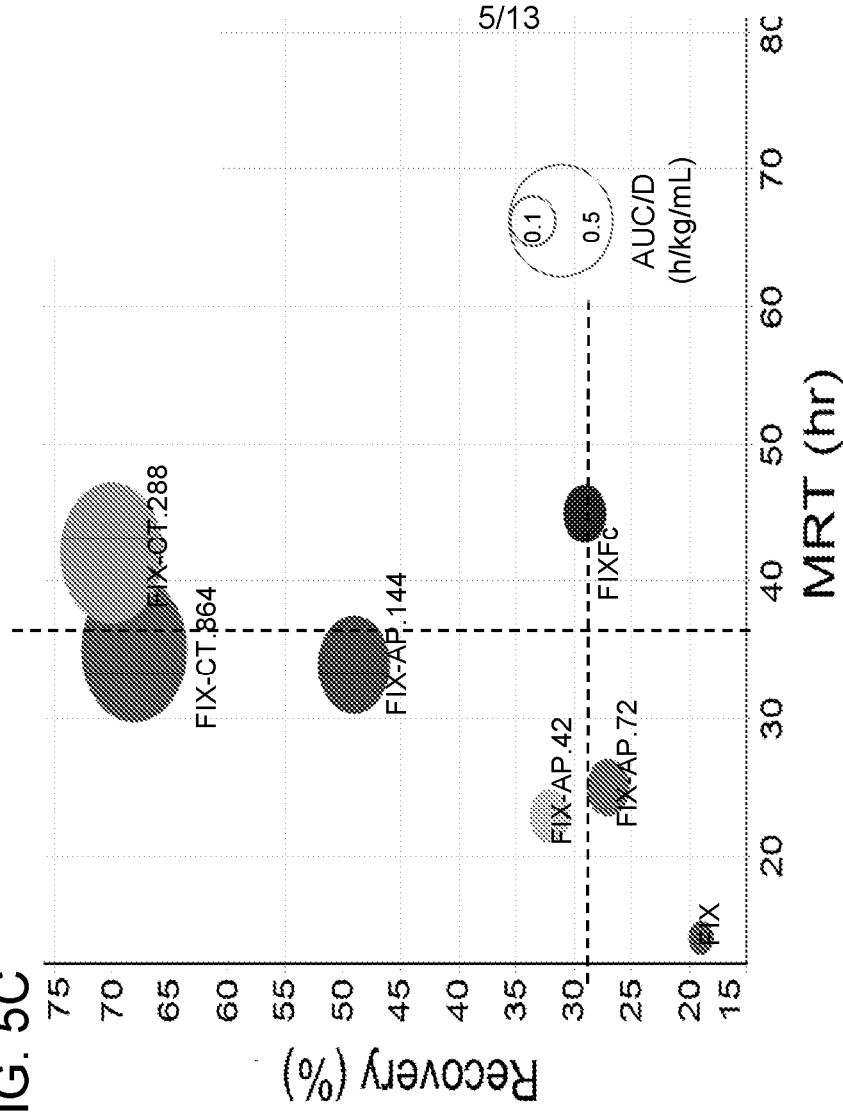


Figure 6

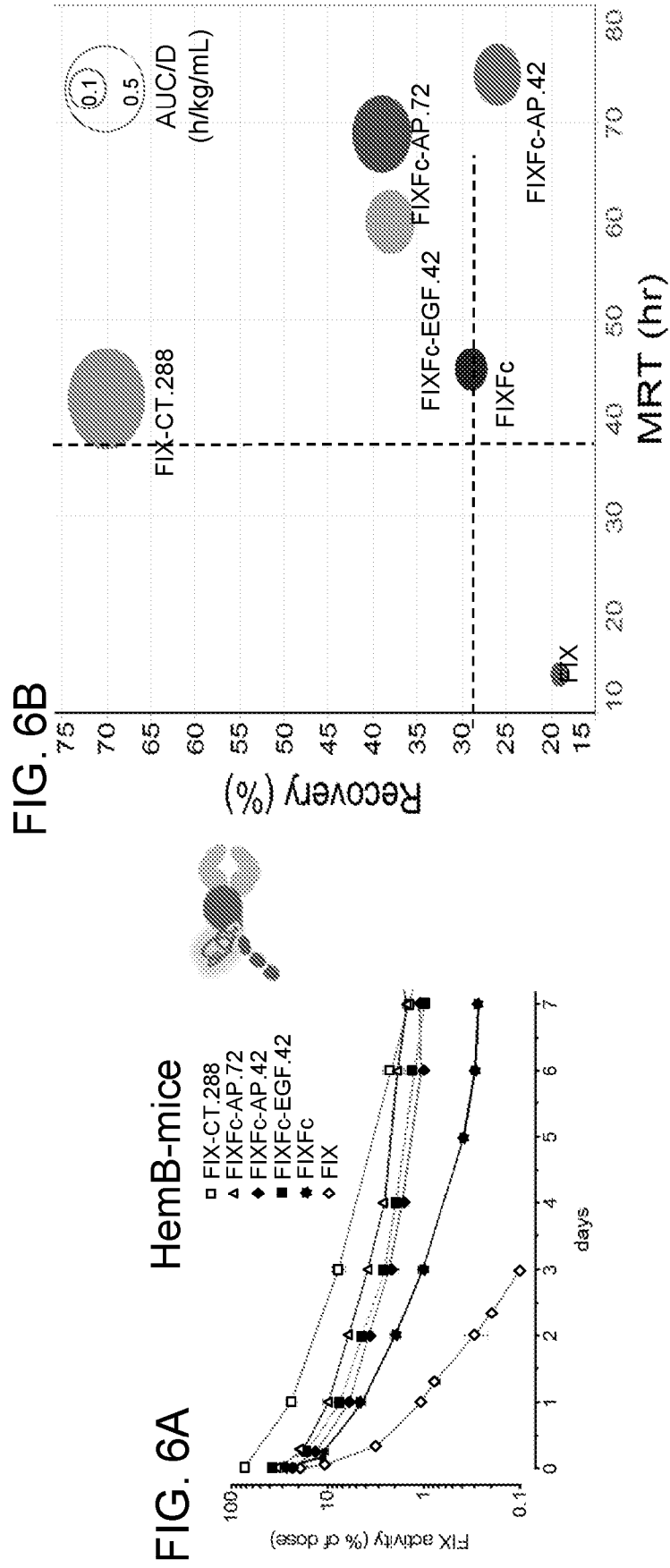


Figure 7

FIG. 7B

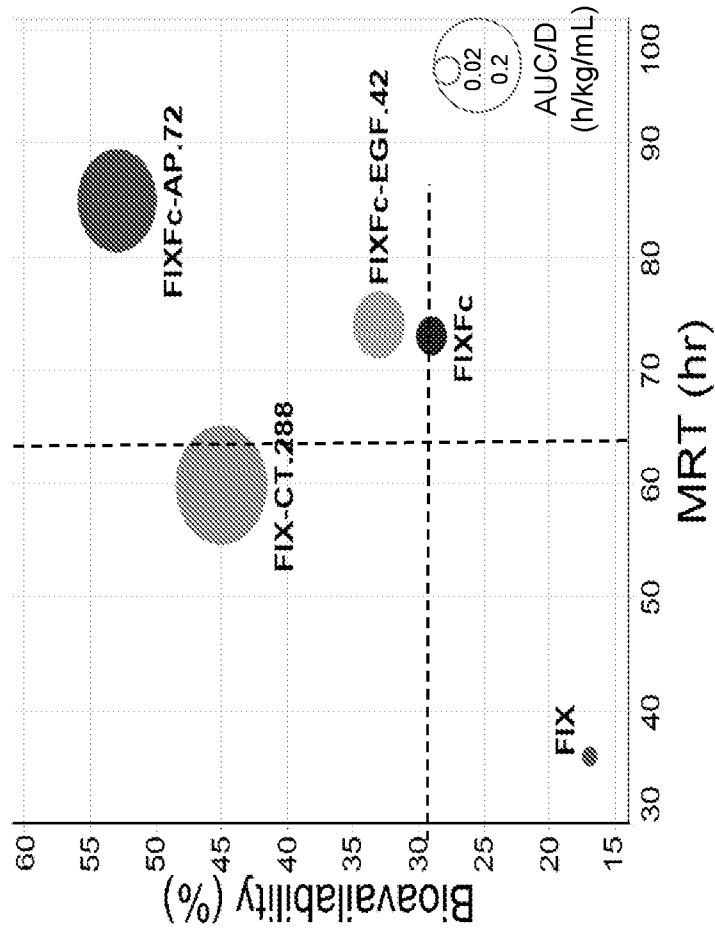


FIG. 7A

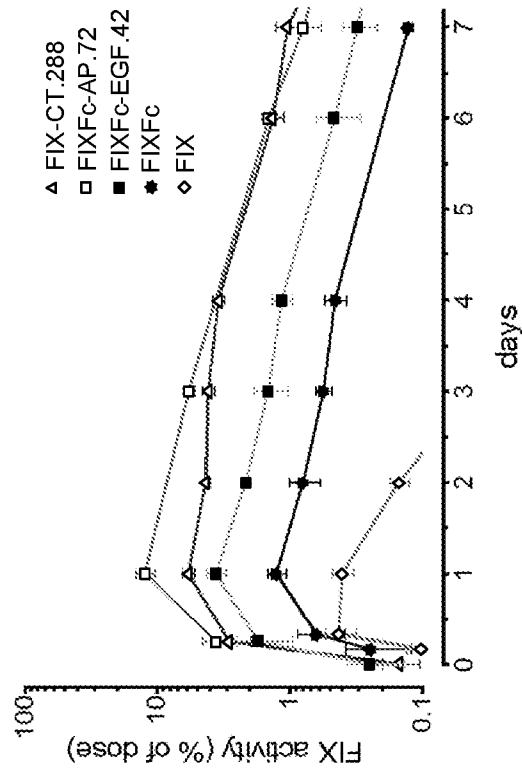


Figure 8

FIG. 8A

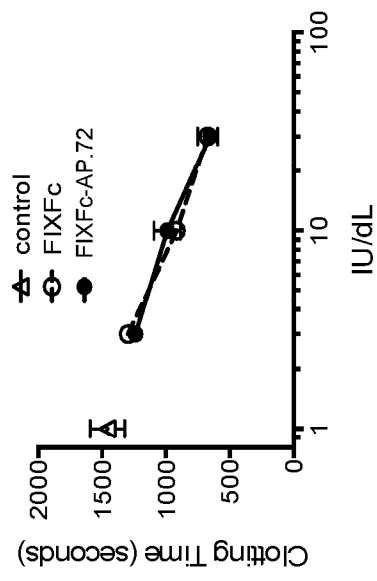


FIG. 8B

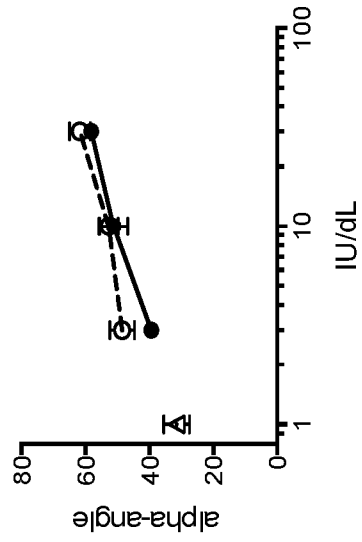


FIG. 8C

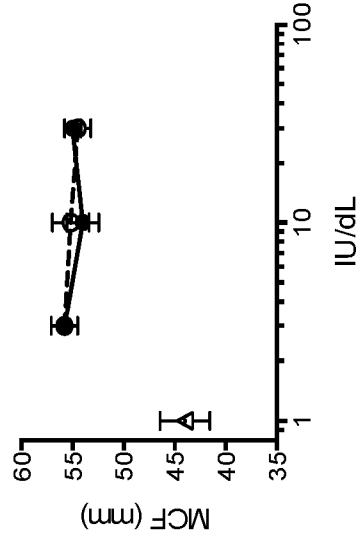
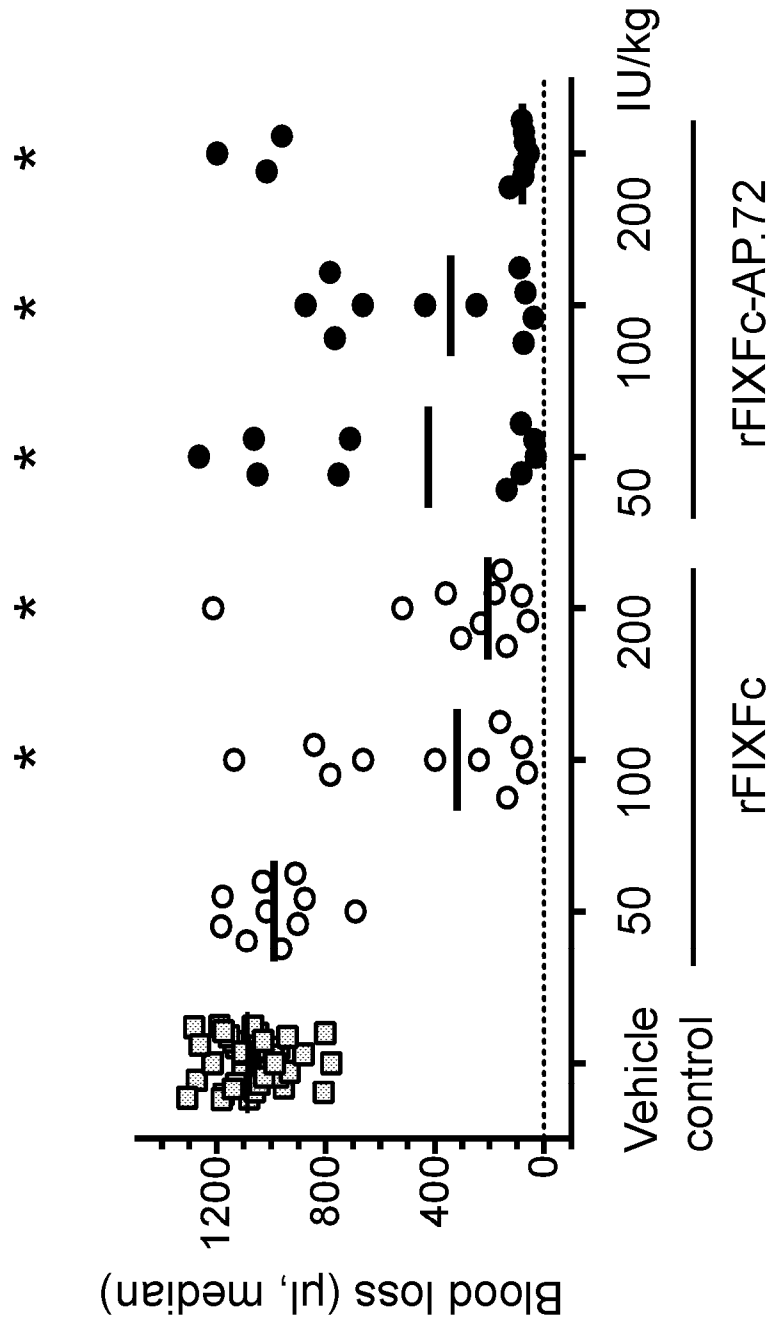


Figure 9



* $p < 0.0001$

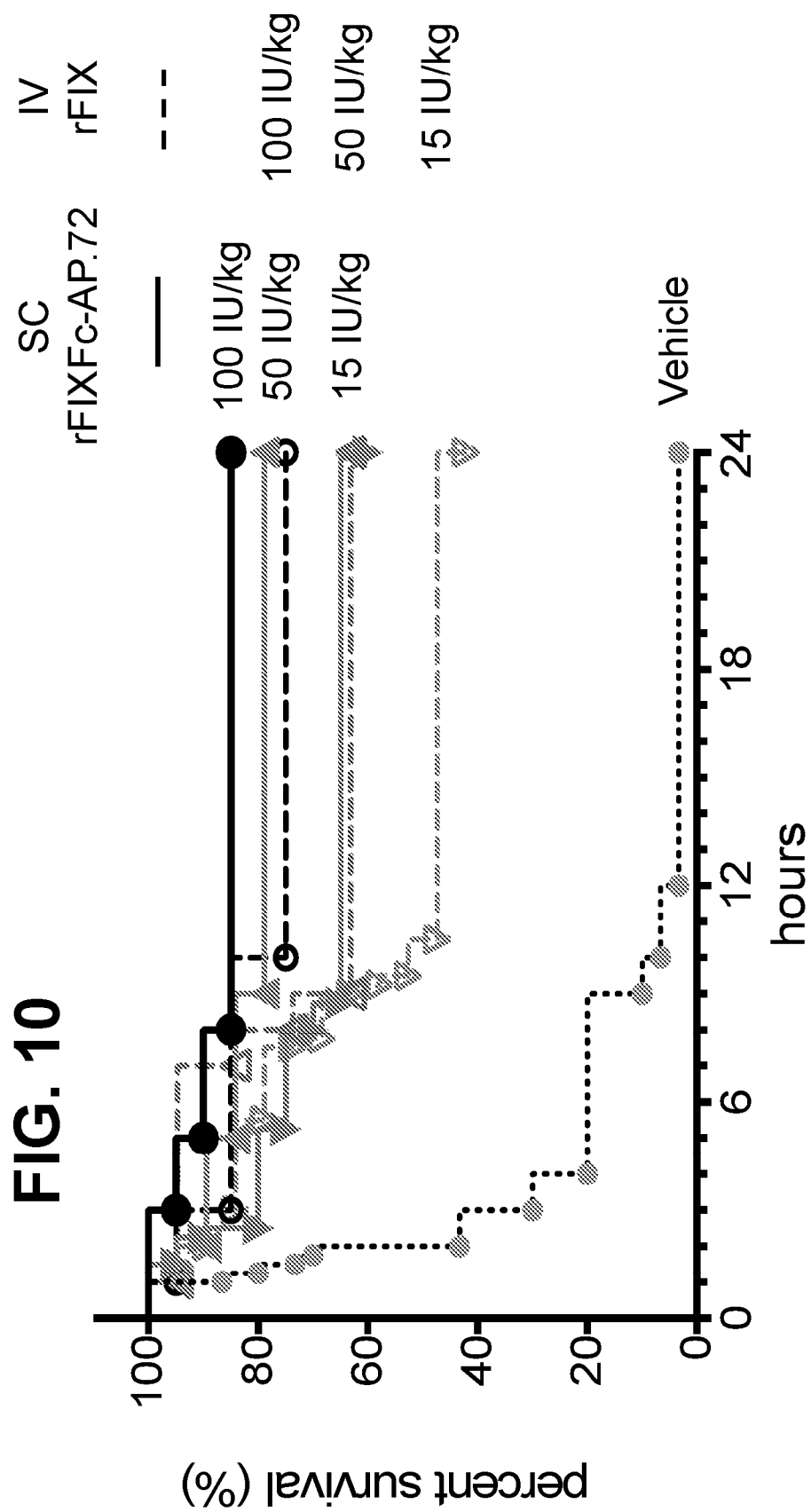


FIG. 11A

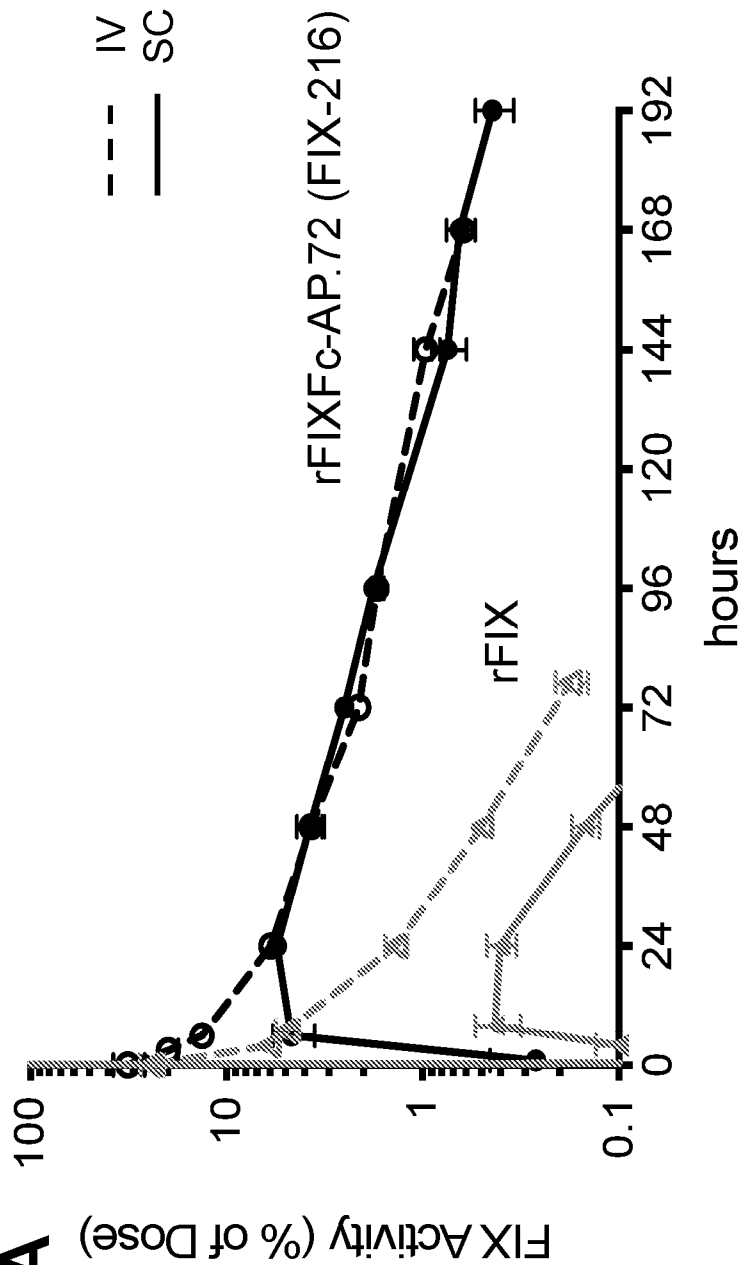
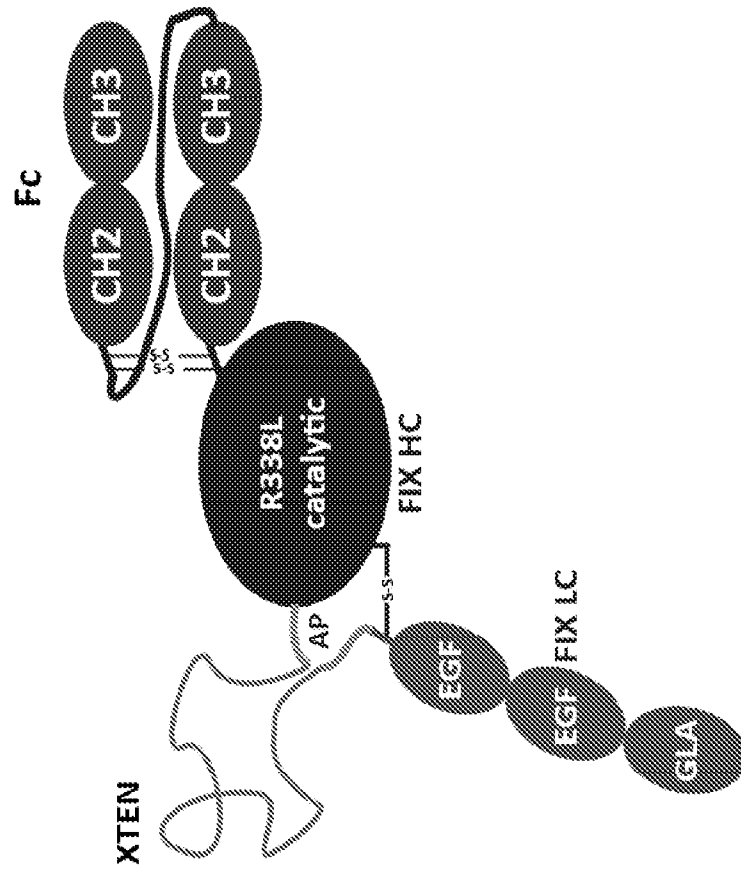


FIG. 11B

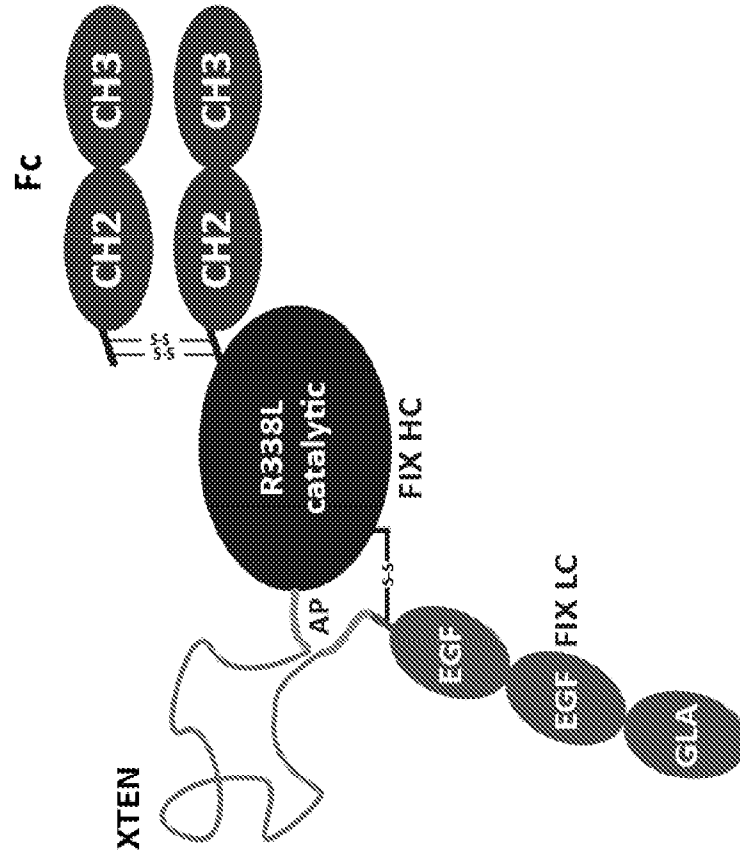
Intravenous						Subcutaneous					
	I.R. (%)	t _{1/2} (hr)	MRT (hr)	AUC/D (h*kg/mL)	CI (mL/h/kg)	F (%)	t _{1/2} (hr)	MRT (hr)	AUC/D (h*kg/mL)	CI (mL/h/kg)	
rFIX	21	17	17	0.043	23.2	14	21	38	0.006	175	
rFIXFc-AP.72	32	51	53	0.165	6.0	70	48	72	0.116	8.6	

FIG. 12A



rFIXFc-AP.72
(Single Fc chain)

FIG. 12B



**rFIXFc-AP.72
(dual Fc chain)**

FIG. 13

FIX construct name	SEQ ID NO	description	plasmid name
rFIX-CT.72	123	R338L, C-term AE72	pJH52
rFIX-CT.144	121	R338L, C-term AE144	pJH50
rFIX-CT-288	226	R338L, C-term AE288-tag	FIX-102
rFIX-CT.288	122	R338L, C-term AE288	pJH51
rFIX-CT.864	116	R338L, C-term AE864	FIX-92
rFIX-AP.72	119	R338L, D166-AE72	pJH46
rFIX-AP.144	120	R338L, D166-AE144	pJH47
rFIXFc-EGF.42	148	R338L, N105-AE42, C-term-Fc	pJH81
rFIXFc-AP.42	150	R338L, D166-AE42, C-term Fc	pJH83
rFIXFc-AP.72	151	R338L, D166-AE72, C-term Fc	pJH84
rFIXFc-AP.72 (dual chain Fc)	227 & 228	R338L, D166-AE72, C-term Fc (dual chain Fc)	FIX-216