

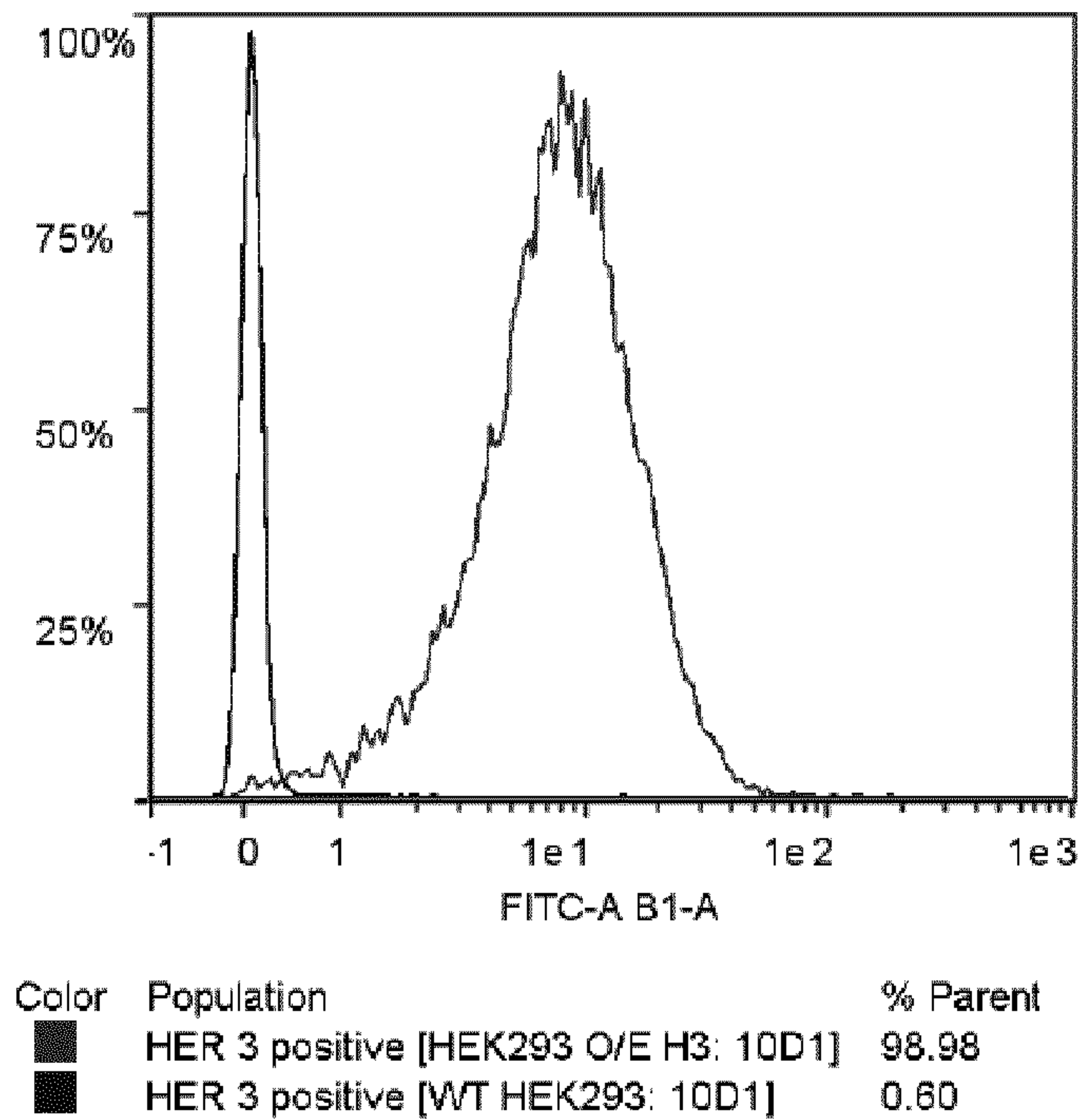


Figure 1A

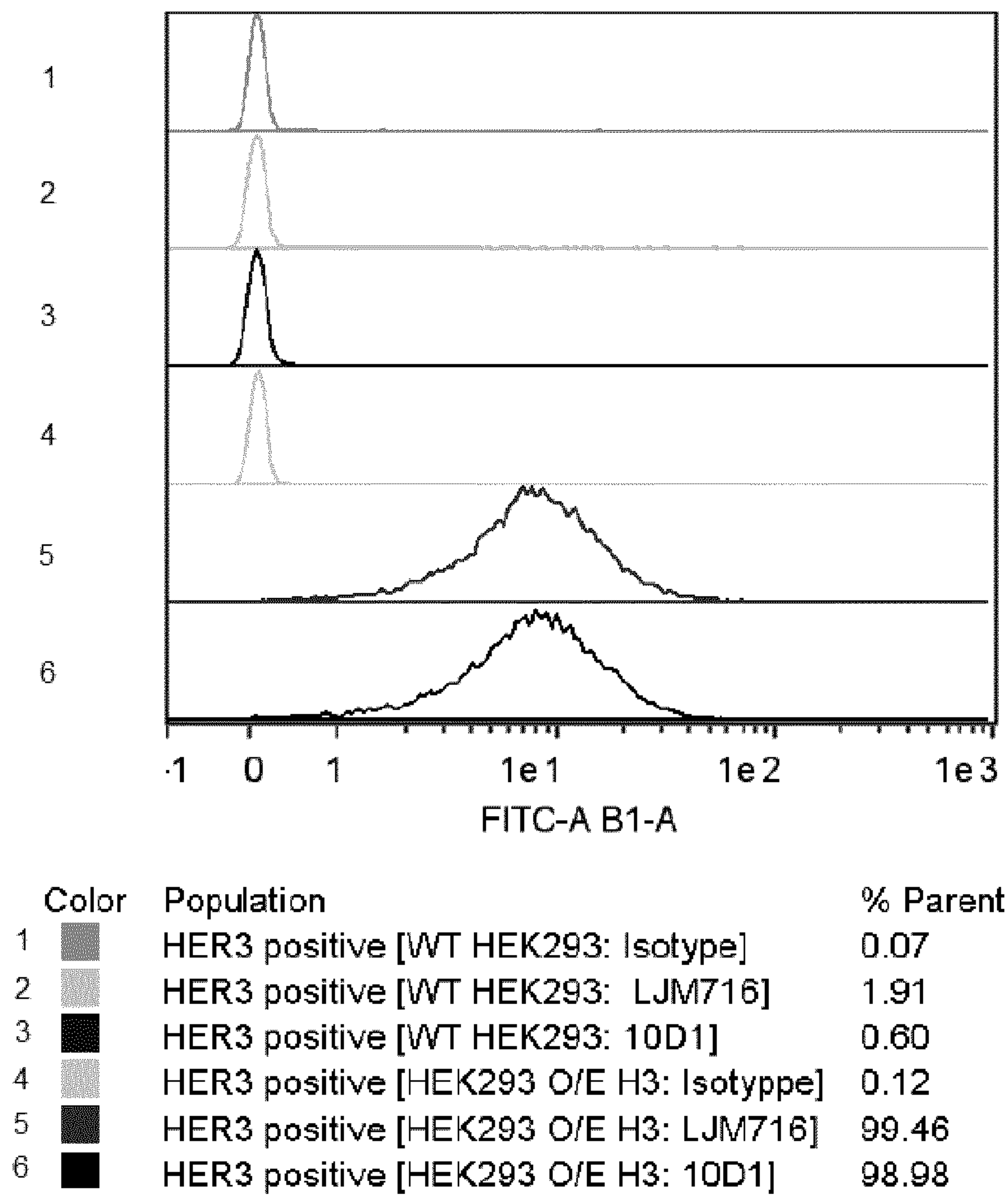


Figure 1B

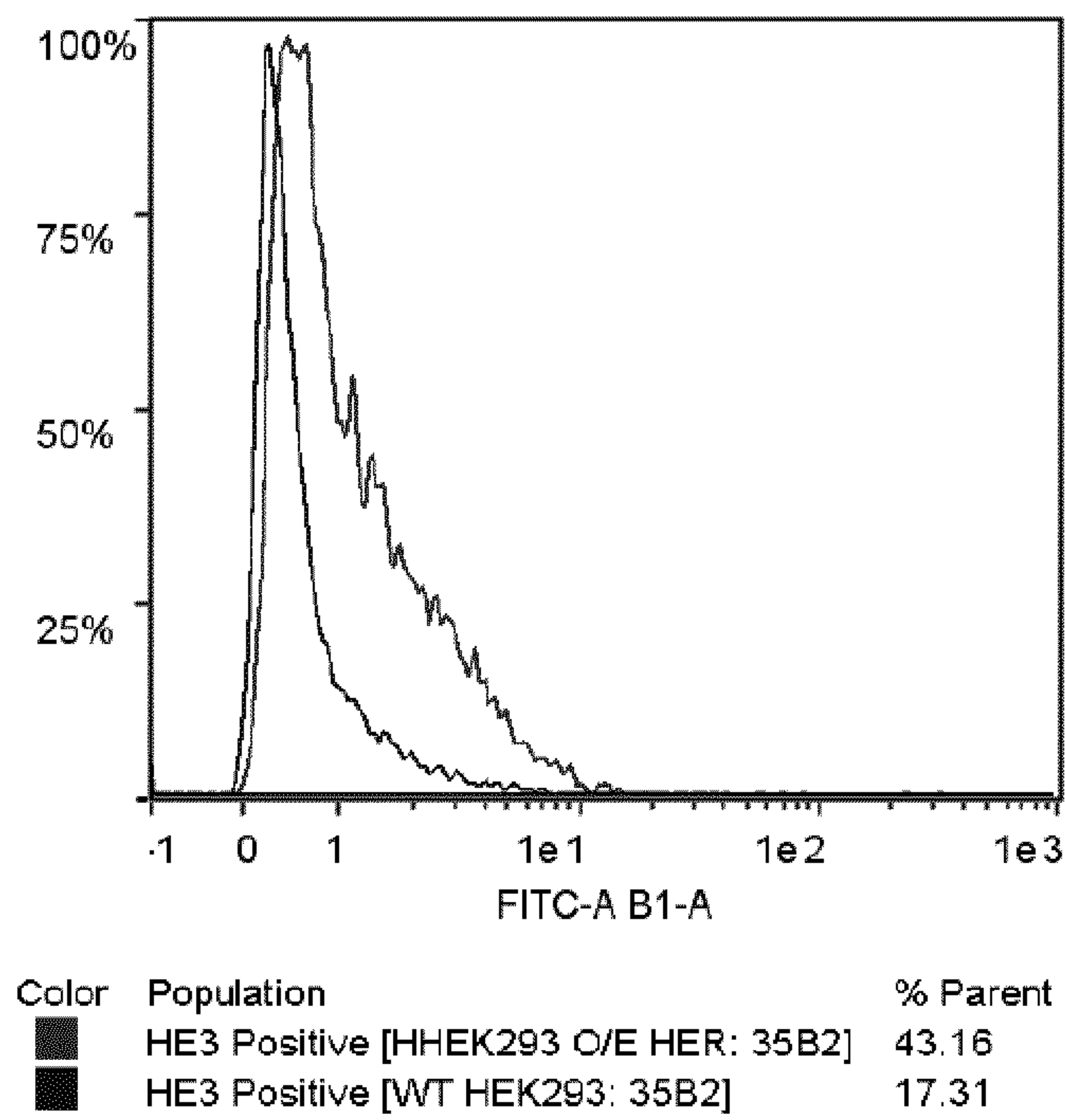


Figure 2A

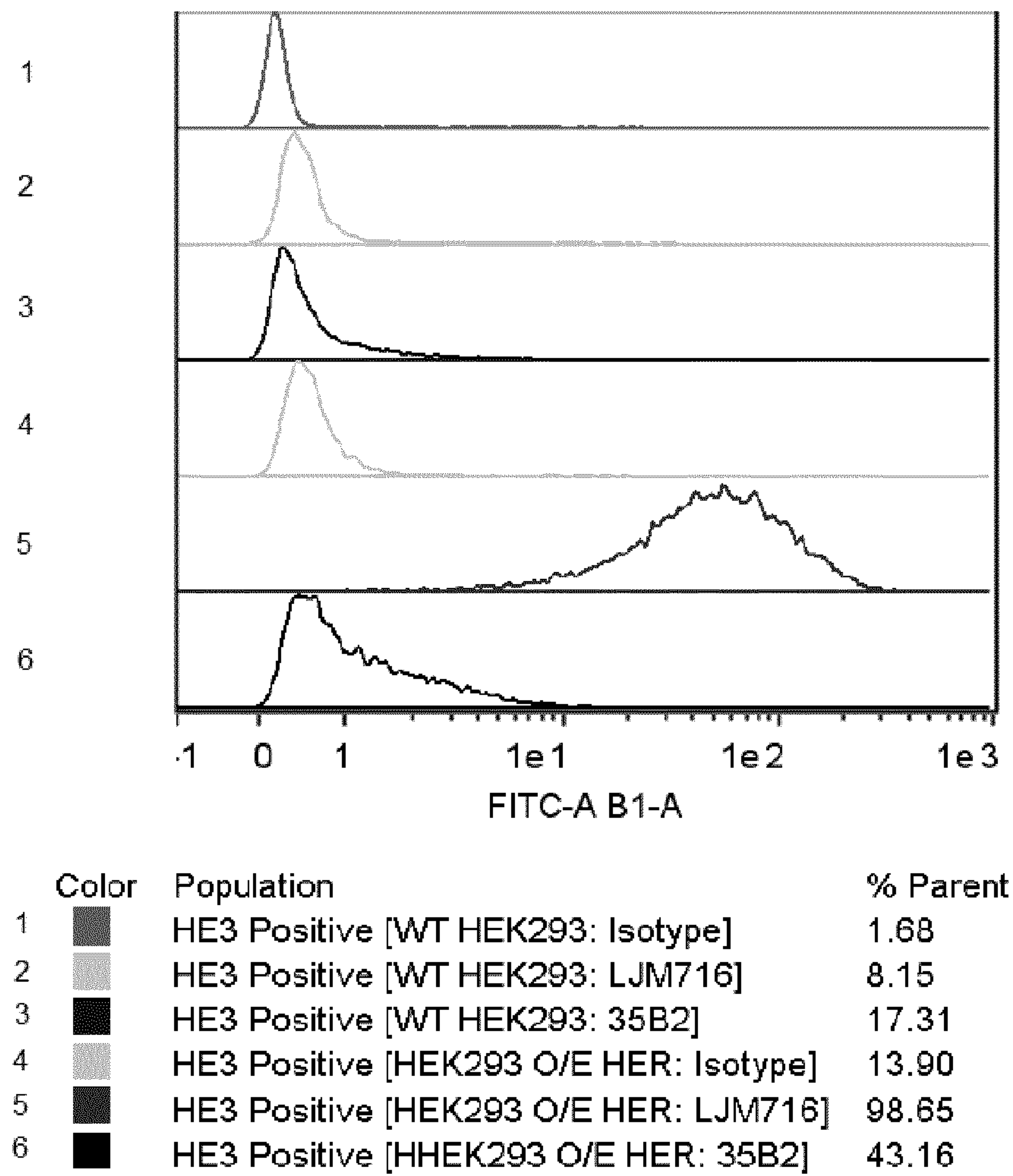


Figure 2B

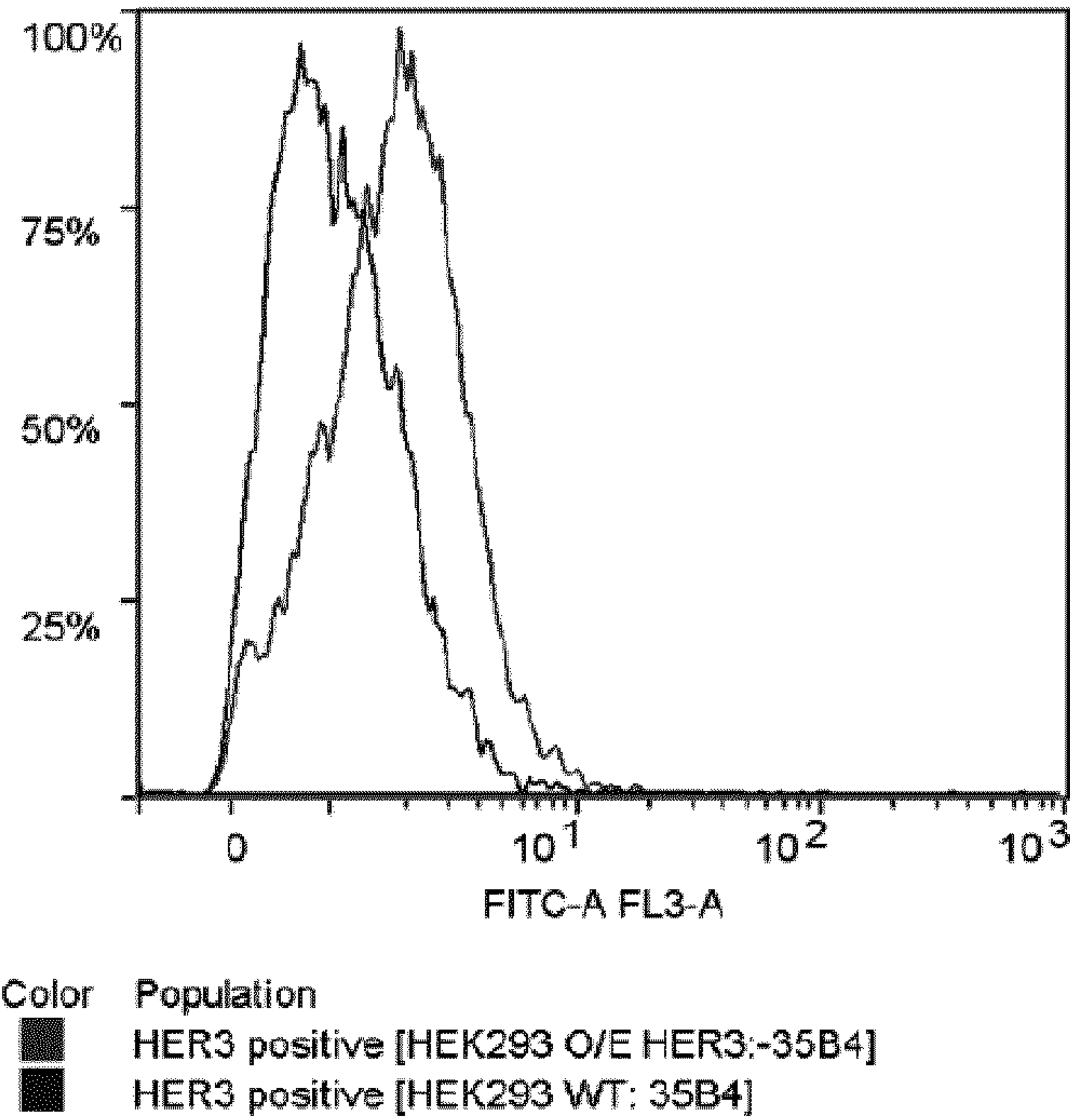


Figure 3A

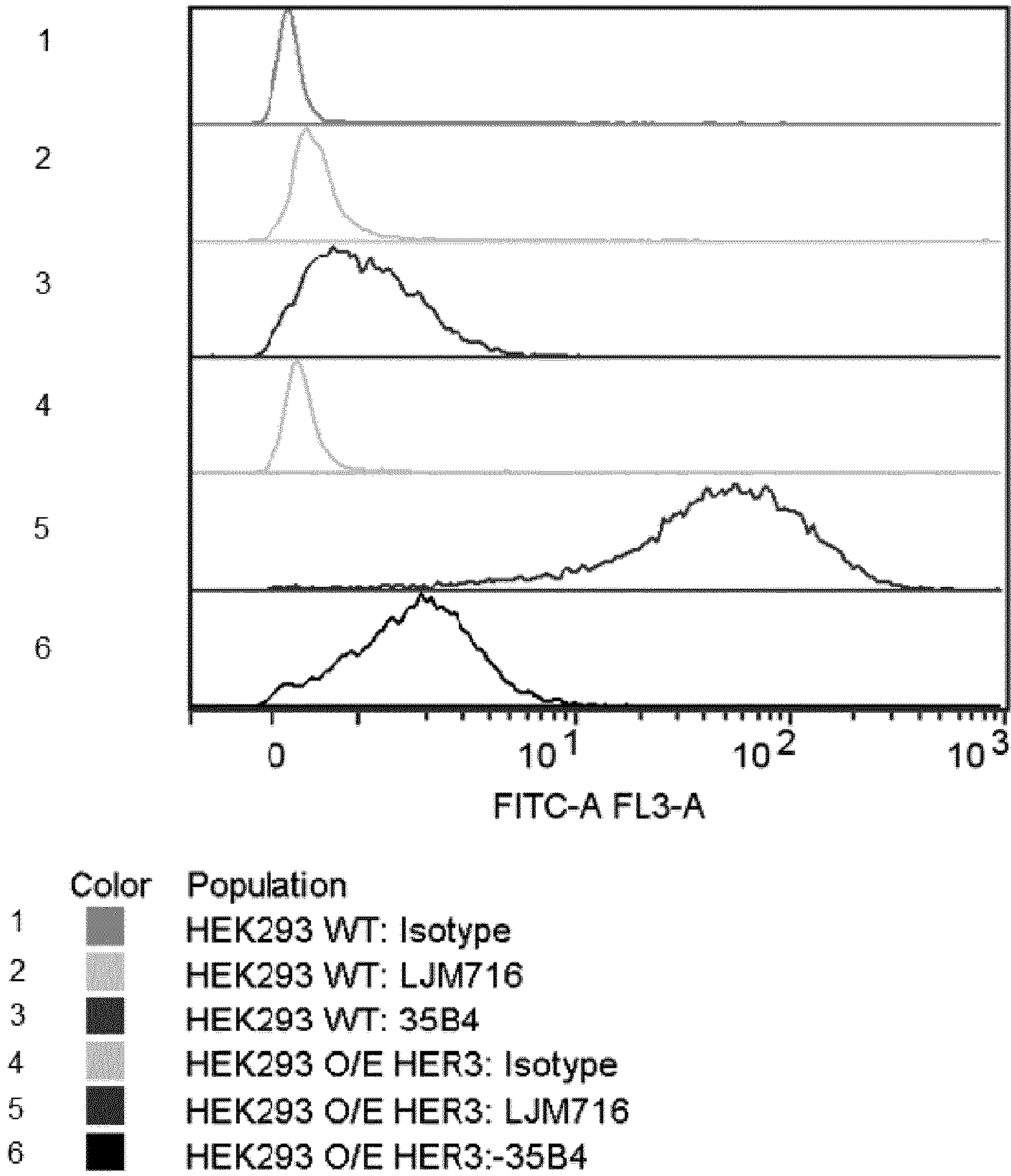


Figure 3B

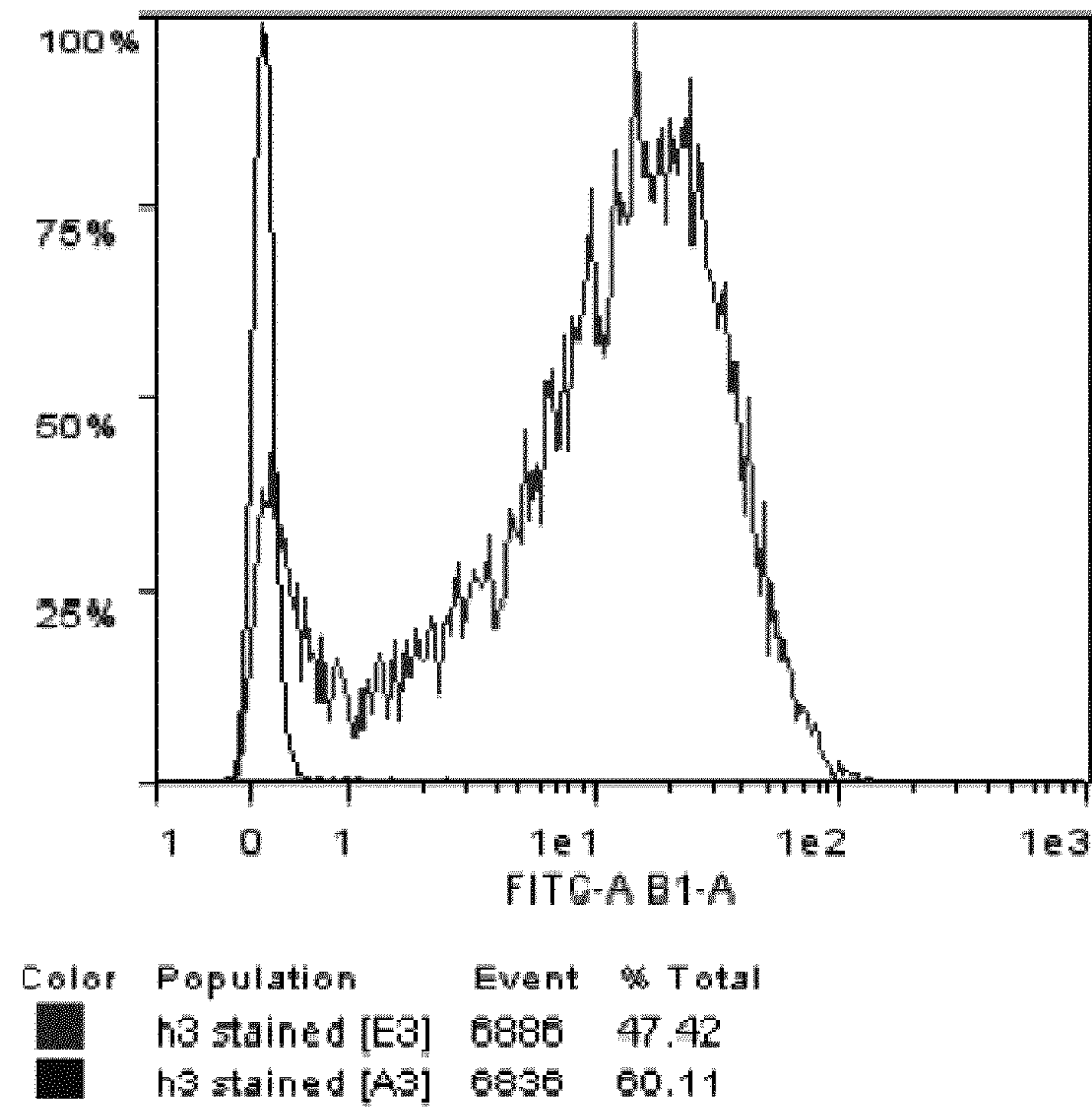
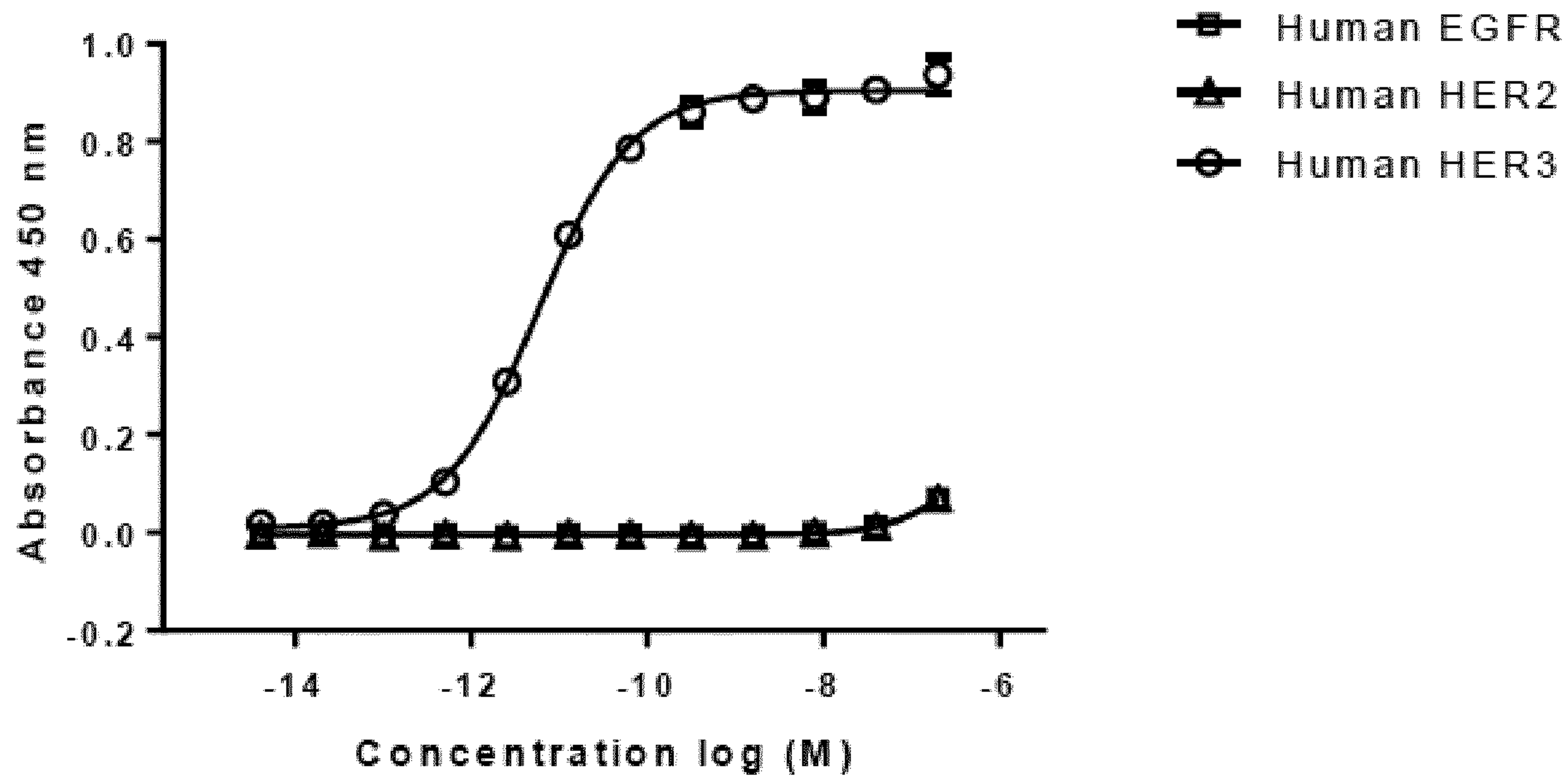
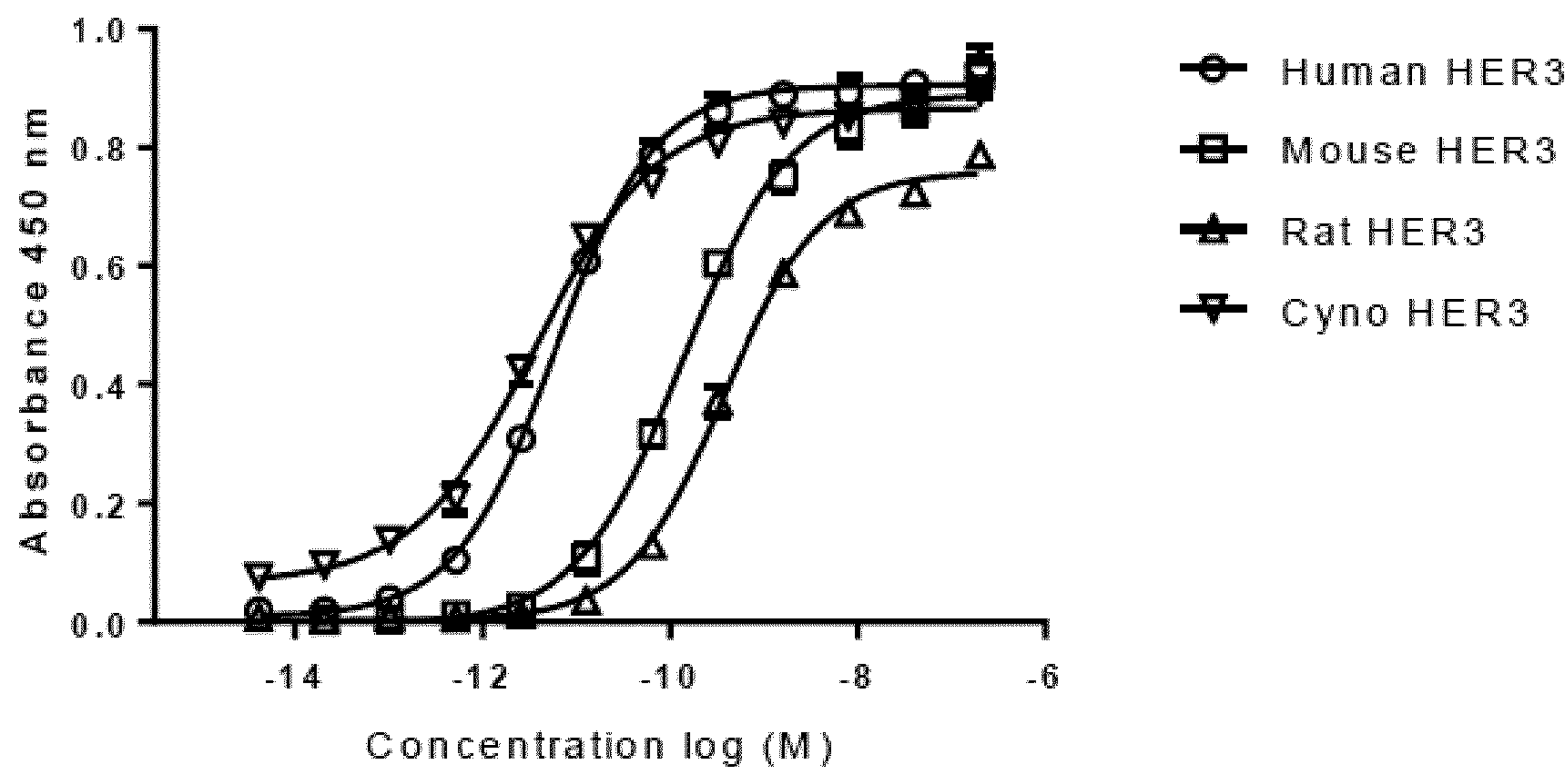


Figure 4



	Human EGFR	Human HER2	Human HER3
EC ₅₀ (M)	NA	NA	5.88E-12

Figure 5A



	Human HER3	Mouse HER3	Rat HER3	Cyno HER3
EC ₅₀ (M)	5.88E-12	1.37E-10	3.72E-10	3.68E-12

Figure 5B

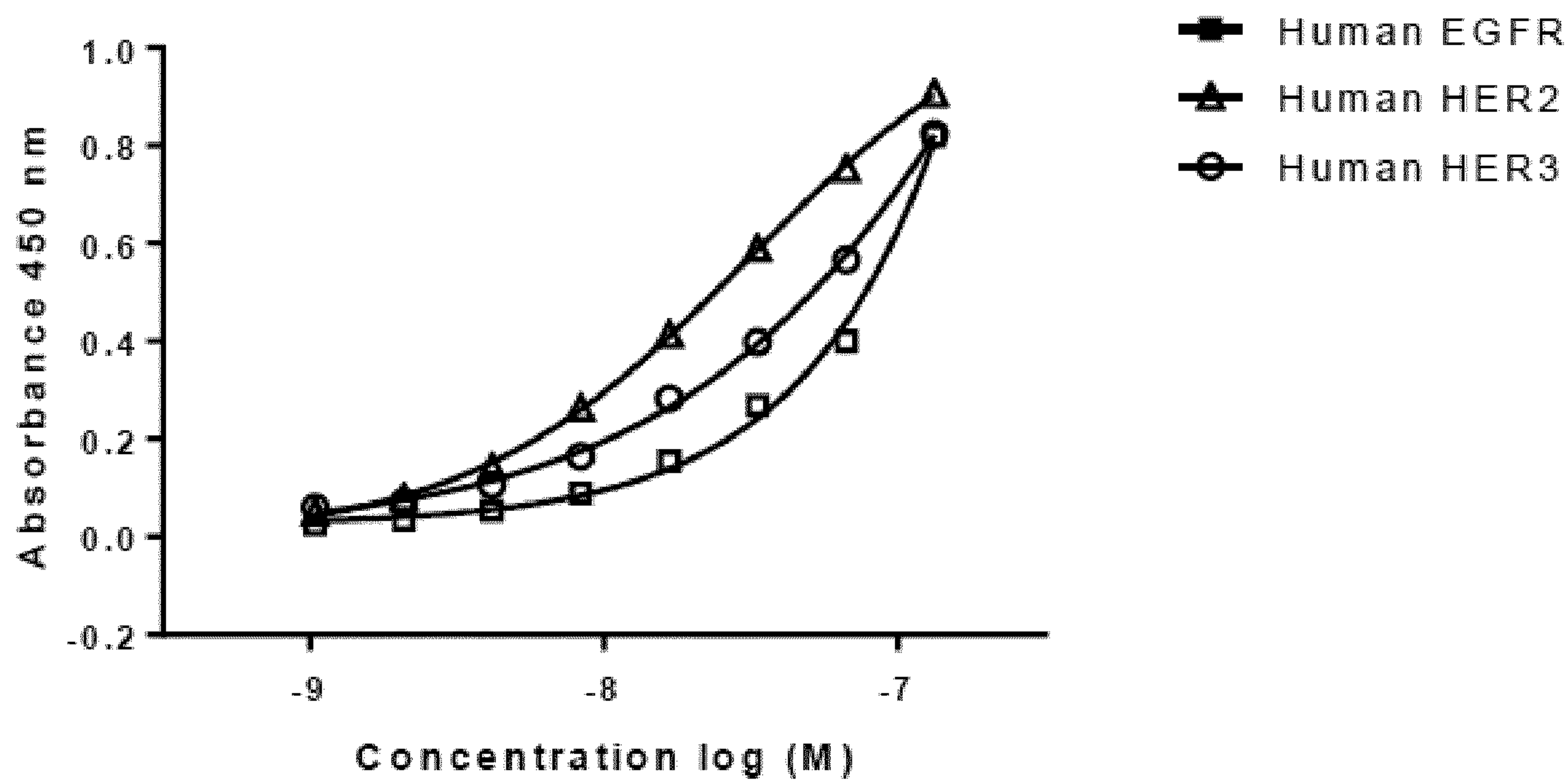


Figure 6A

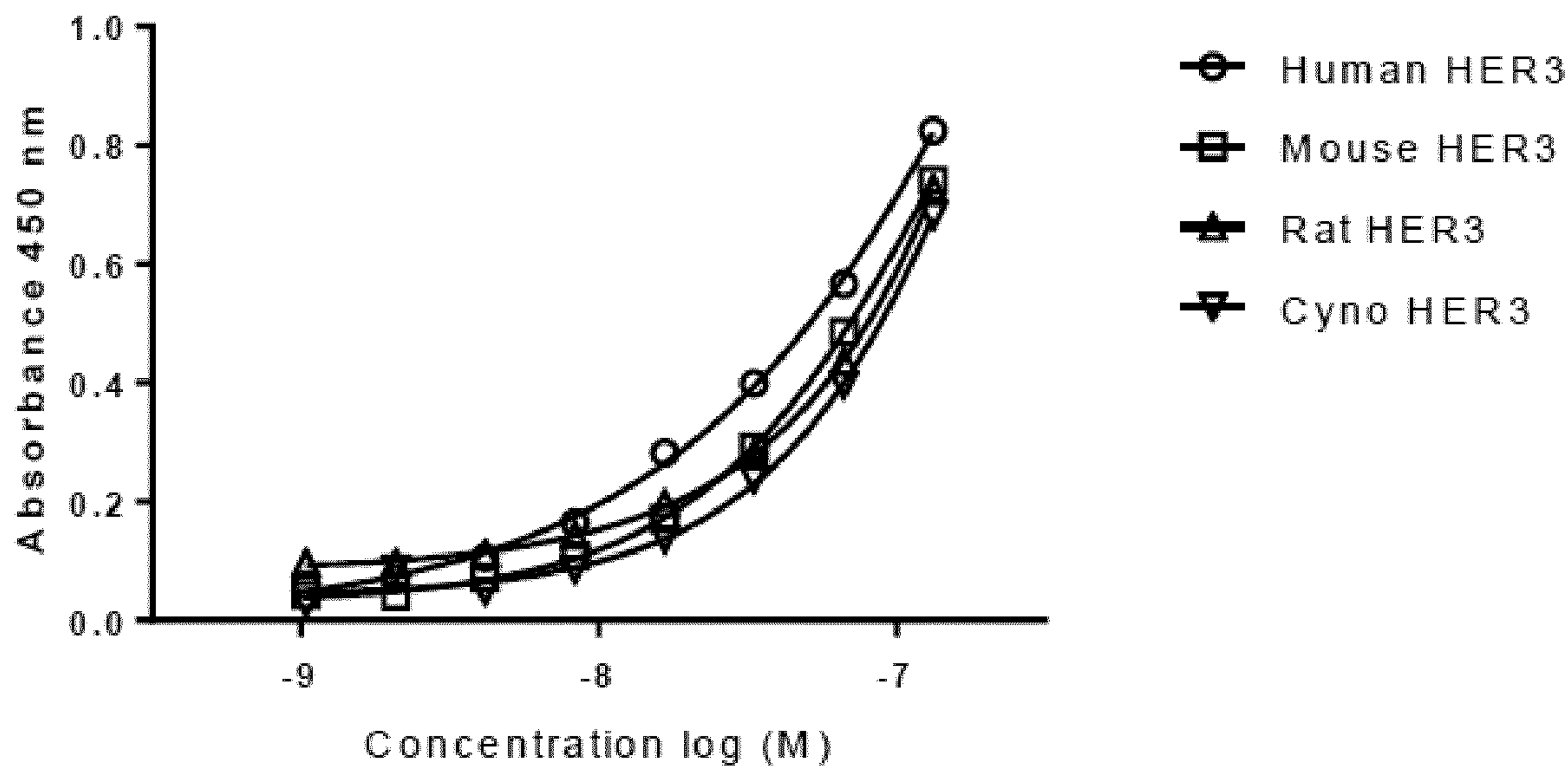


Figure 6B

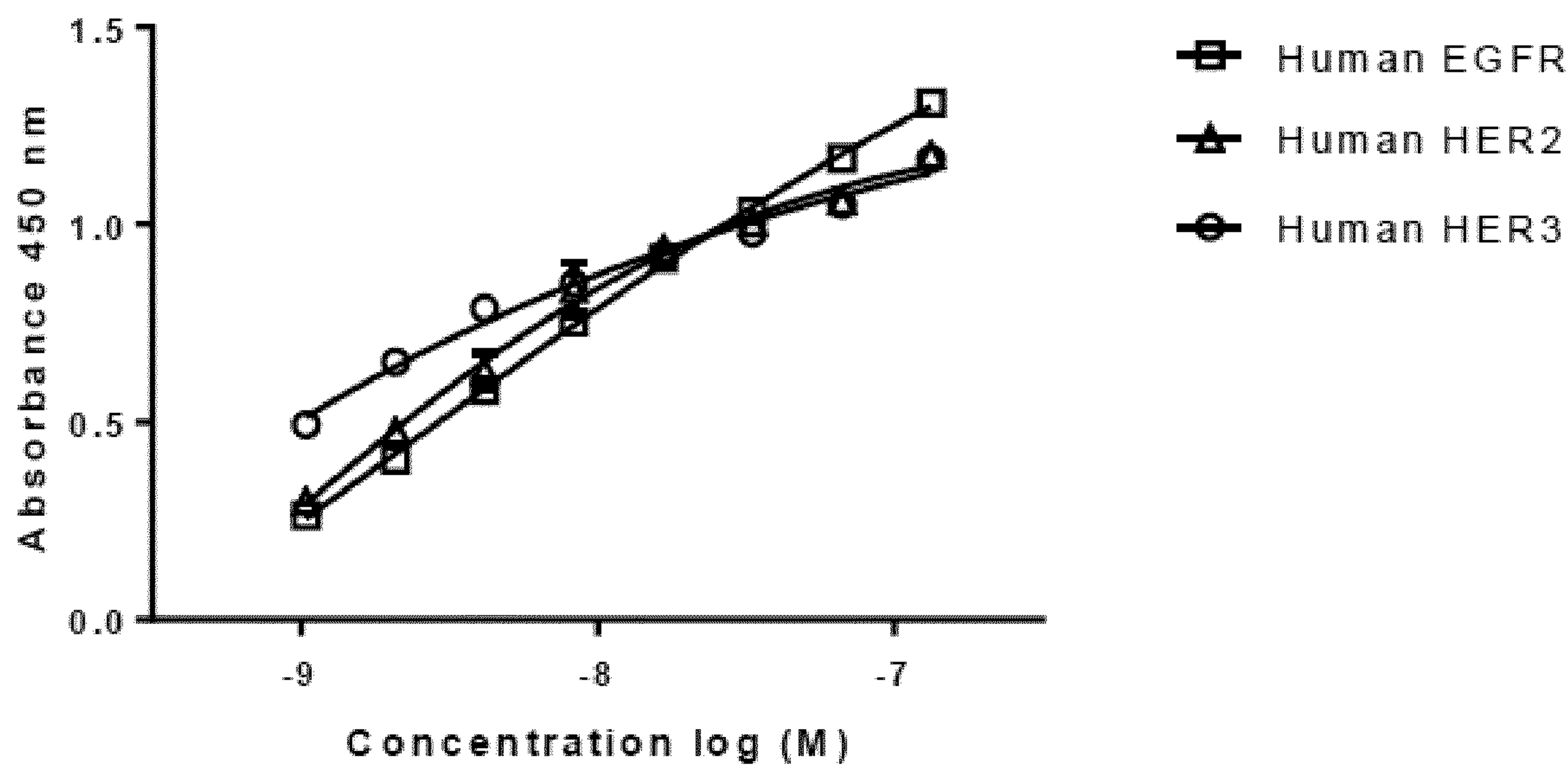


Figure 7A

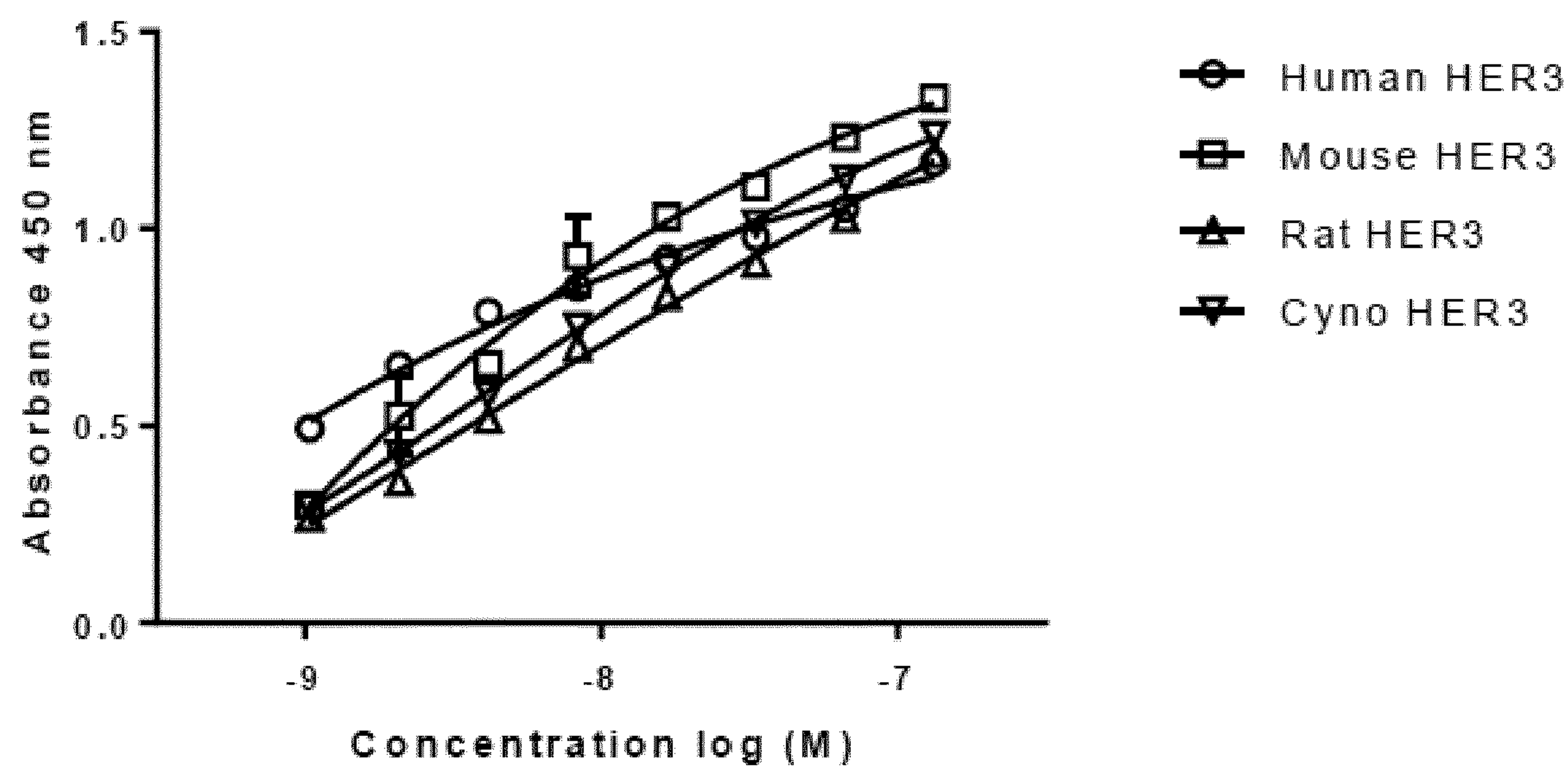
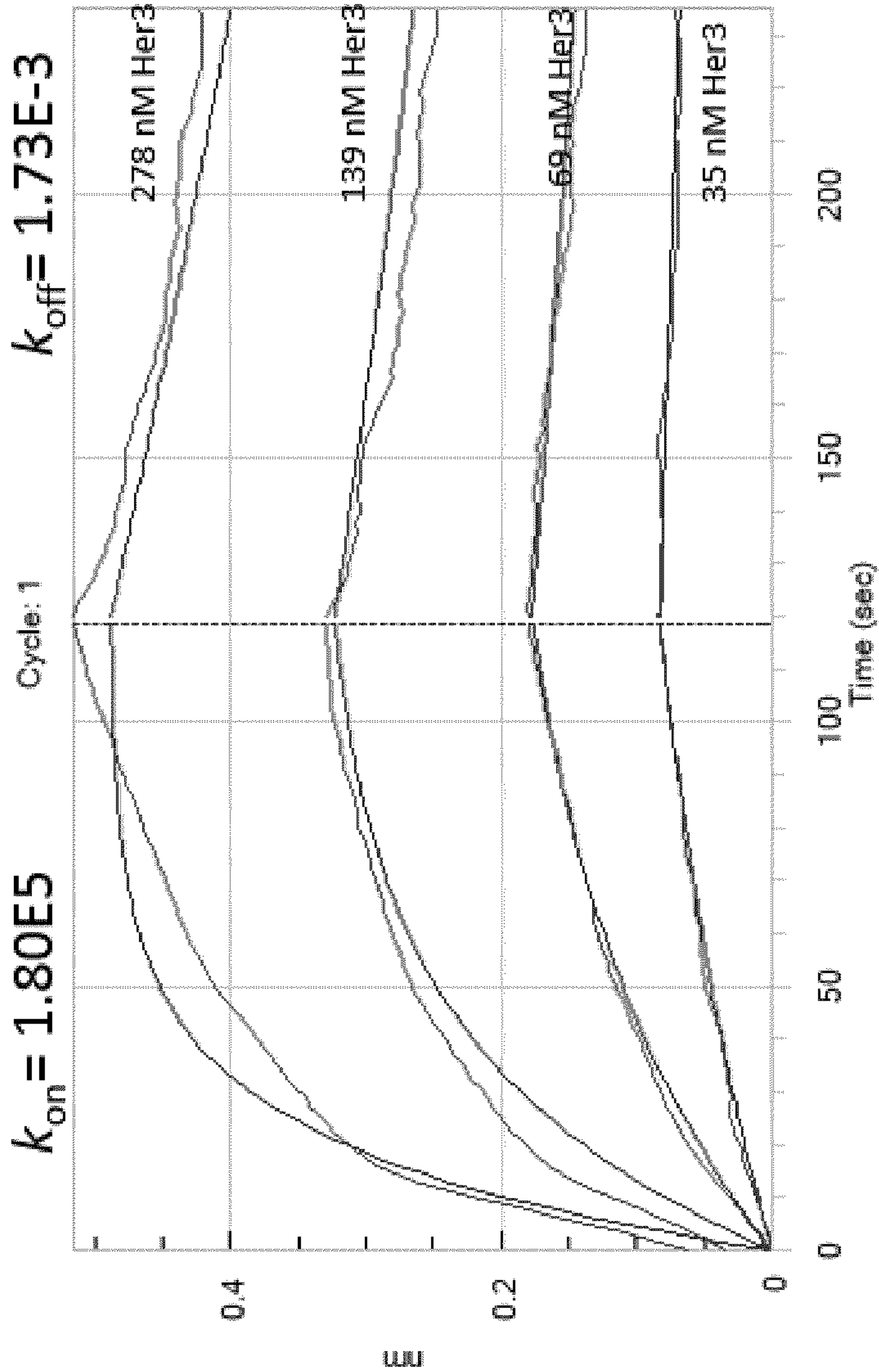


Figure 7B



$k_d = 9.58 \text{ nM}$ $R^2 = 0.9898$

Loading Sample ID	Cycle	Conc. (nM)	Response	KD (M)	kon(1/Ms)		kdiss(1/s)		RMax		Req/Rmax x(%)	Full X^2		Full R^2		
					Error	kon	Error	kdiss	Error	RMax		kobs(1/s)	Req			
10D1p	1	278	0.5079	9.58E-09	9.70E-10	1.80E+05	8.22E+03	1.73E-03	1.56E-04	0.5055	0.0063	5.18E-02	0.4886	96.7	0.0301	0.9898
10D1p	1	35	0.0794	9.58E-09	9.70E-10	1.80E+05	8.22E+03	1.73E-03	1.56E-04	0.1718	0.01	8.03E-03	0.1348	78.5	0.0301	0.9898
10D1p	1	139	0.3278	9.58E-09	9.70E-10	1.80E+05	8.22E+03	1.73E-03	1.56E-04	0.359	0.0076	2.68E-02	0.3359	93.5	0.0301	0.9898
10D1p	1	69	0.1744	9.58E-09	9.70E-10	1.80E+05	8.22E+03	1.73E-03	1.56E-04	0.2471	0.0089	1.42E-02	0.2169	87.8	0.0301	0.9898

Figure 8

$K_d = 8.09E-08$

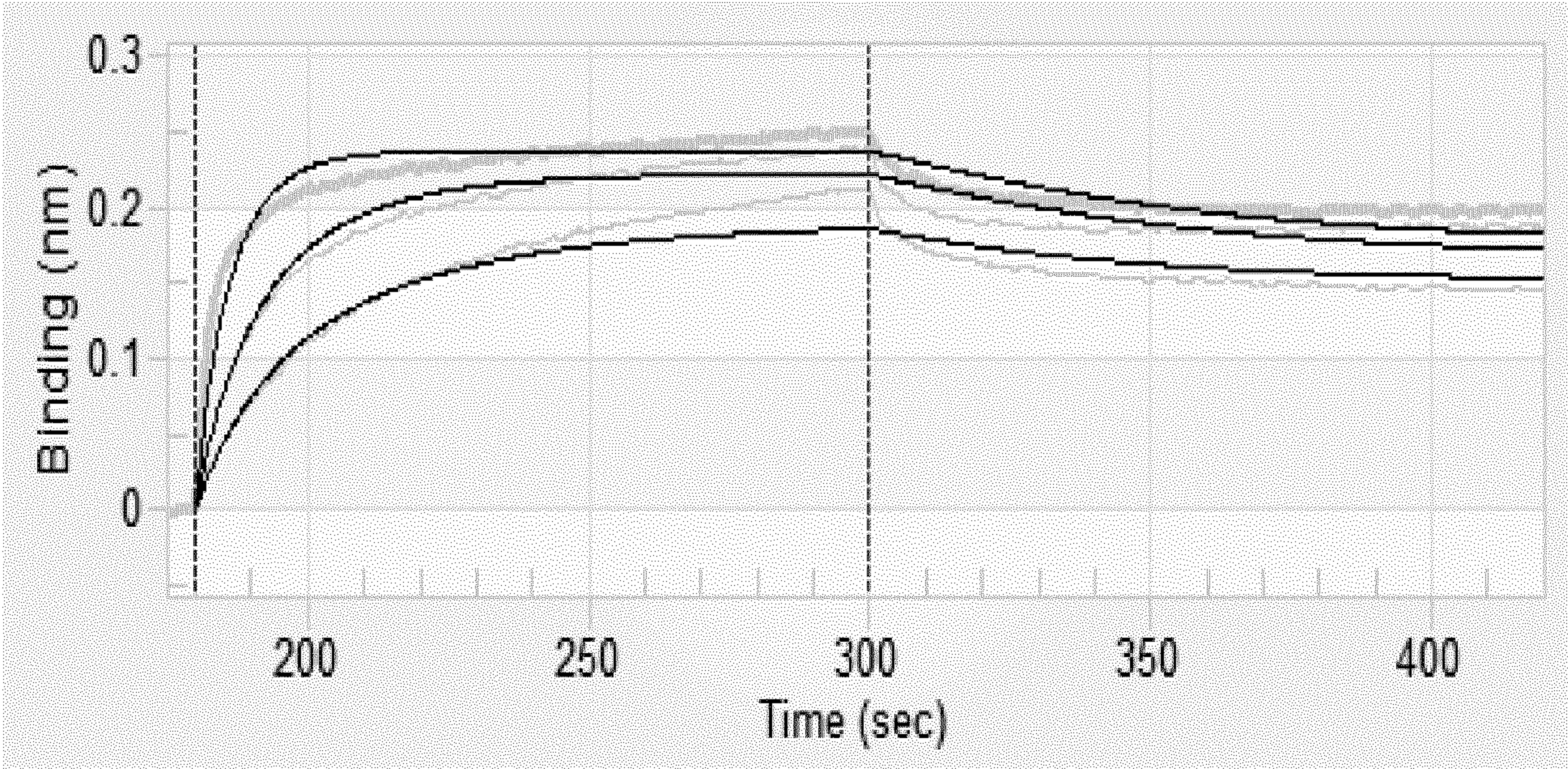


Figure 9

$K_d = 5.03E-08$

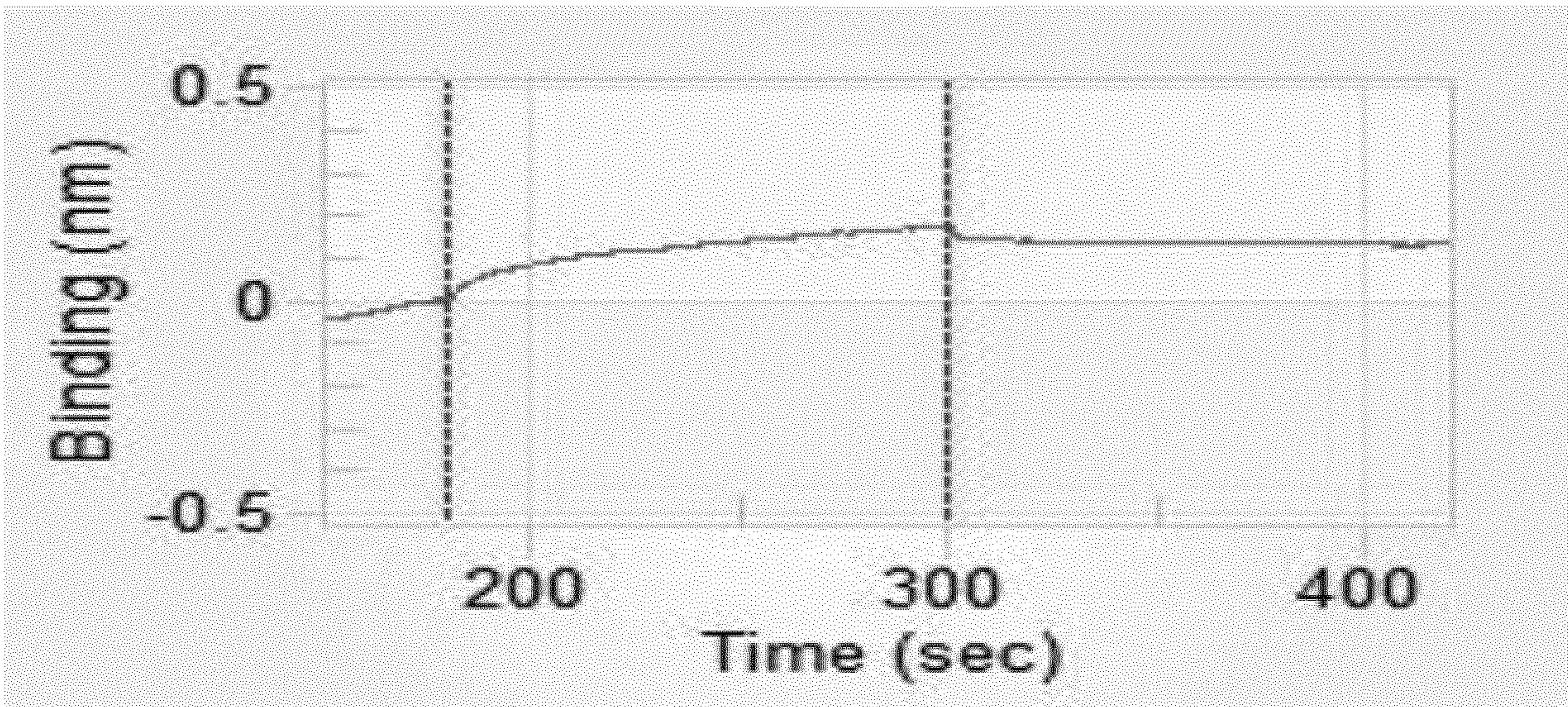


Figure 10

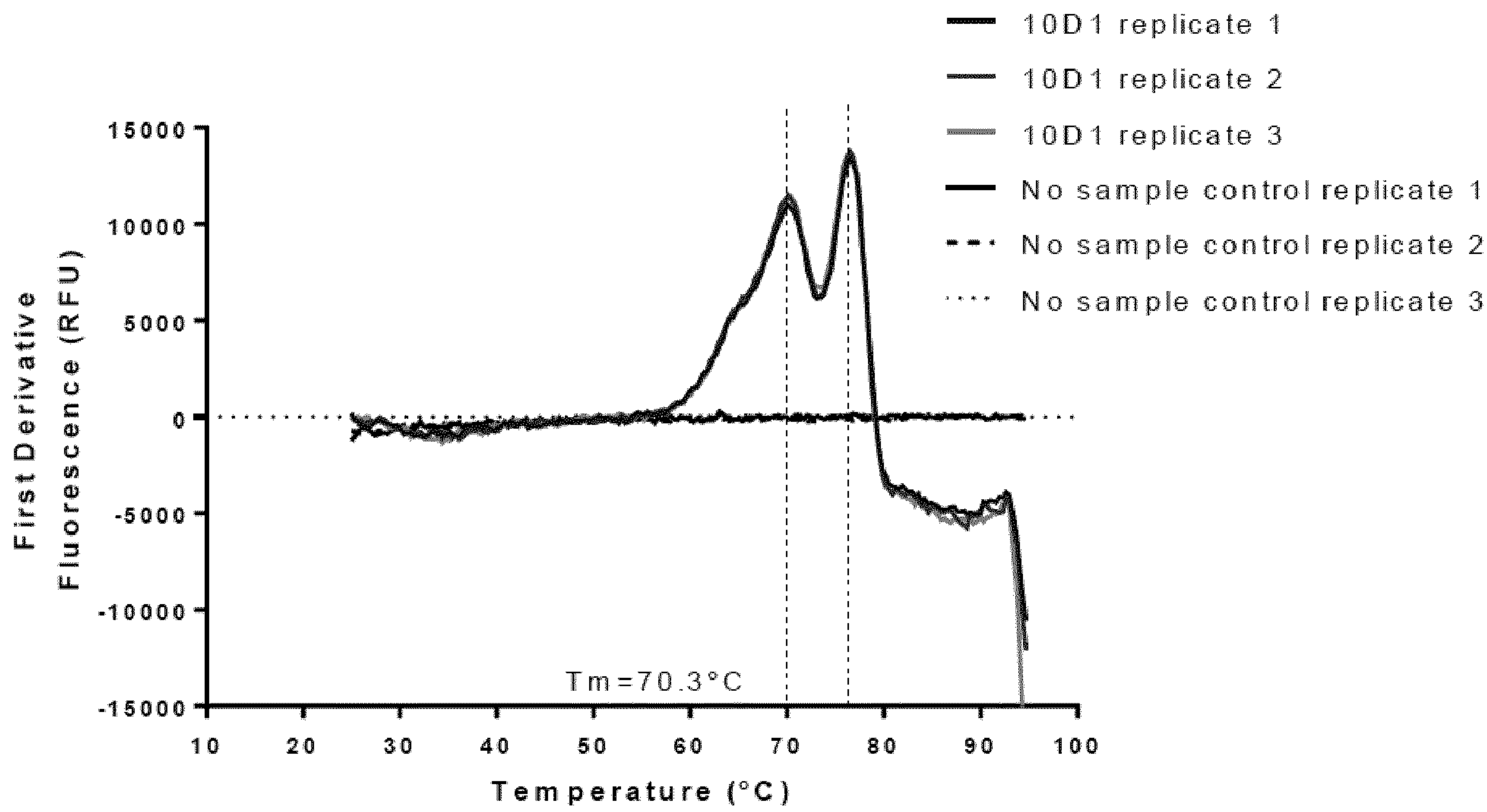


Figure 11

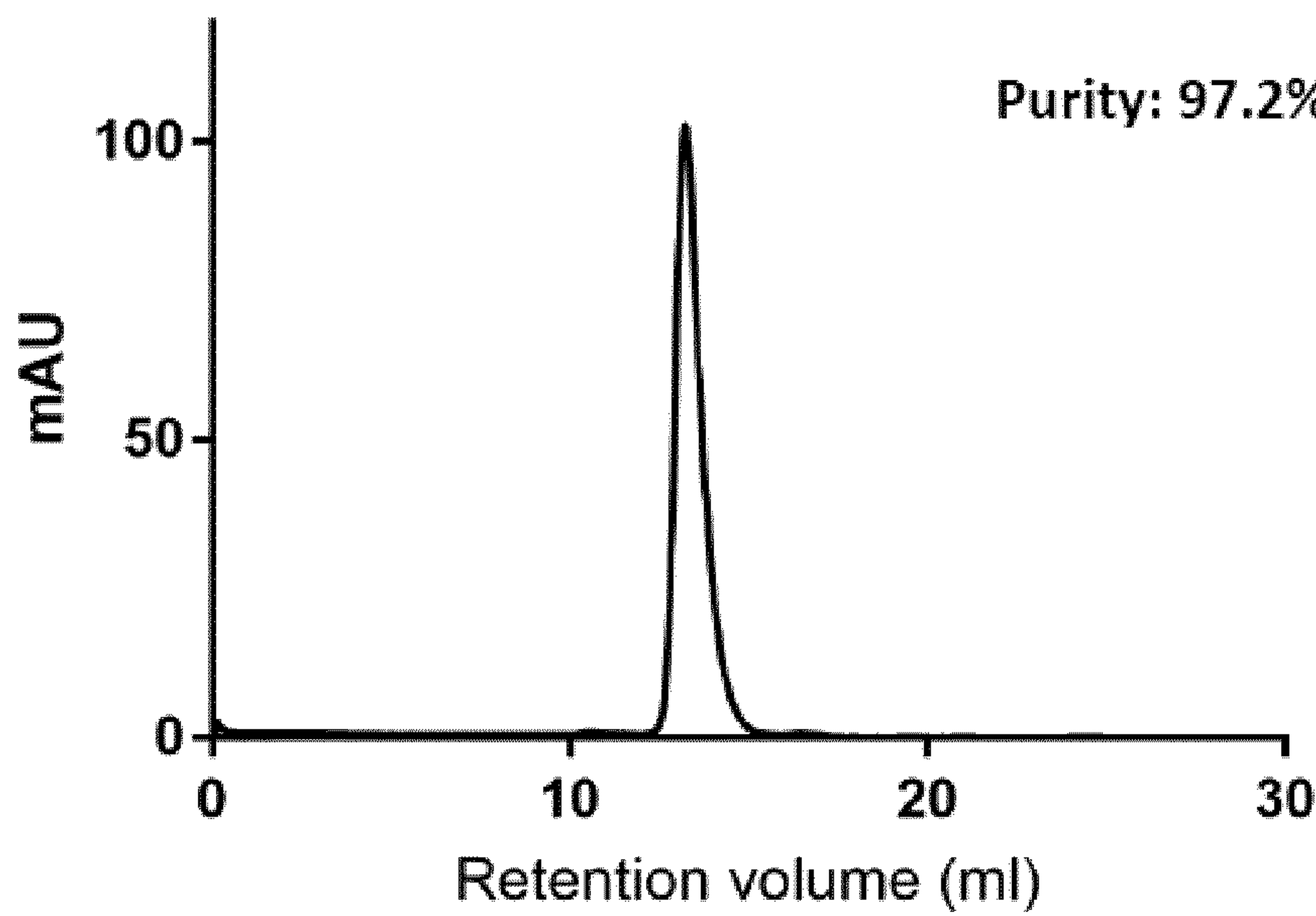


Figure 12

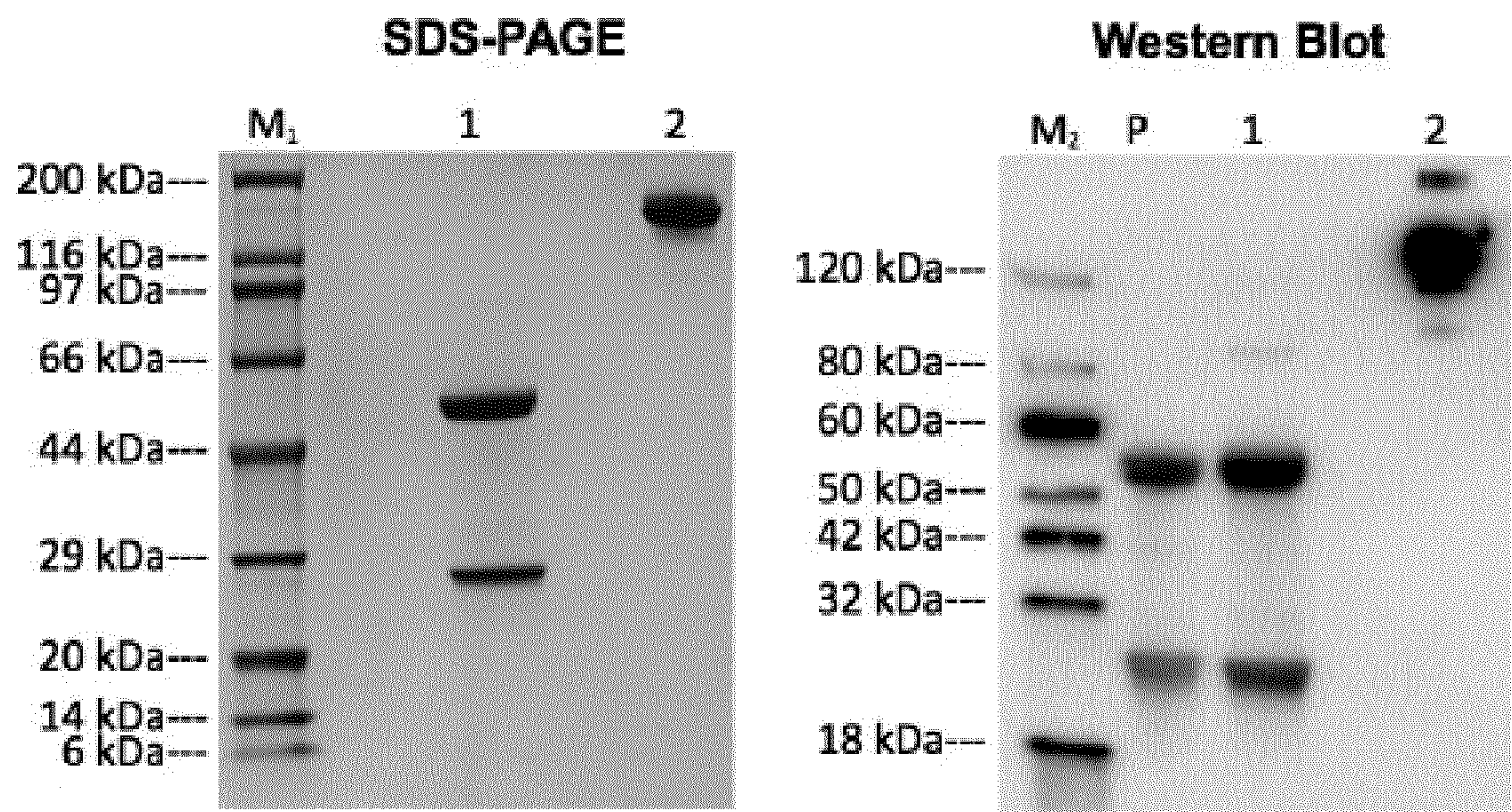


Figure 13

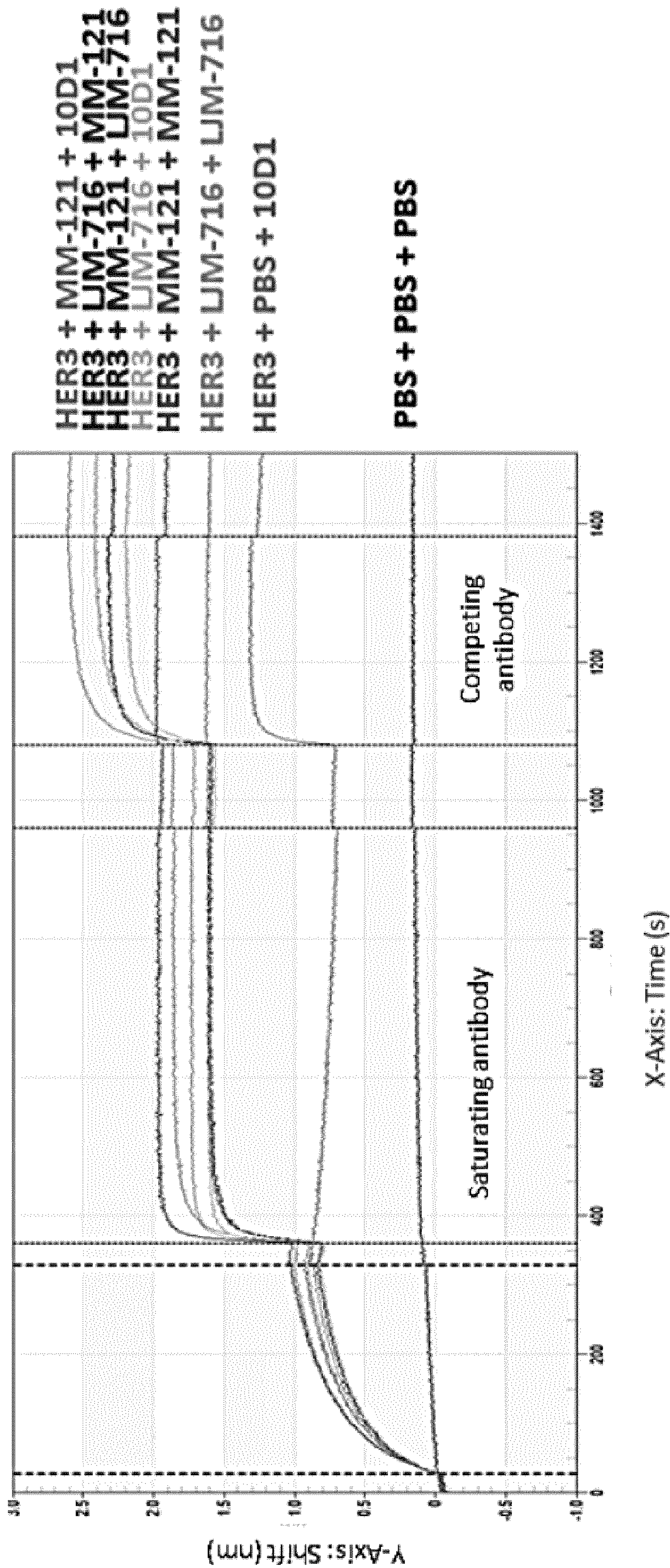


Figure 14A

Competing Antibody				
Saturating Antibody		10D1	MM-121	LJM-716
	10D1	x	x	x
	MM-121	0.757	x	0.729
	LJM-716	0.638	0.693	x

Figure 14B

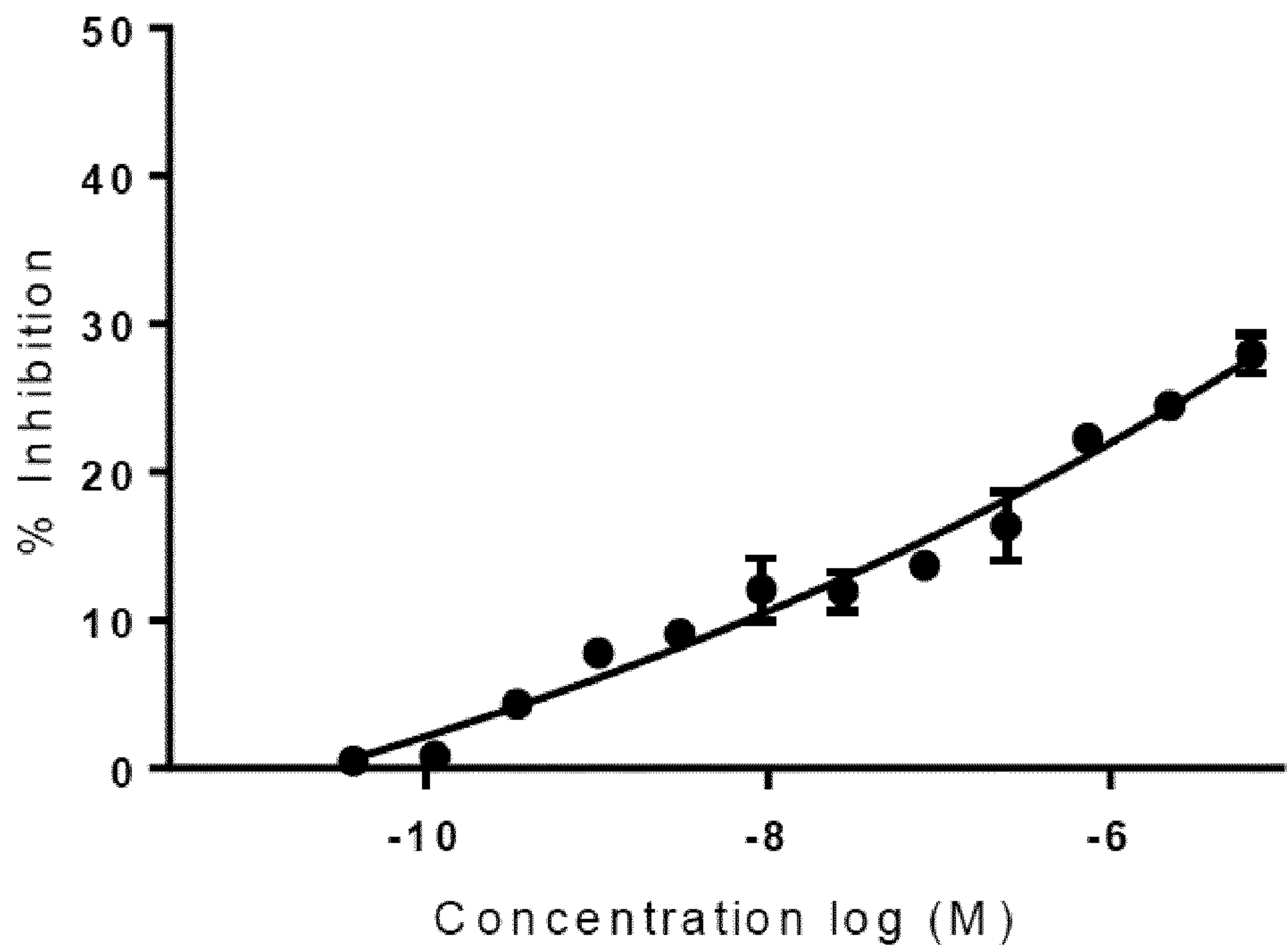


Figure 15

Solid Tumor	Cell Line	mRNA Expression (Data from CCLE*)							Protein expression (Data based on FACS**)			
		EGFR	HER2	HER3	HER4	EGF	NRG1	EGFR	HER2	HER3		
Gastric	N87	7.08	13.18	9.67	3.83	4.08	4.22	358	618	5.6		
	SNU16	6.88	7.8	11.06	4.04	3.78	4.26	13.6	28.3	1.87		
Colorectal	HT29	6.54	8.11	10.8	3.81	3.83	4.53	27.5	20.3	4.2		
Head and Neck	FaDu	7.99	7.36	8.35	4.01	3.89	4.96	65.1	11.6	1.5		
Lung	A549	7.29	6.79	5.18	3.85	4.2	8.81	19	17.7	7.4		
	HCC95	7.33	7.06	7.31	3.85	4.19	11.24	100.8	44.5	8.2		
Ovarian	OvCAR8	6.19	6.72	8.24	3.86	4.72	6.65	44.5	130.5	4.7		
Kidney	ACHN	7.81	6.78	6.32	3.8	4.66	8.04	93.6	67.5	4		

*CCLE gene expression data is log2-transformed robust multi-array (RMA)-normalized data generated from Affymetrix gene chips. The expression values in rather are relative

** Median fluorescence intensity normalized to isotype calculated by FlowLogic.

Figure 16A

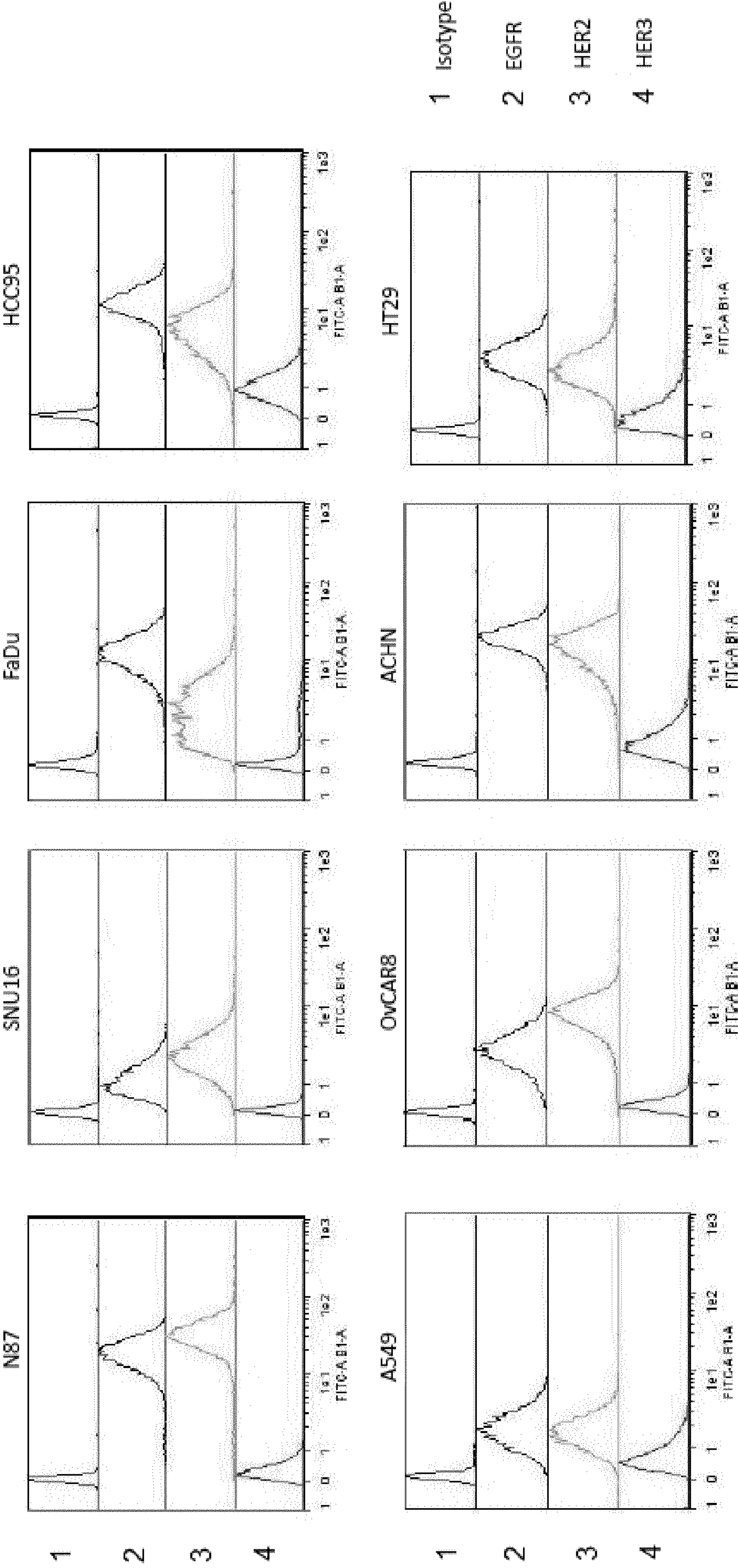


Figure 16B

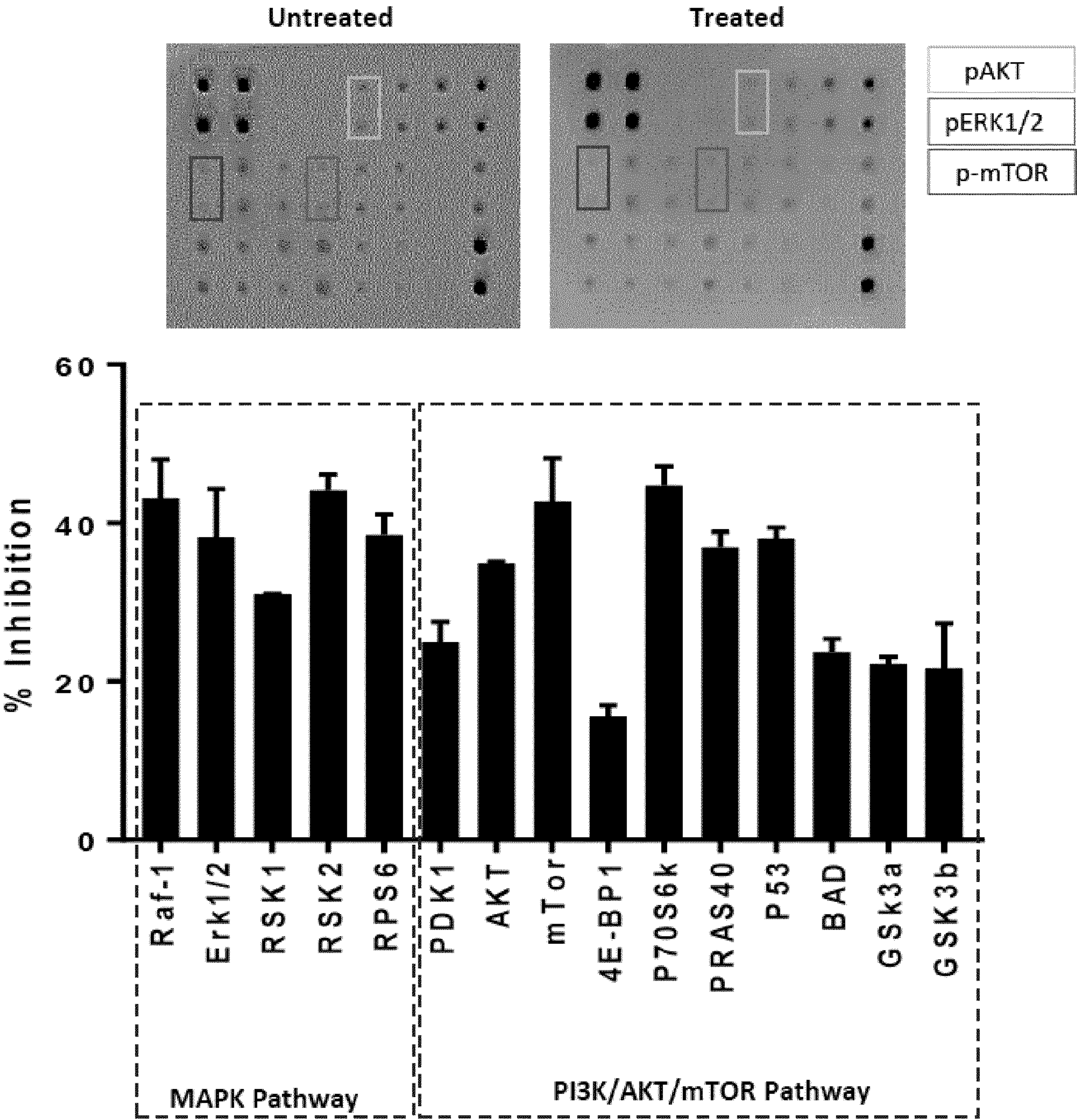


Figure 18

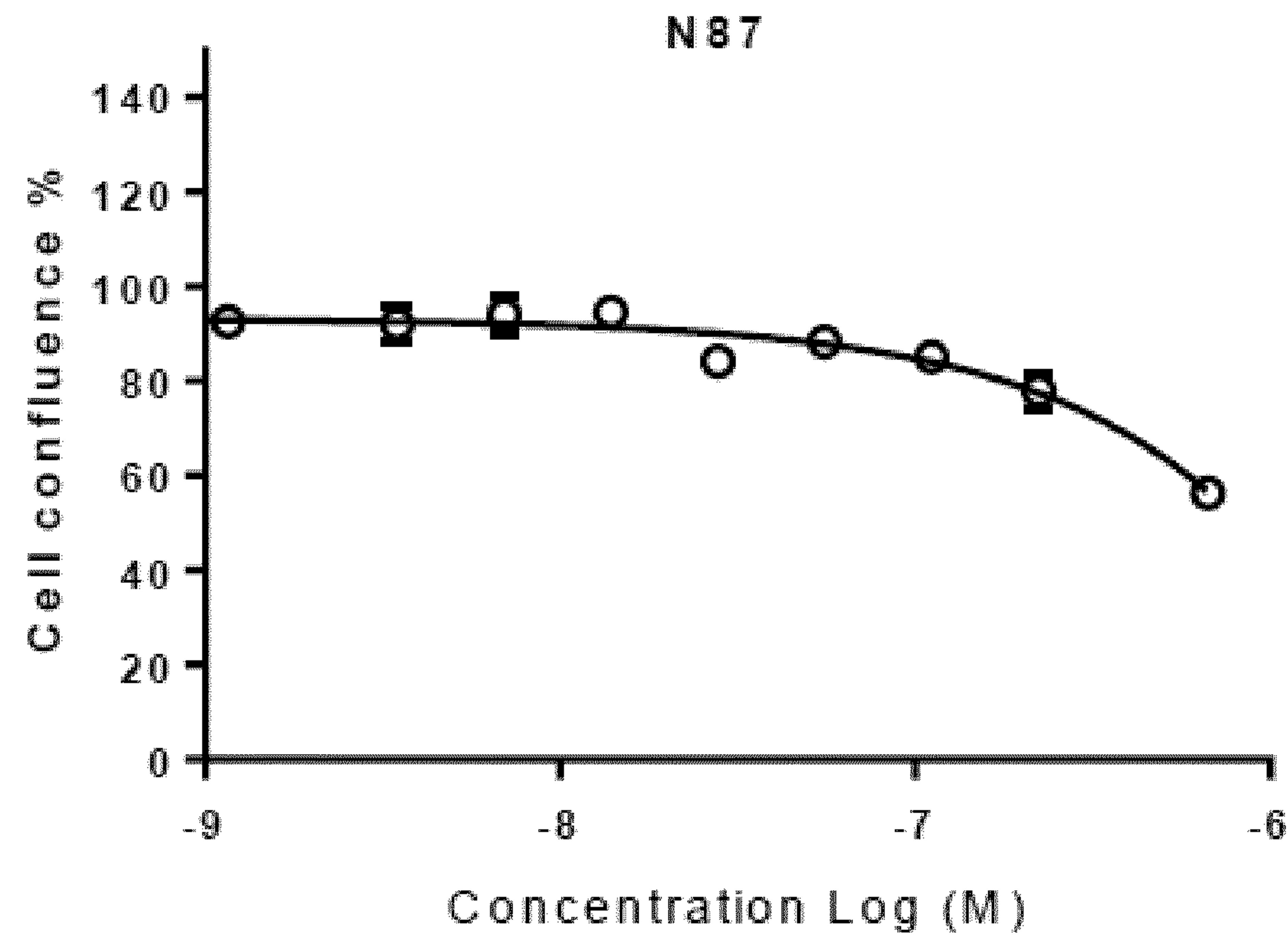


Figure 19A

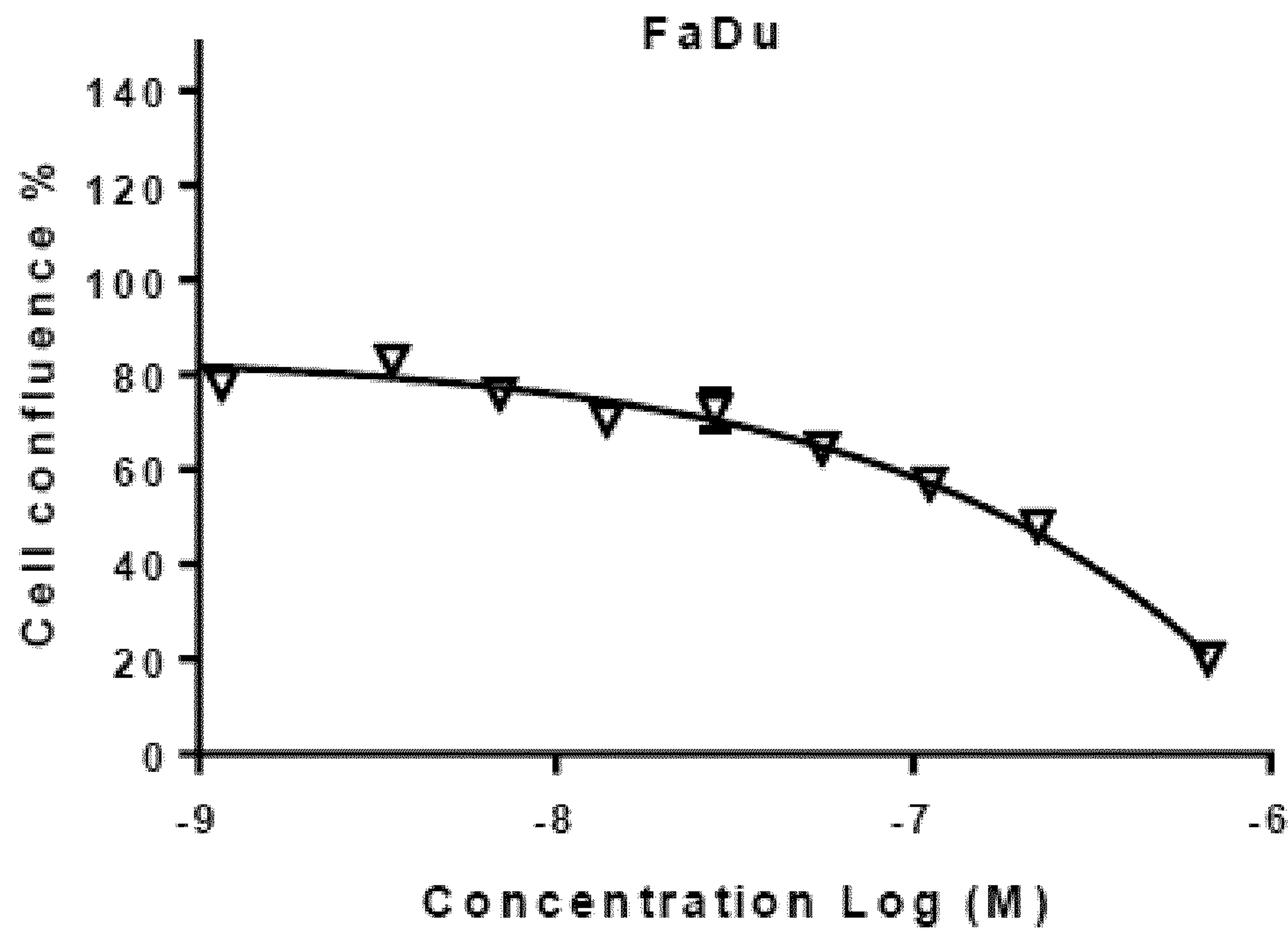


Figure 19B

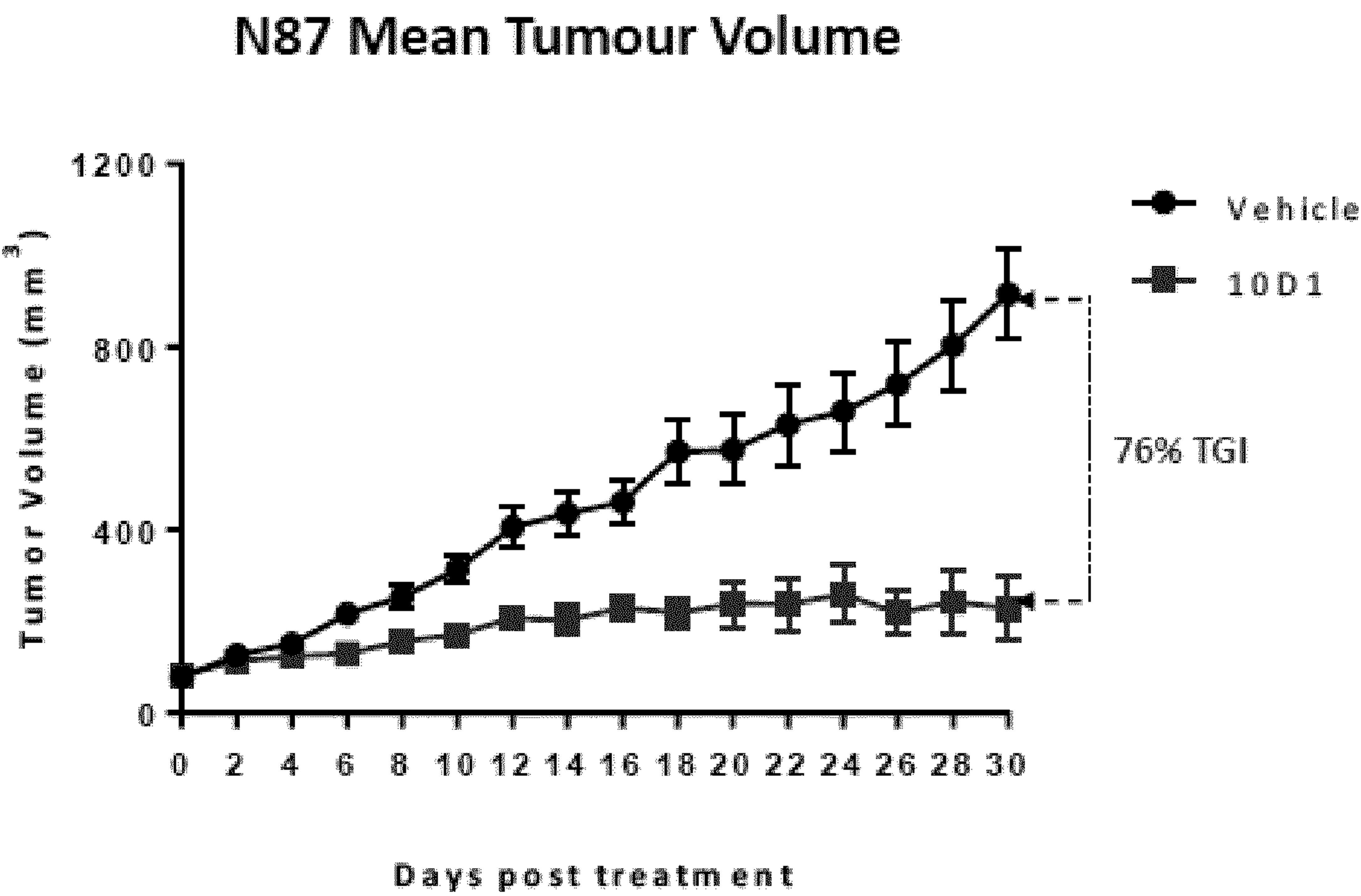


Figure 20

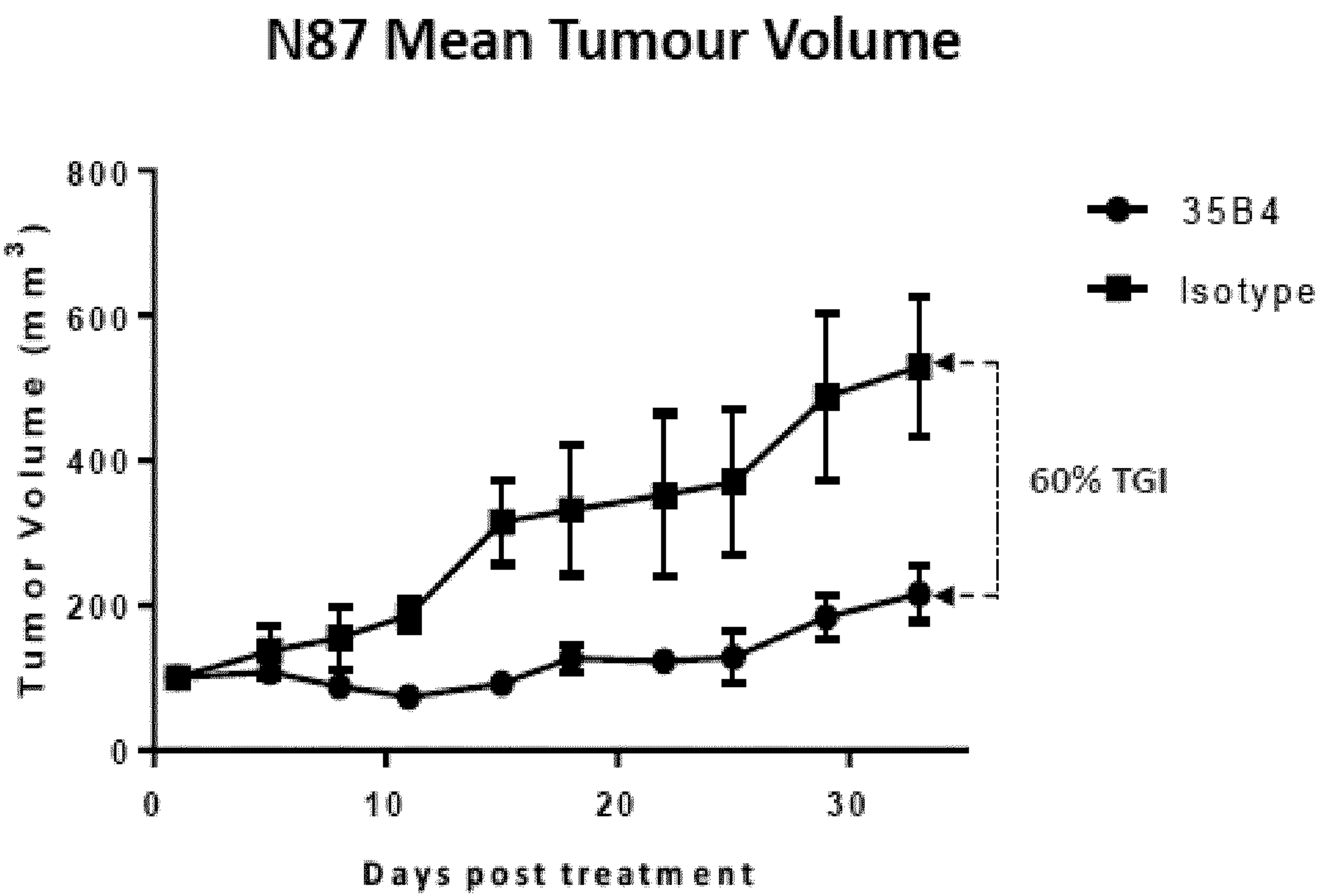


Figure 21

SNU16 Mean Tumour Volume

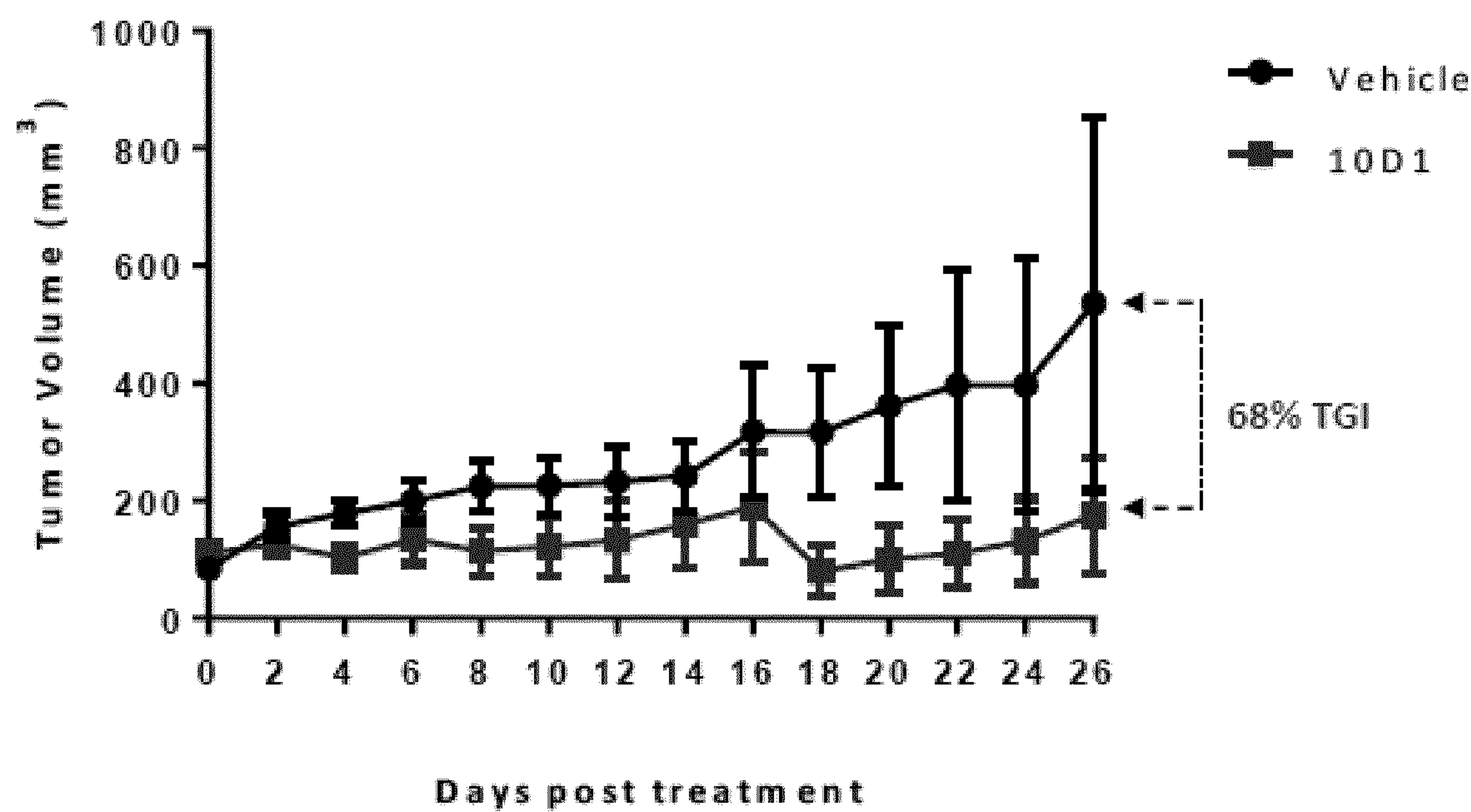


Figure 22

FaDu Mean Tumour Volume

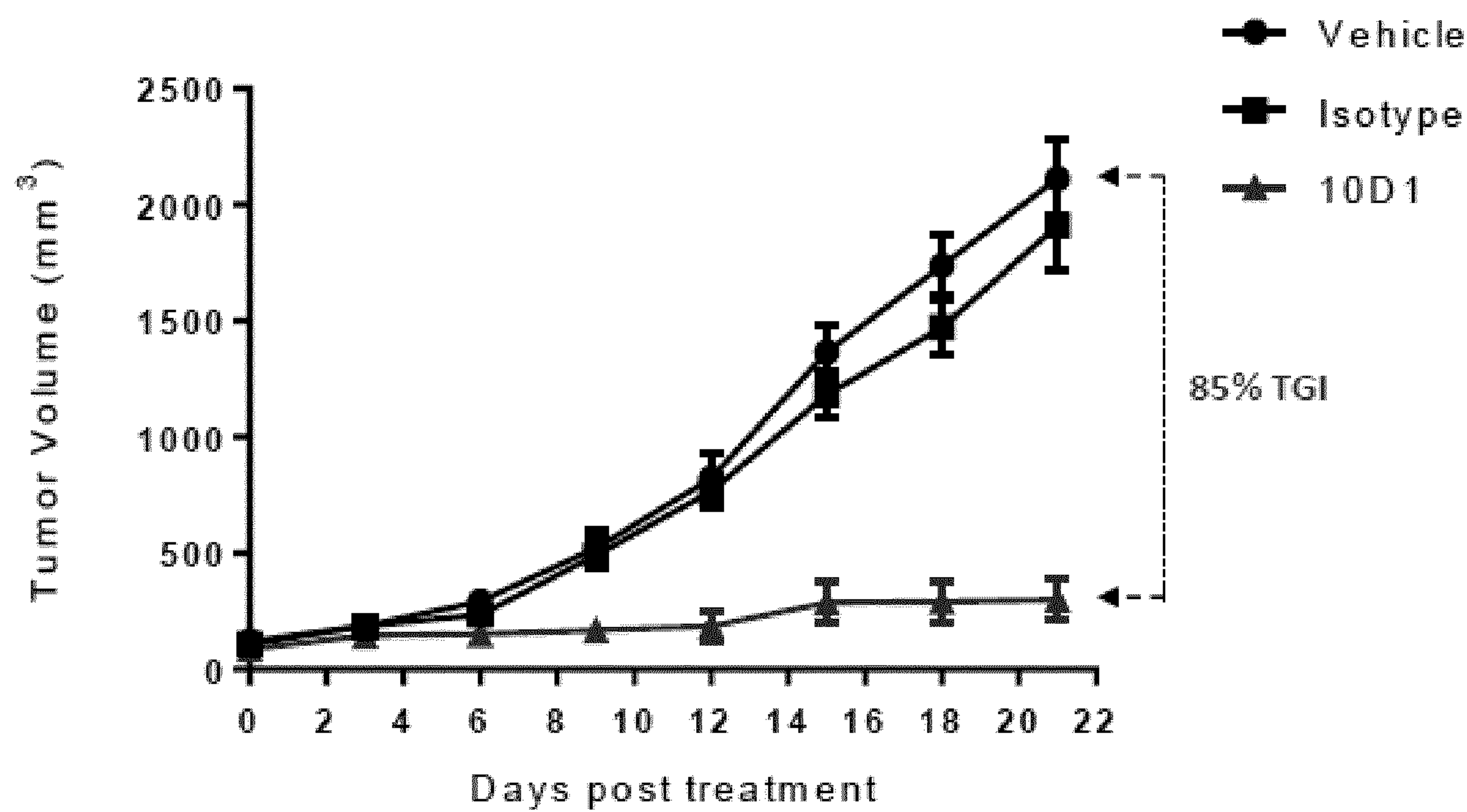


Figure 23

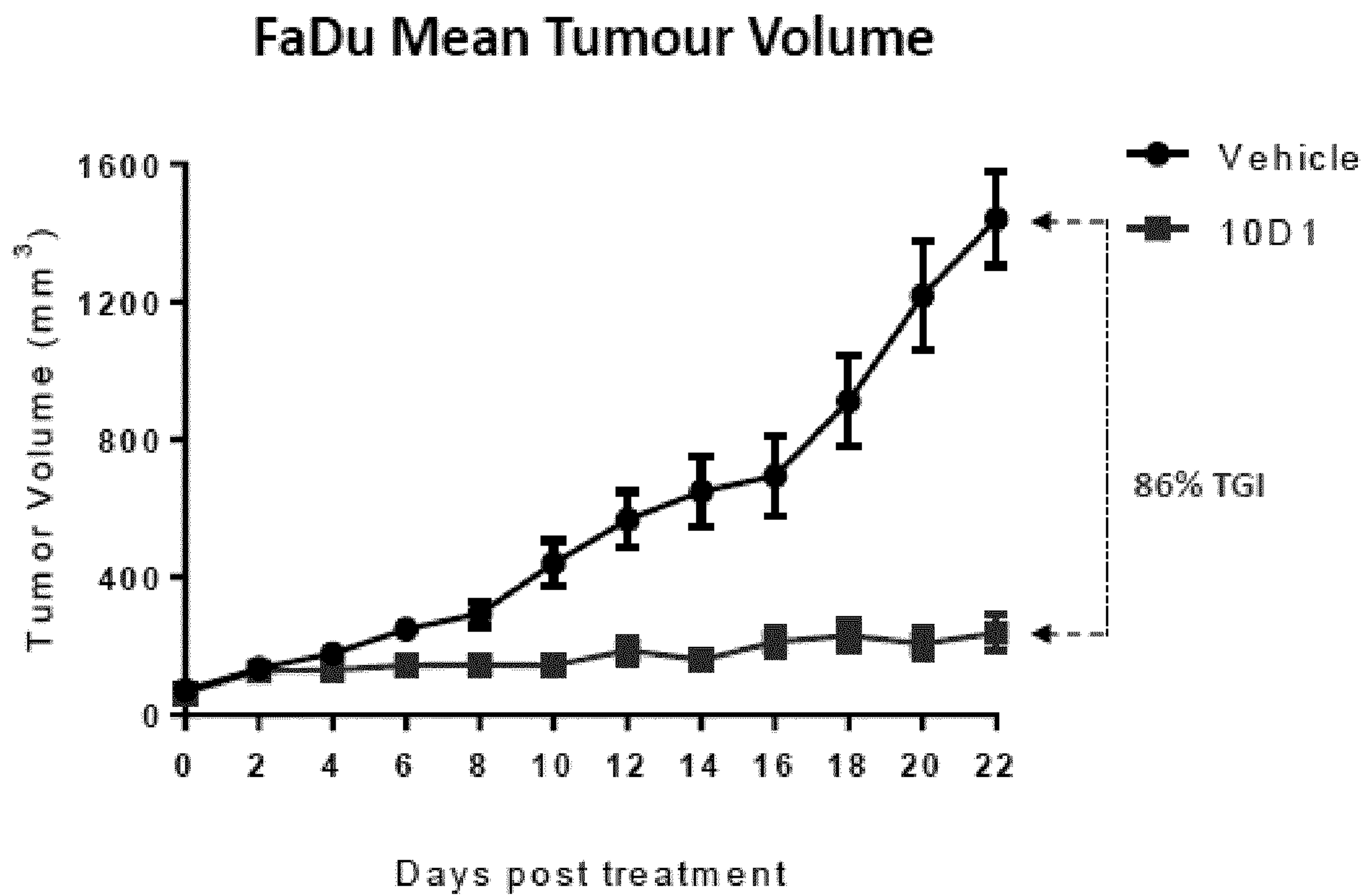


Figure 24

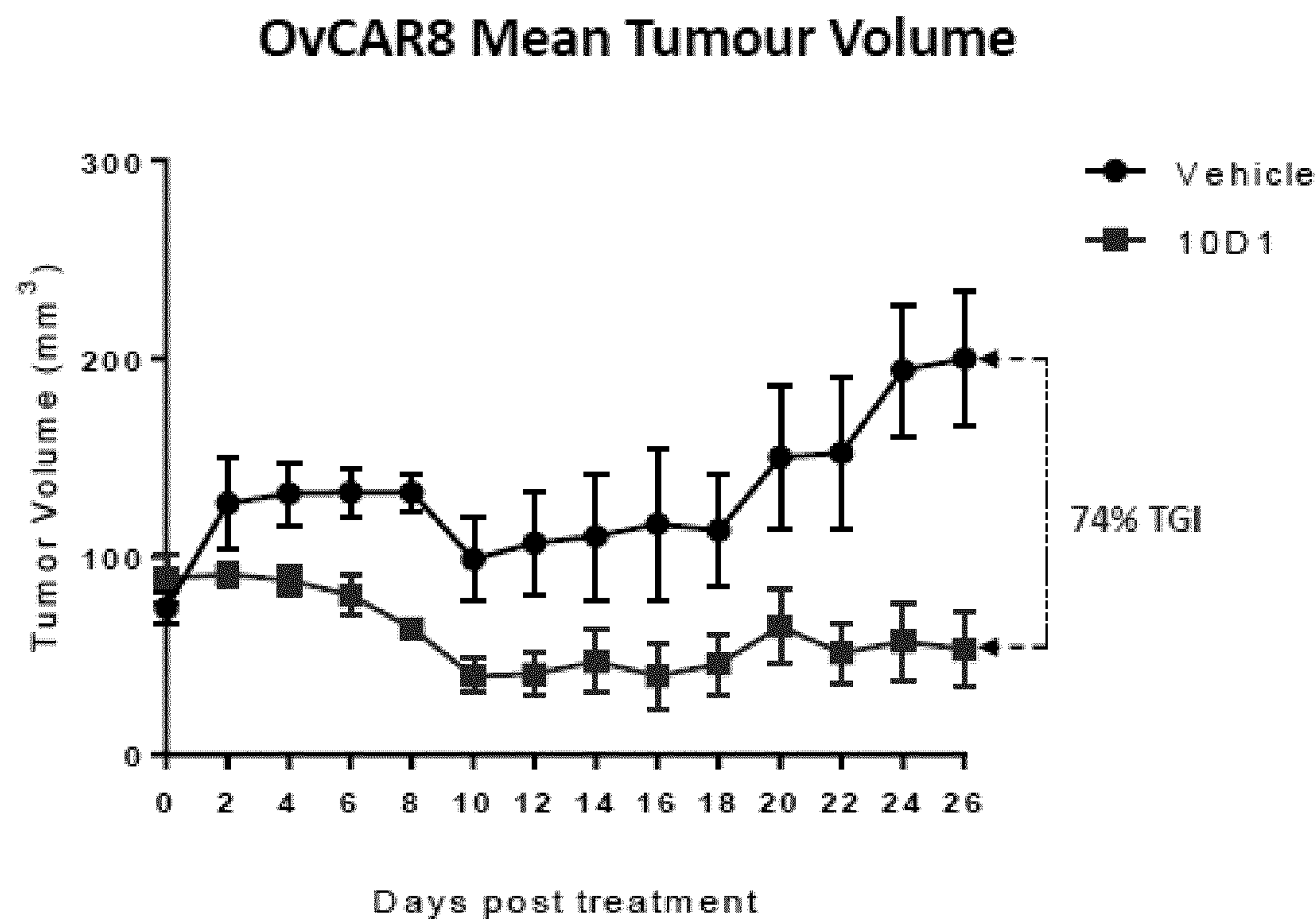


Figure 25

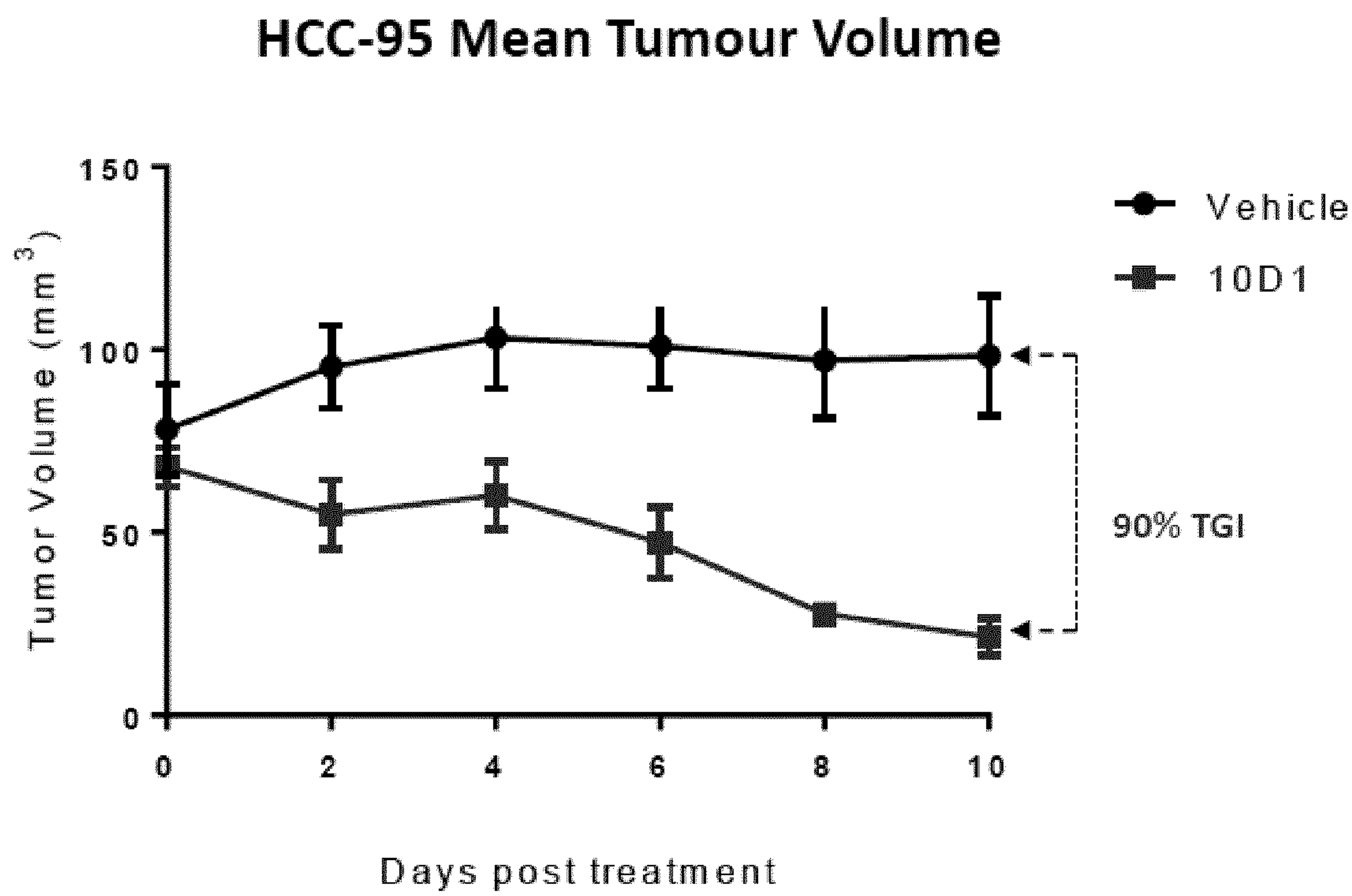


Figure 26

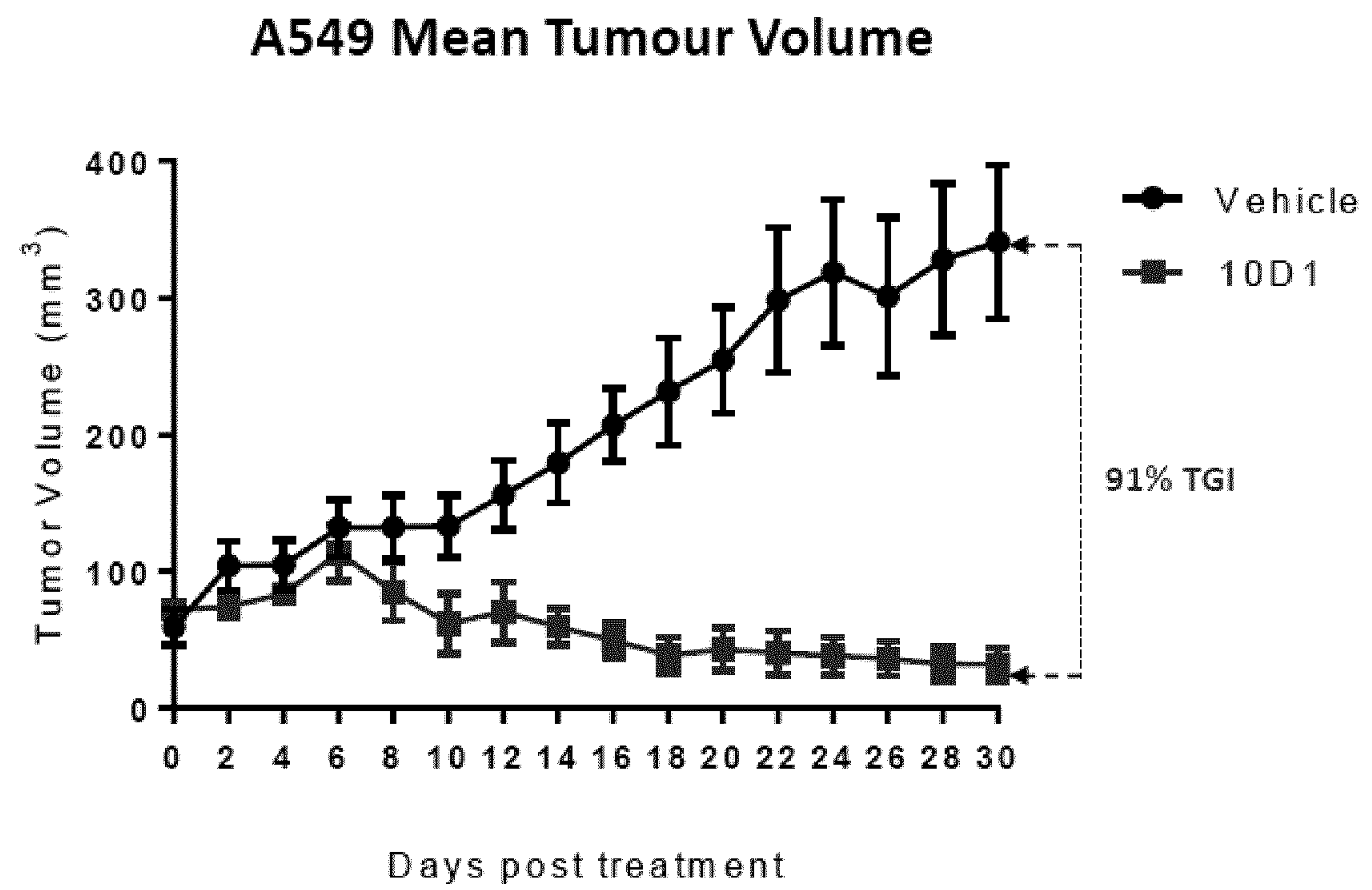


Figure 27

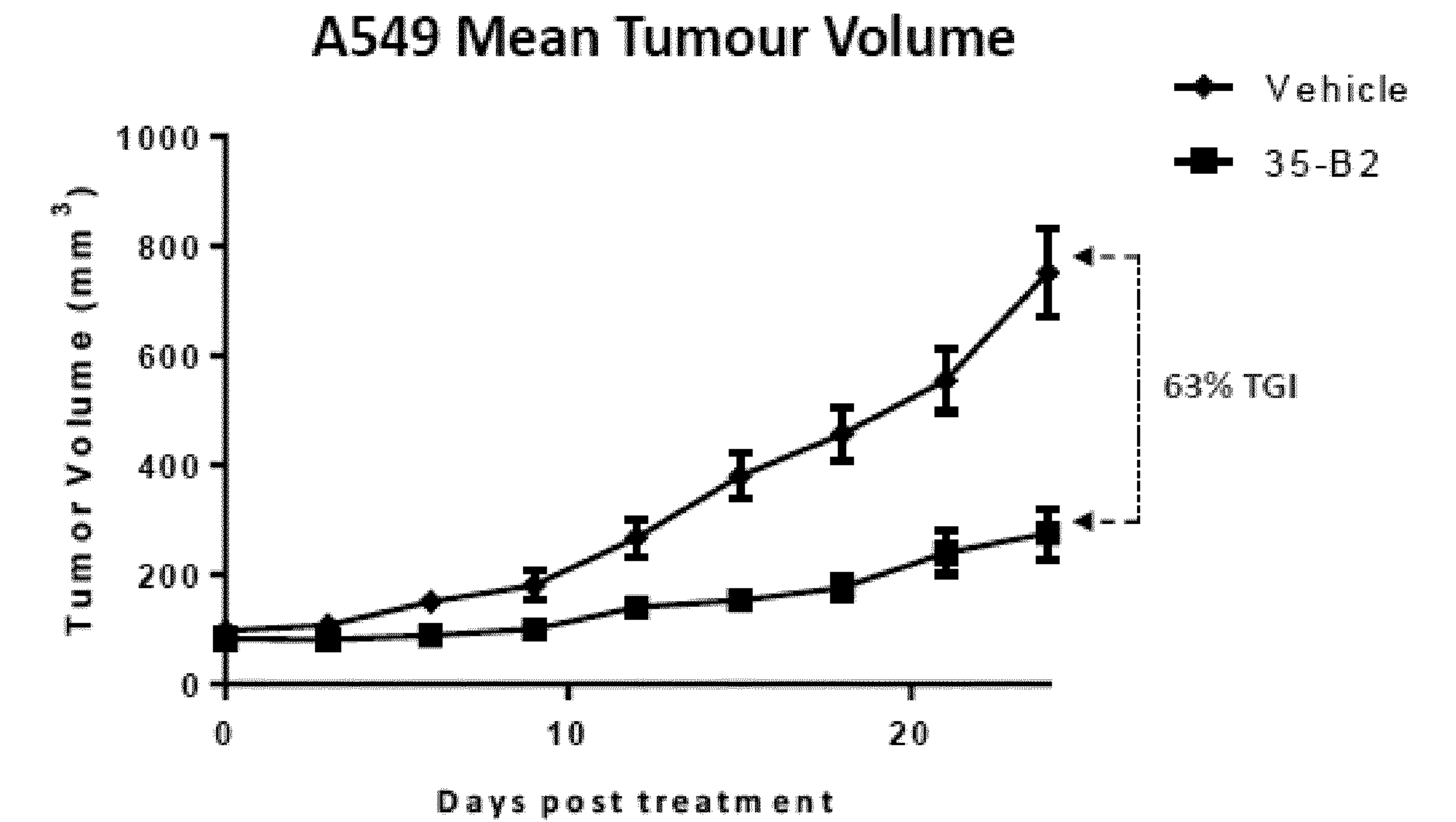


Figure 28

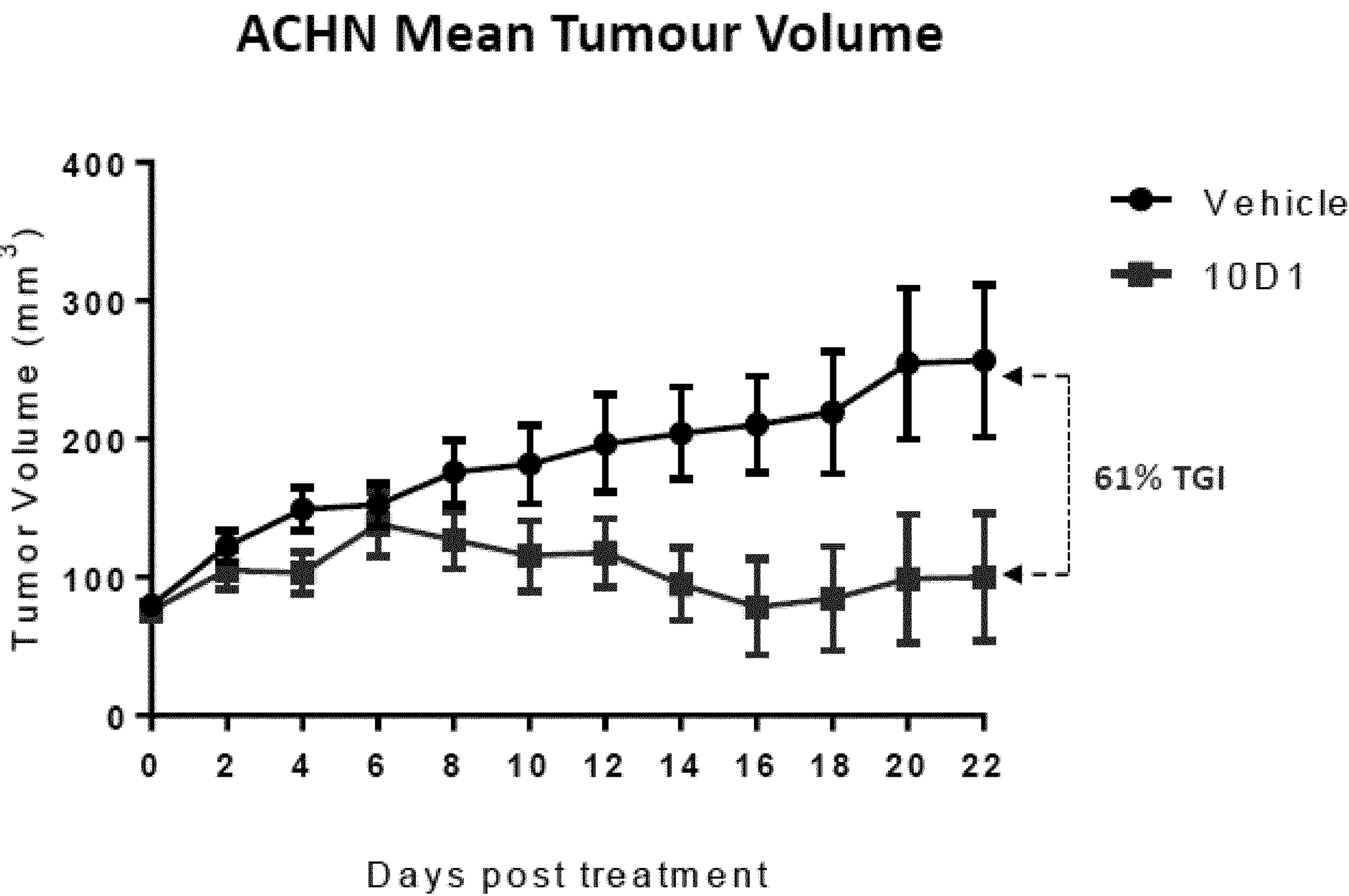


Figure 29

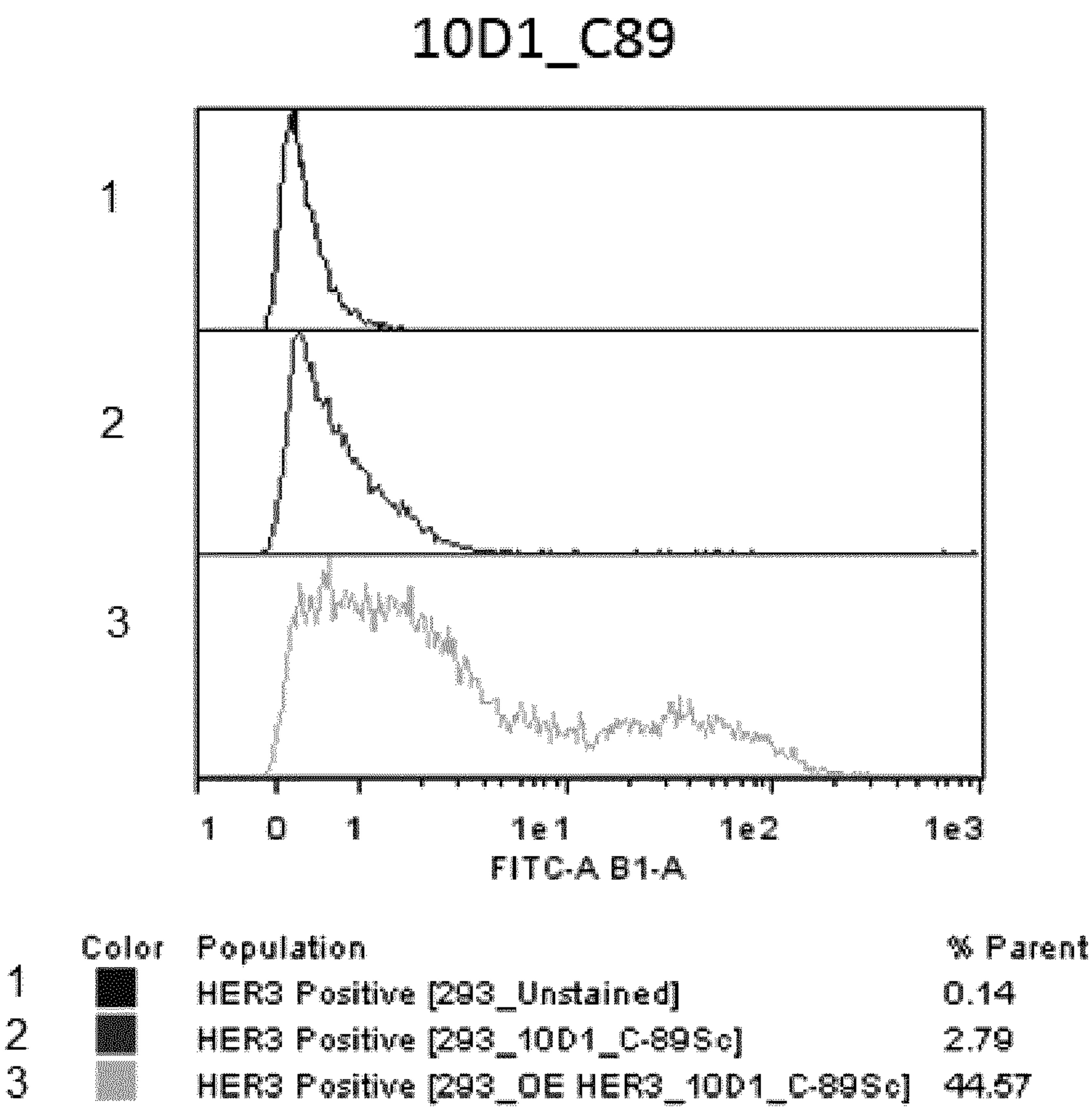


Figure 30

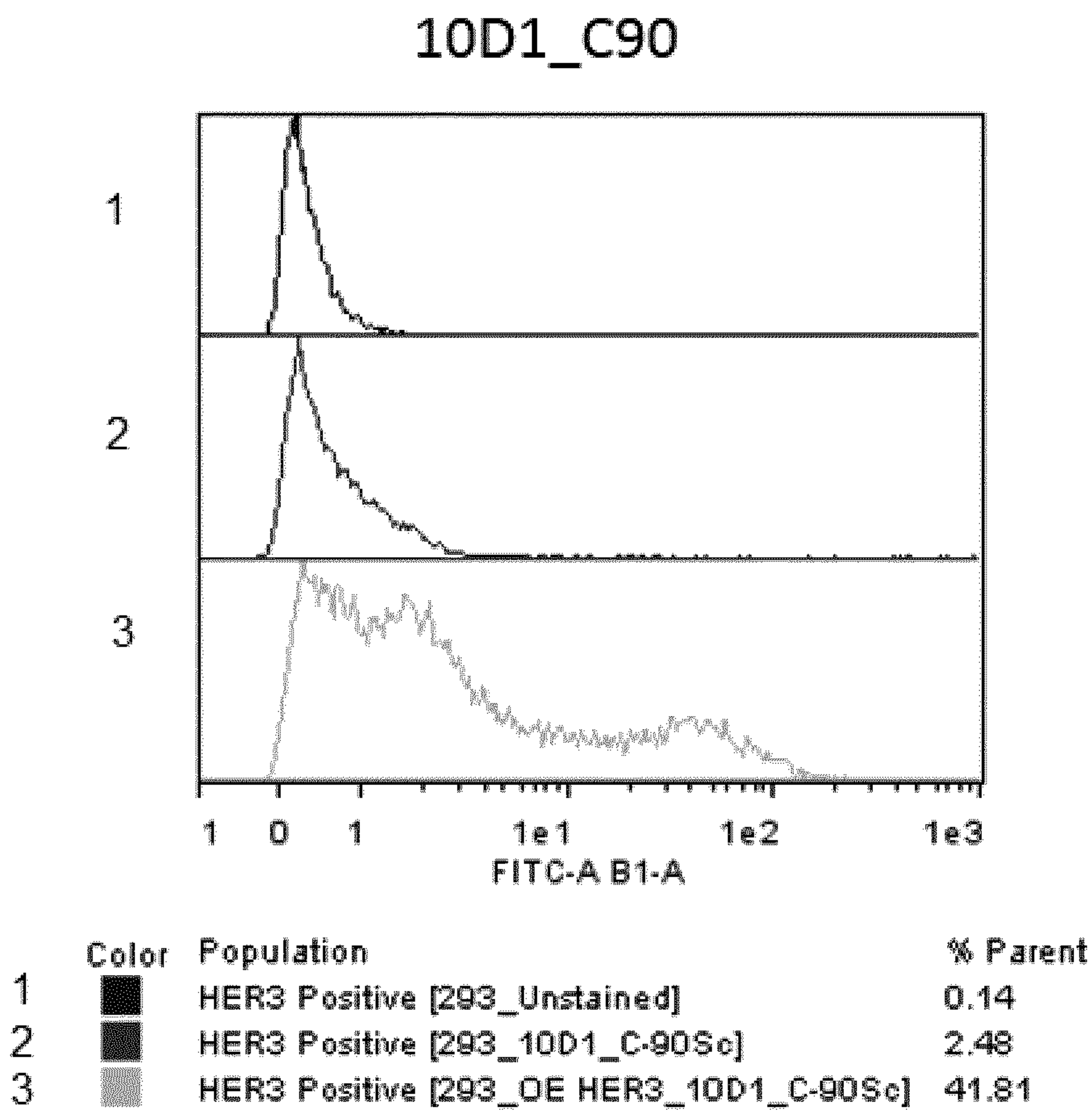


Figure 31

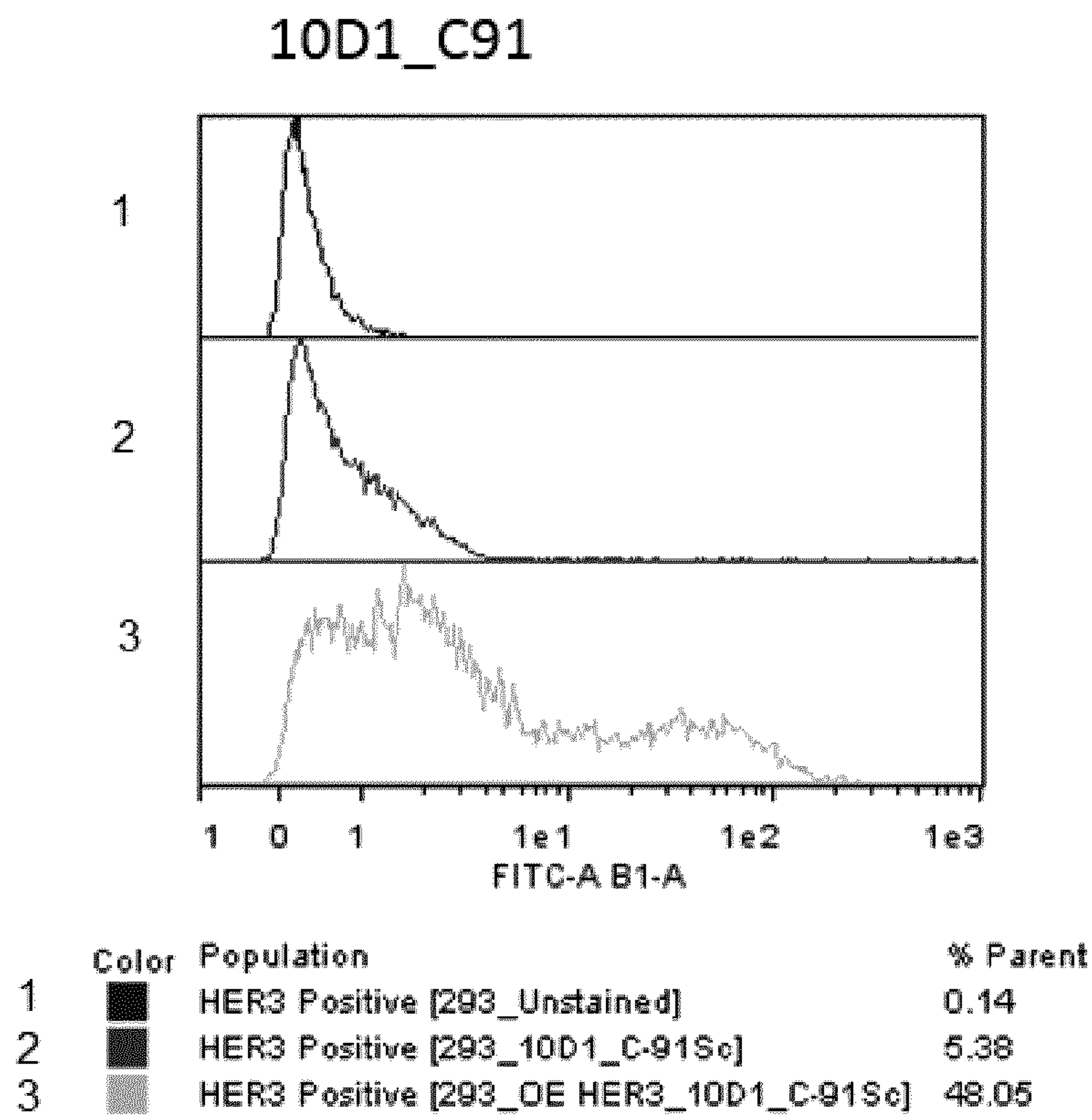


Figure 32

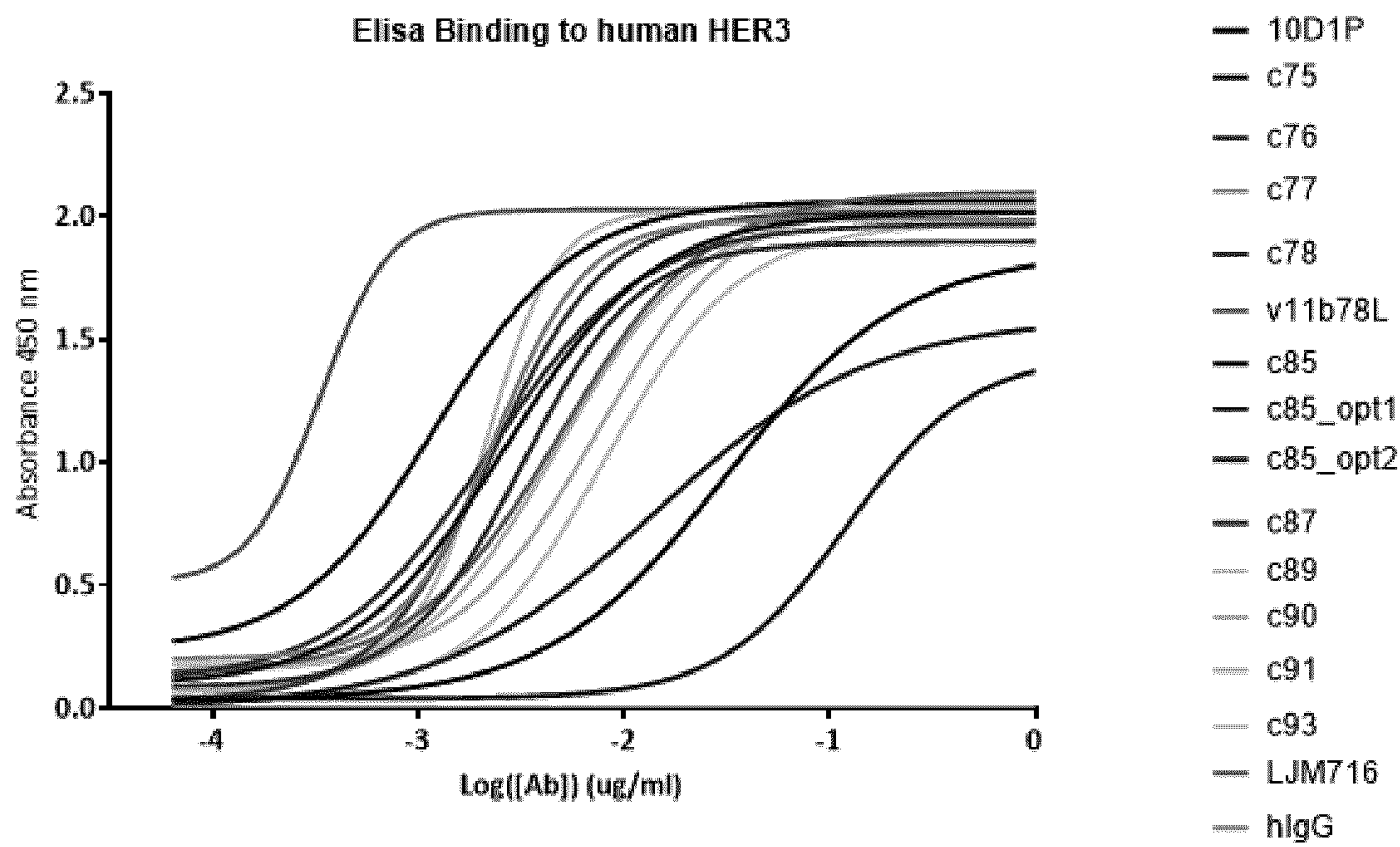


Figure 33A

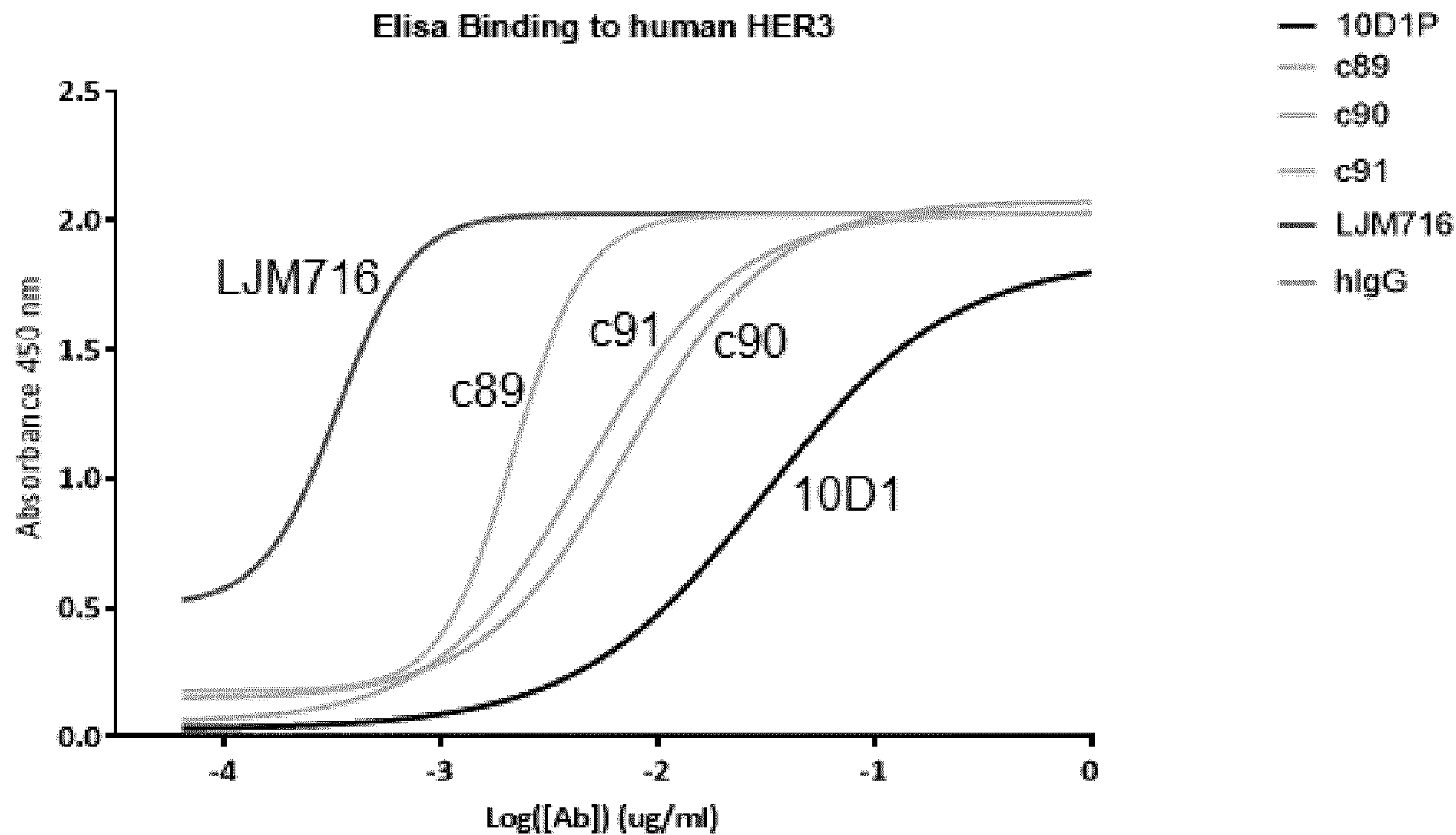


Figure 33B

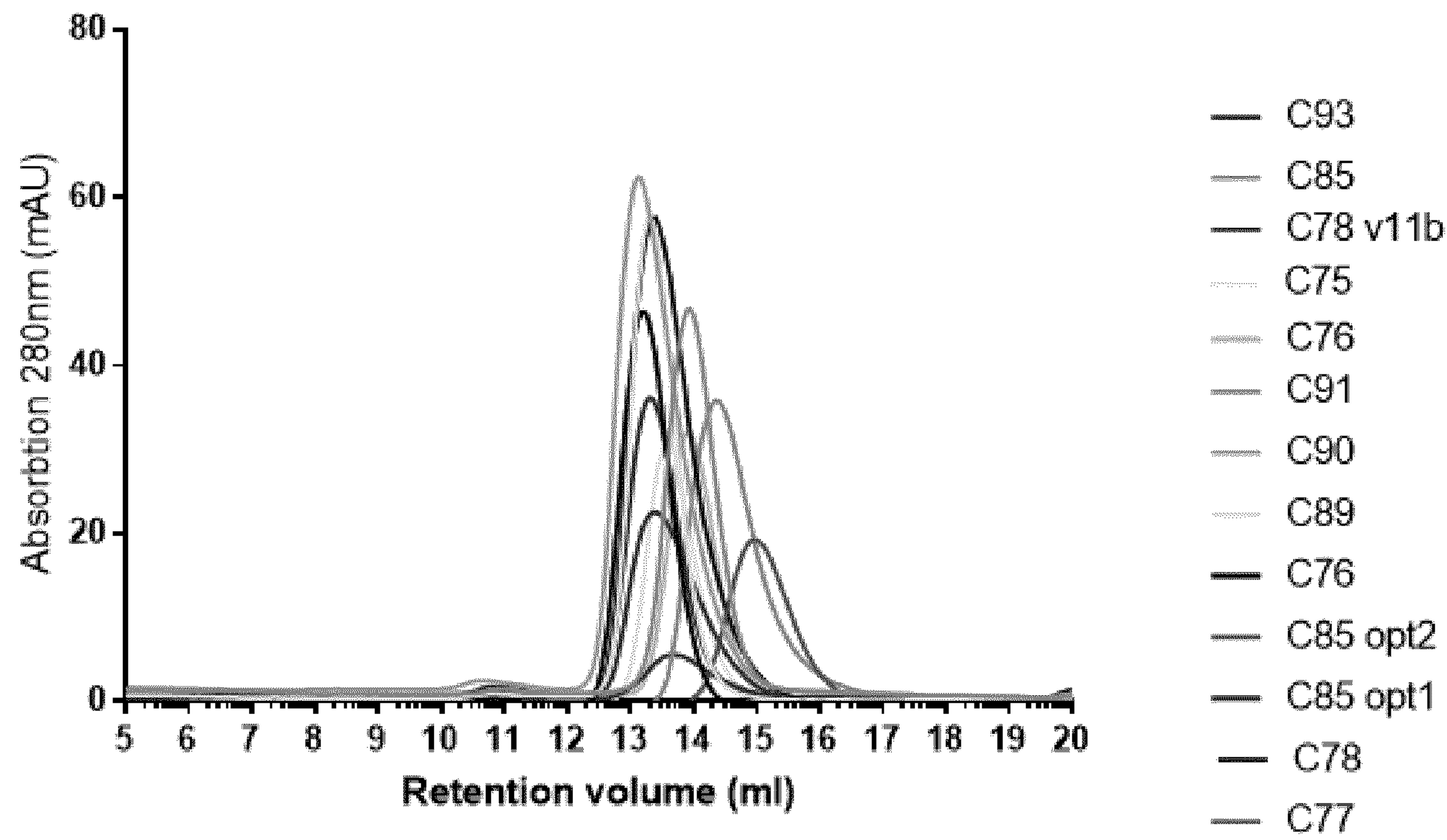


Figure 34A

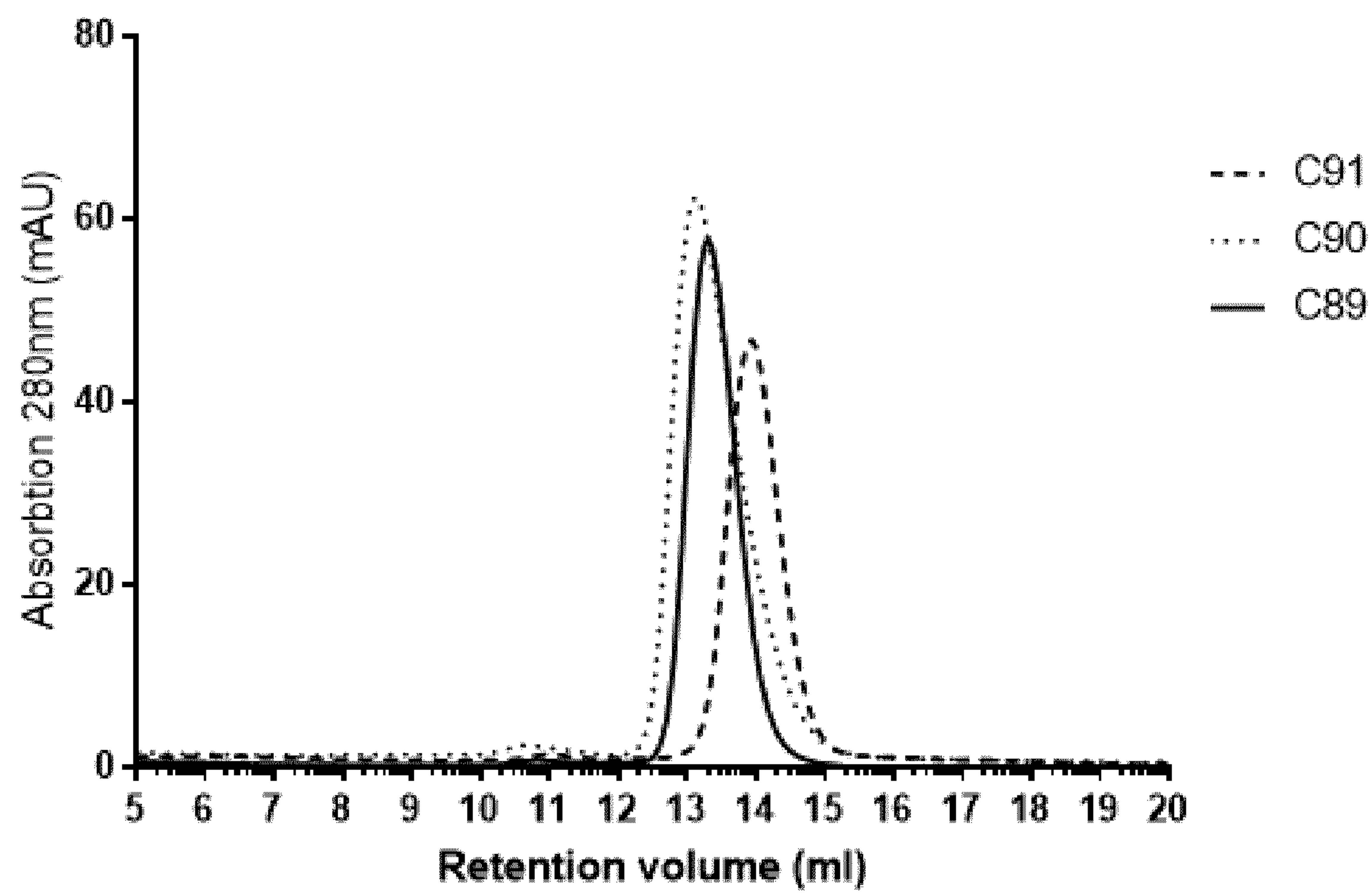
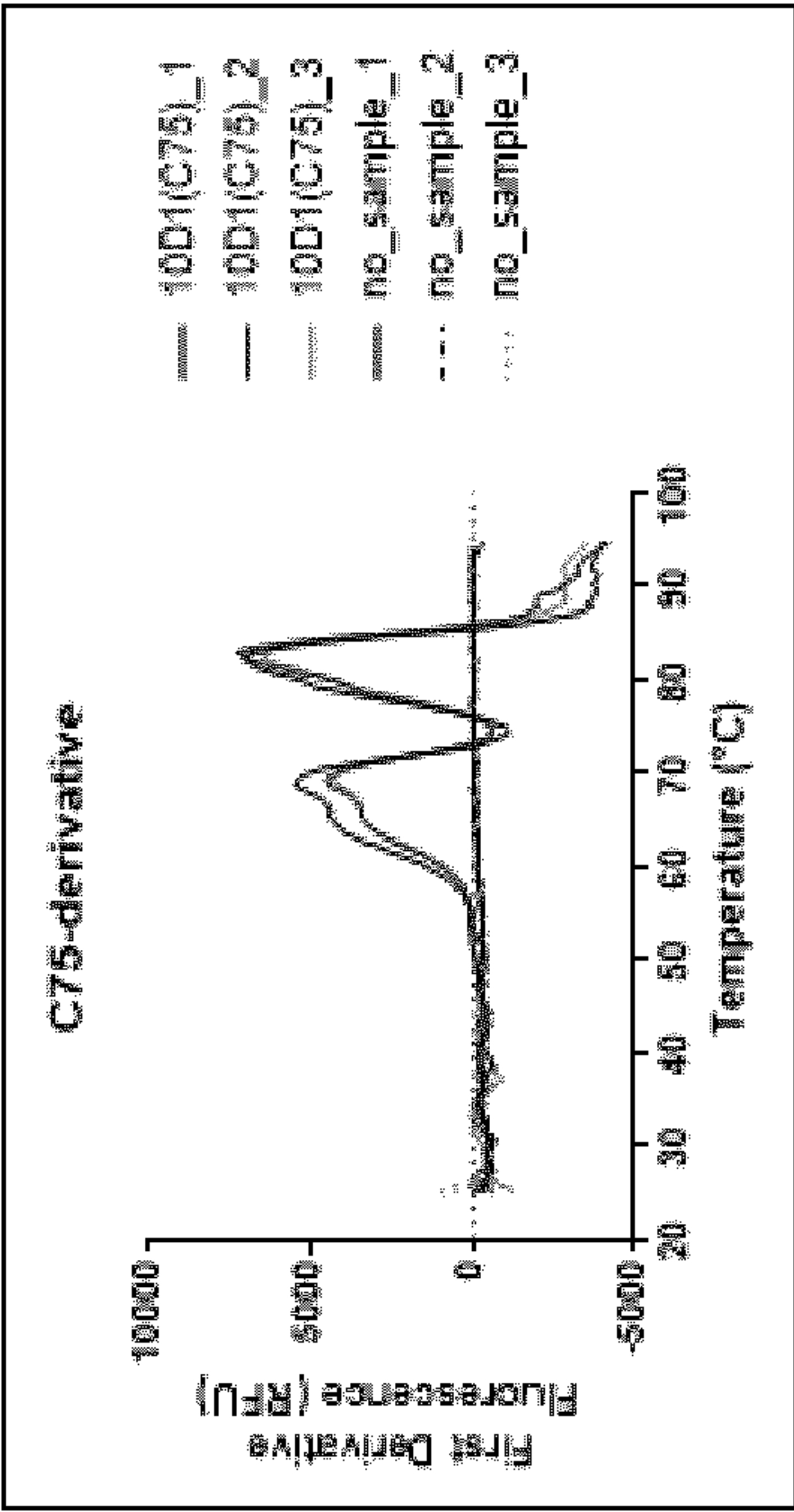
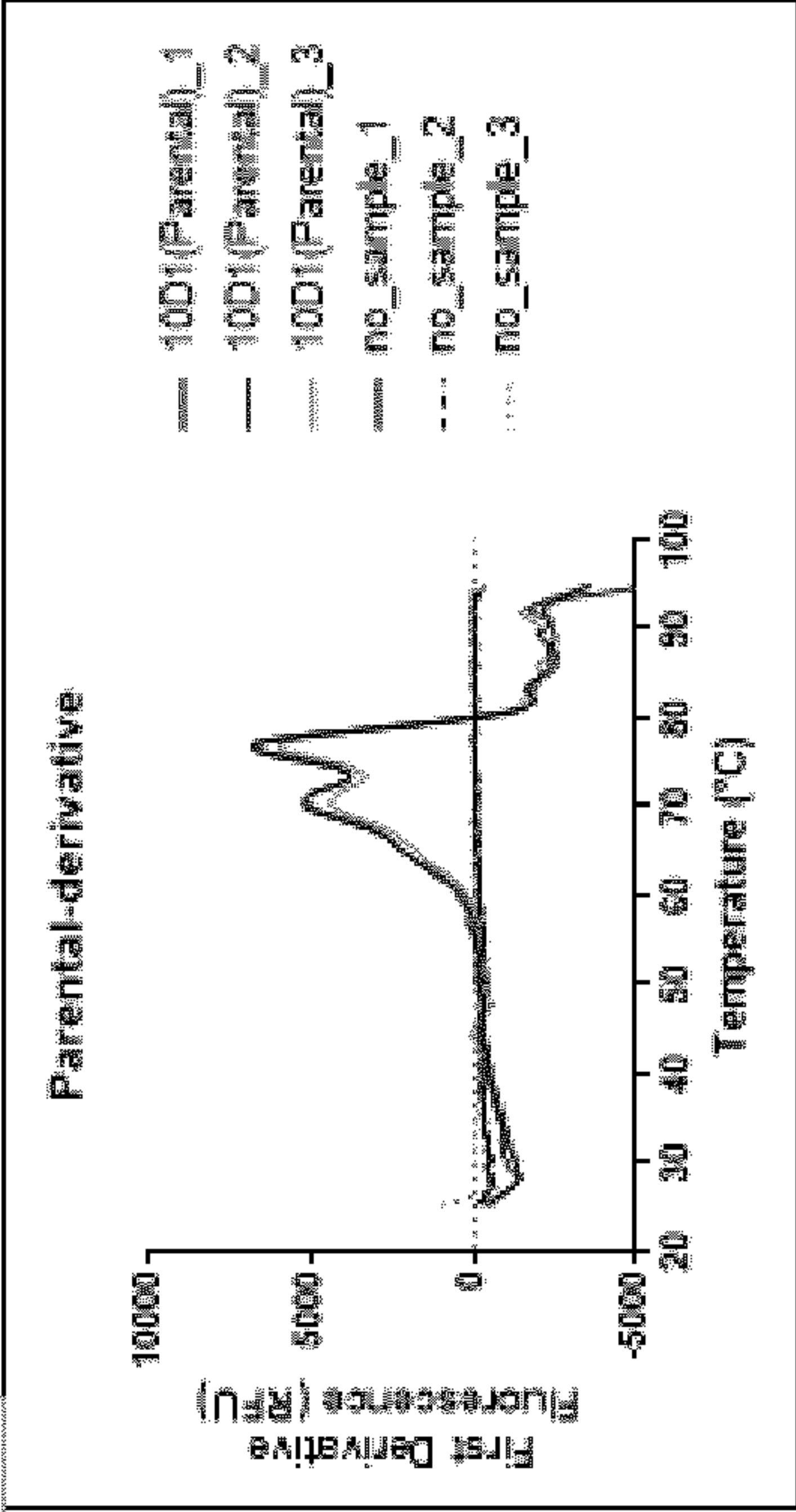
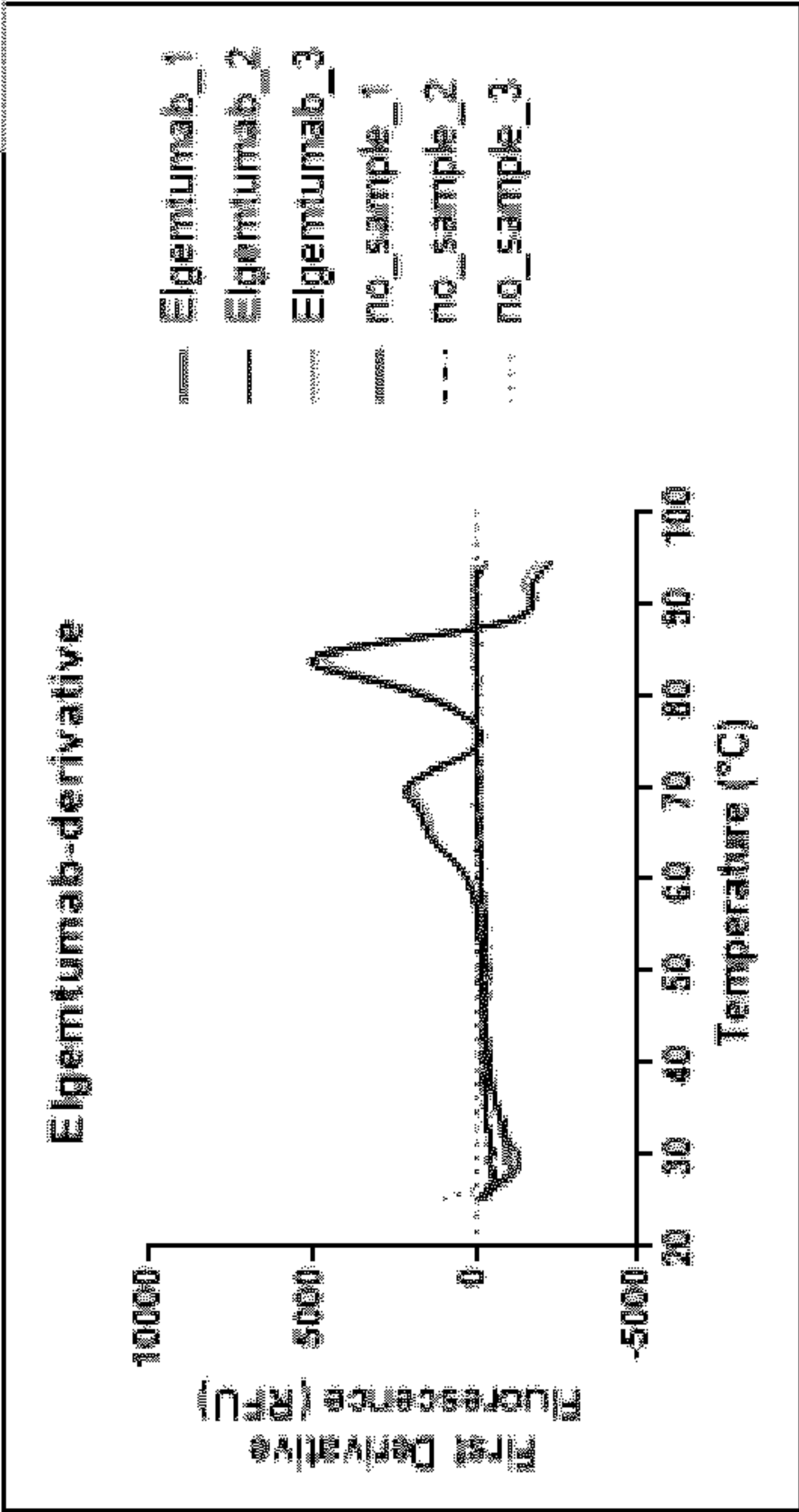


Figure 34B

	Im1 (°C)	Im2 (°C)
10D1 (C75)	69.5	82.6



	Im1 (°C)	Im2 (°C)
10D1 (C78)	70.2	83.3

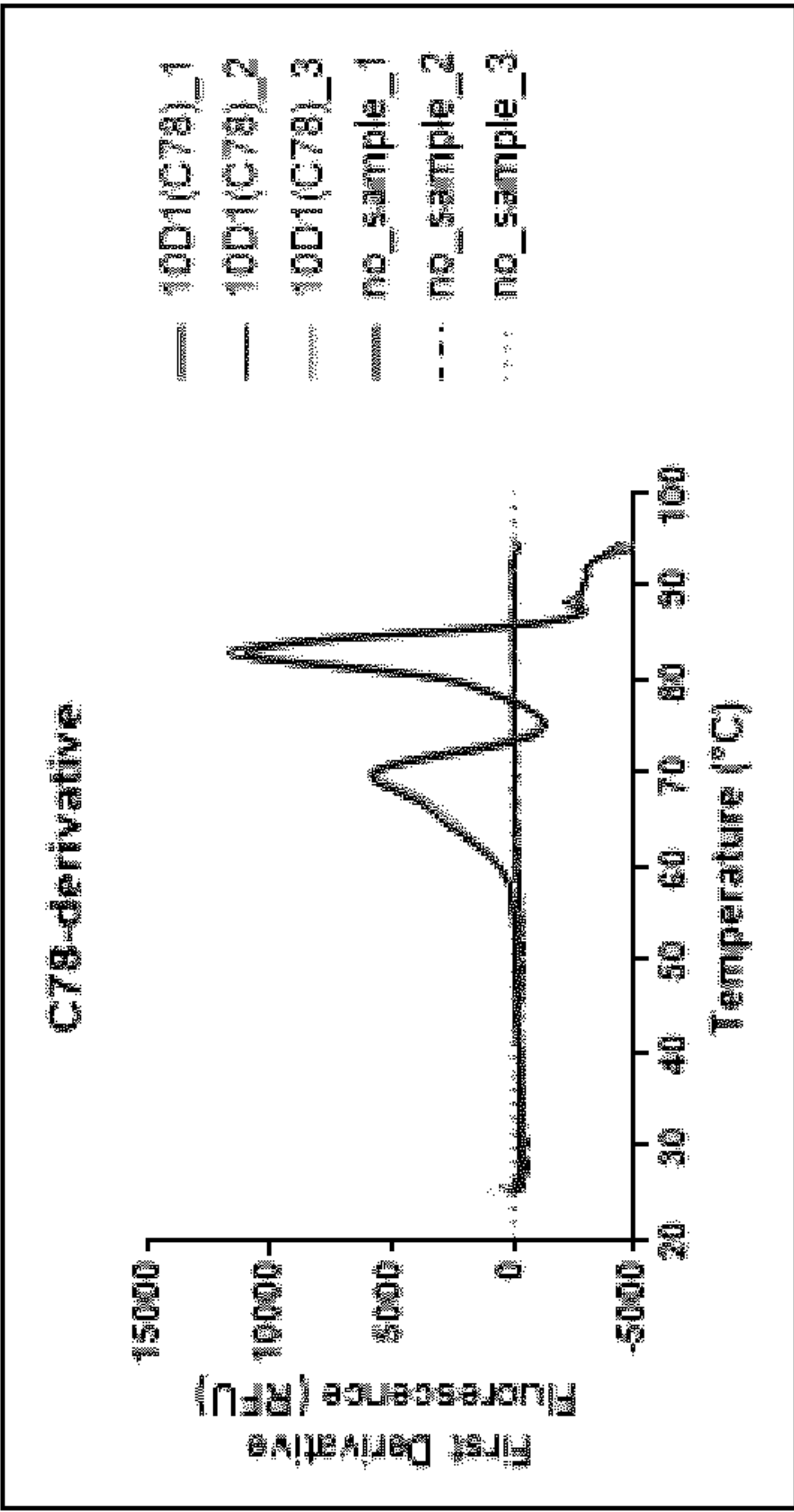
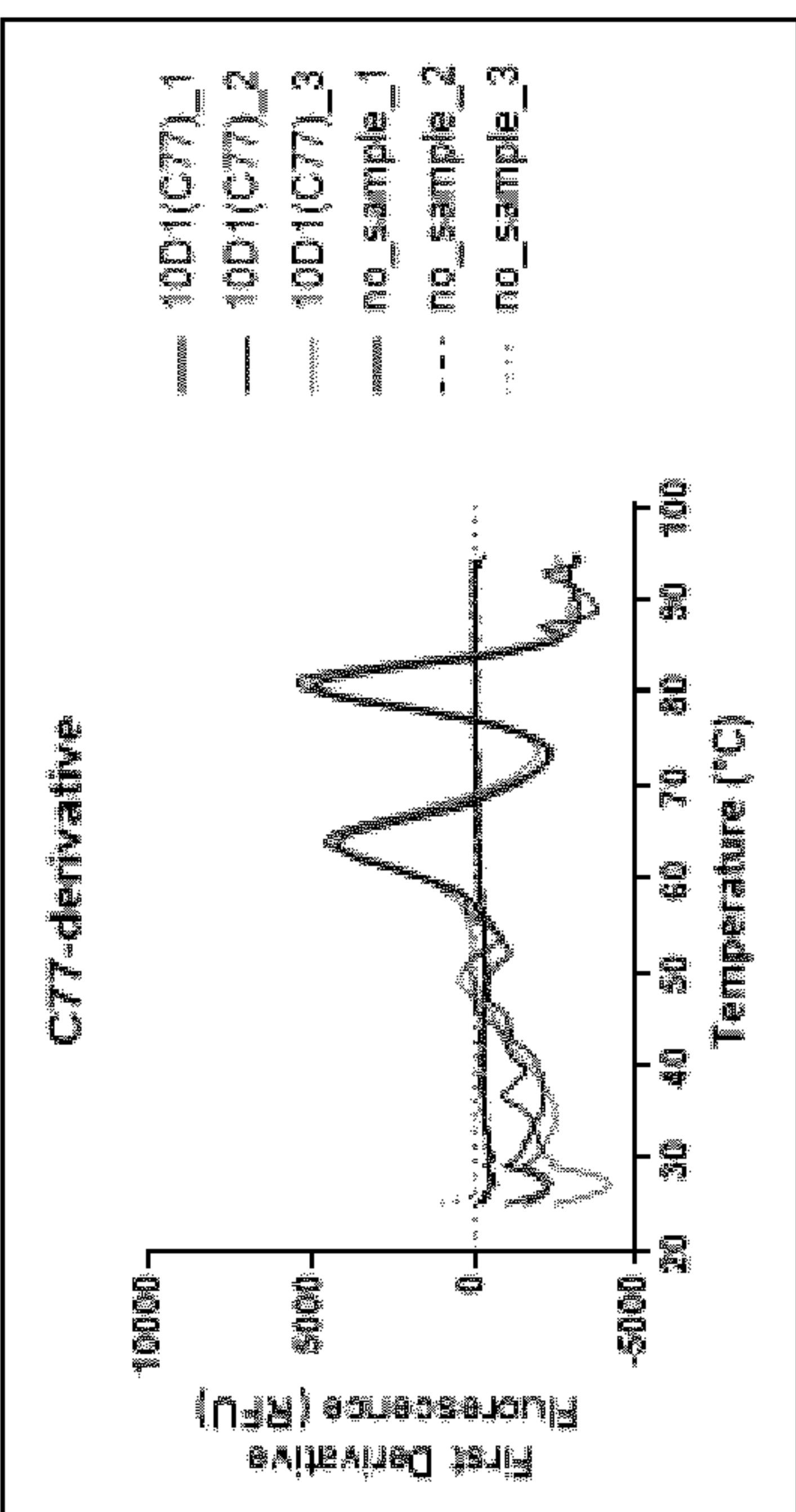
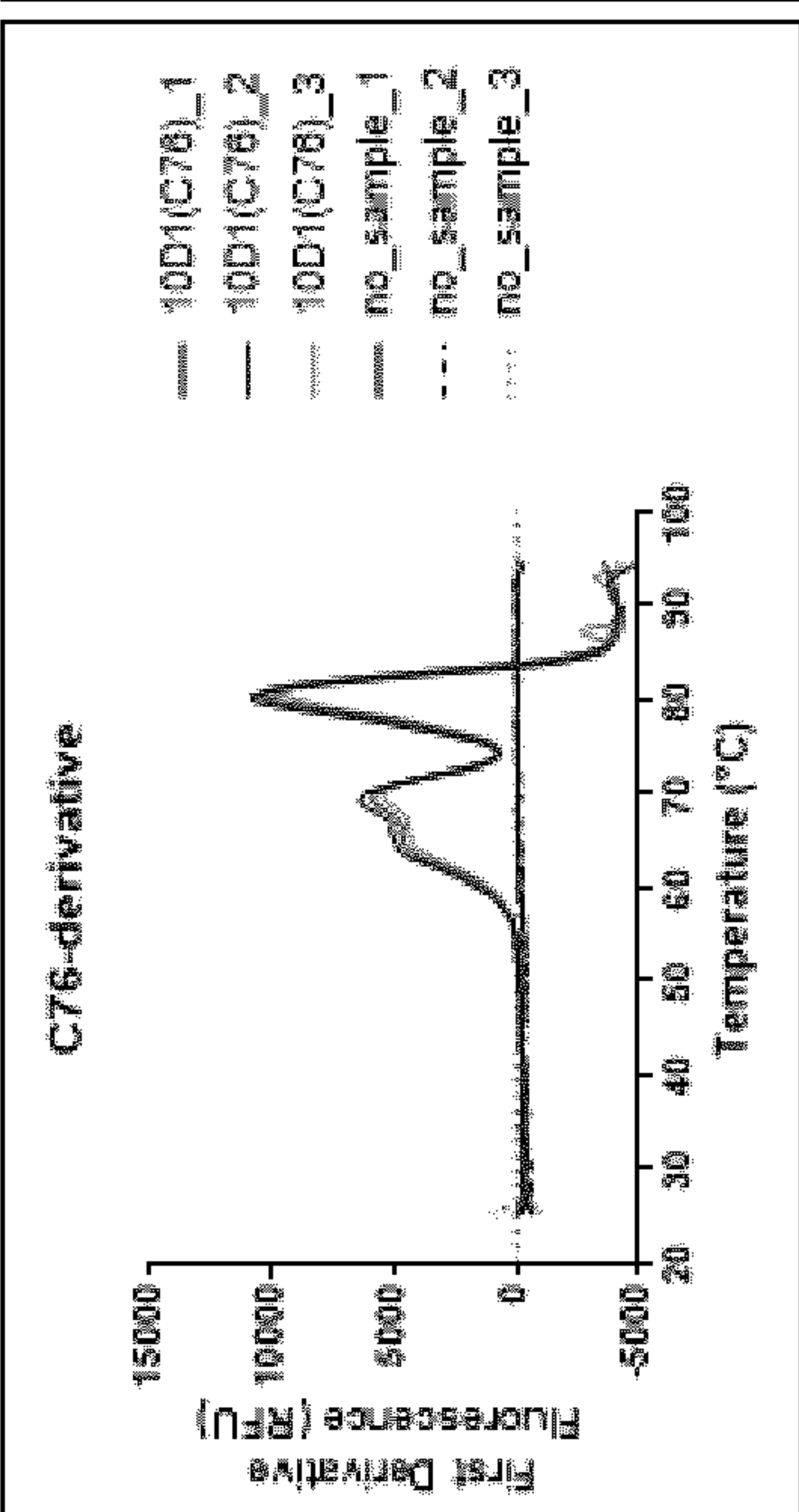


Figure 35A

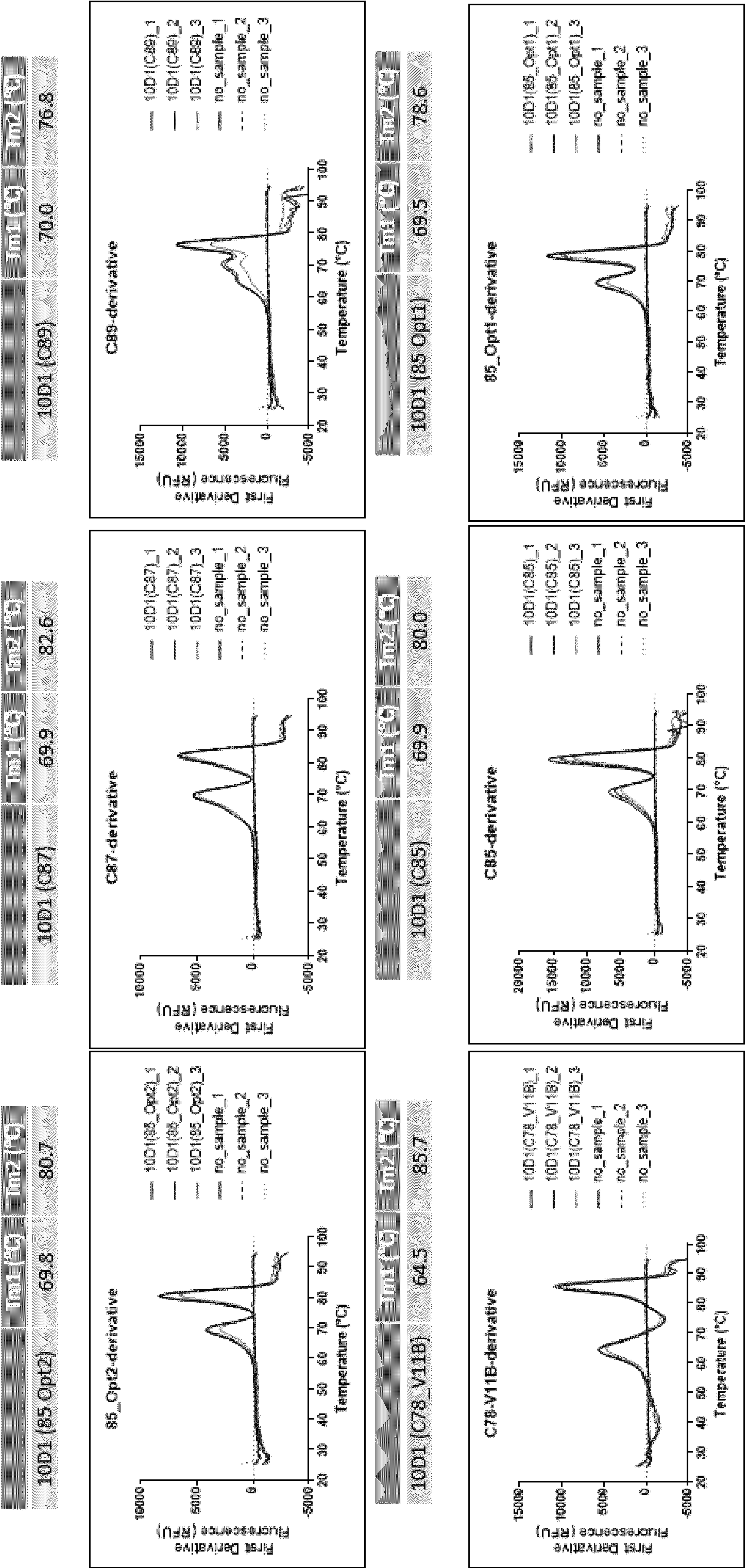


Figure 35B

	Im1 (°C)	Im2 (°C)
10D1 (C90)	70.5	73.6
10D1 (C91)	74.3	
10D1 (C93)	70.0	87.7

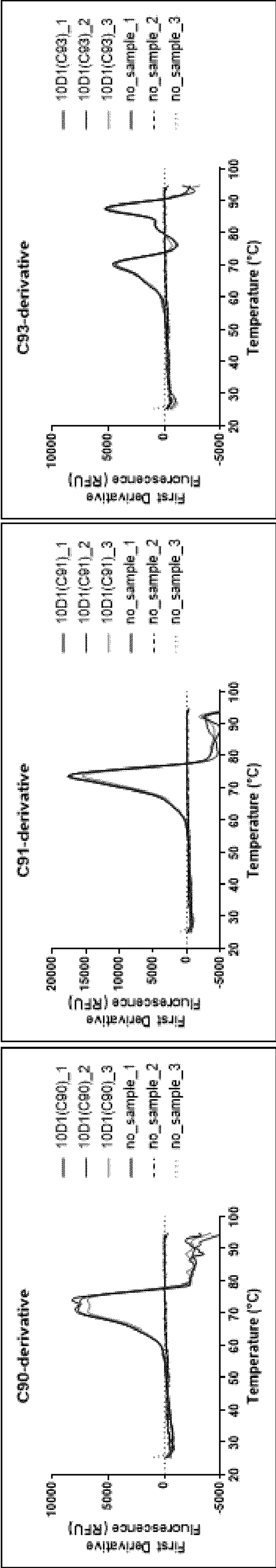
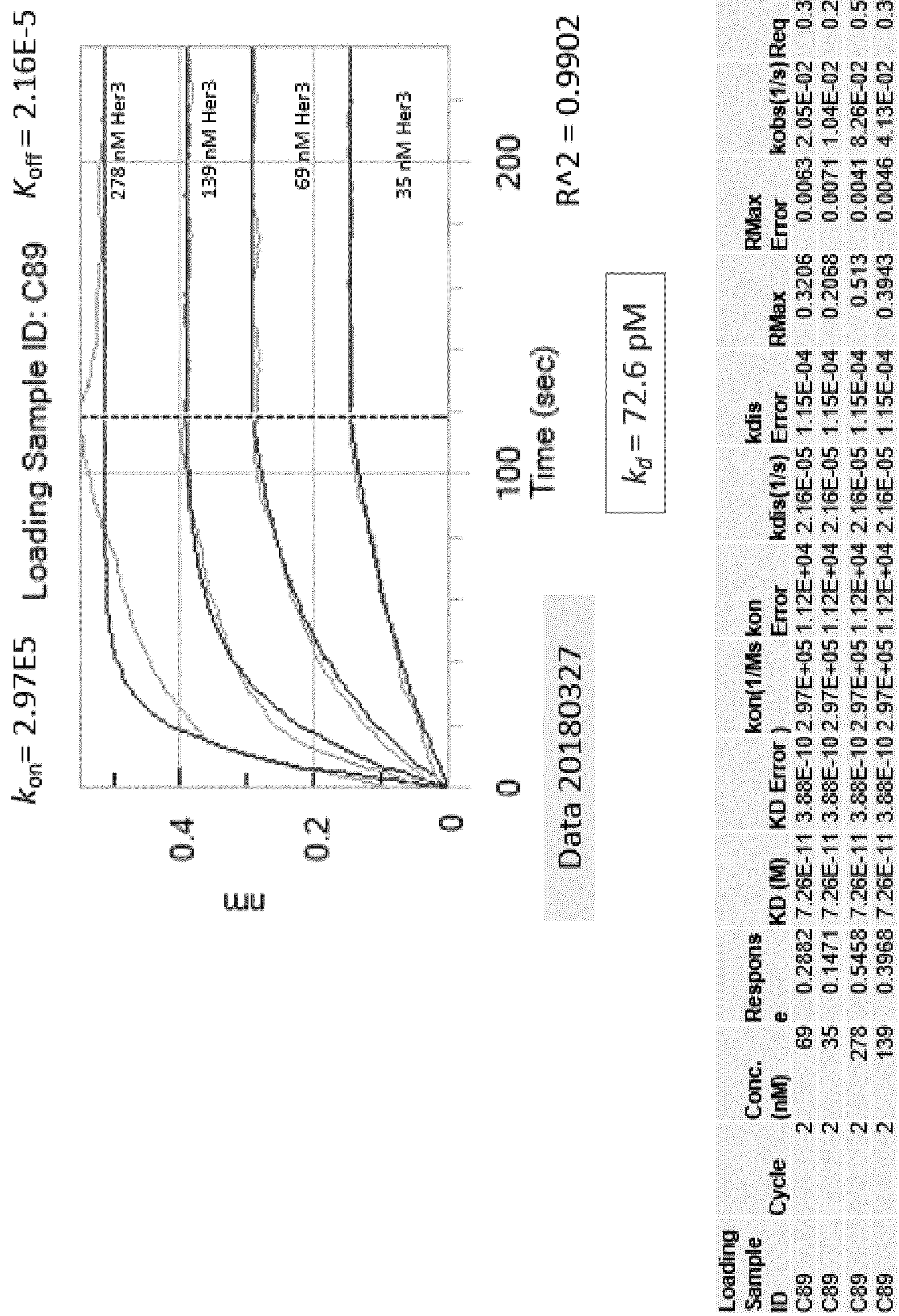
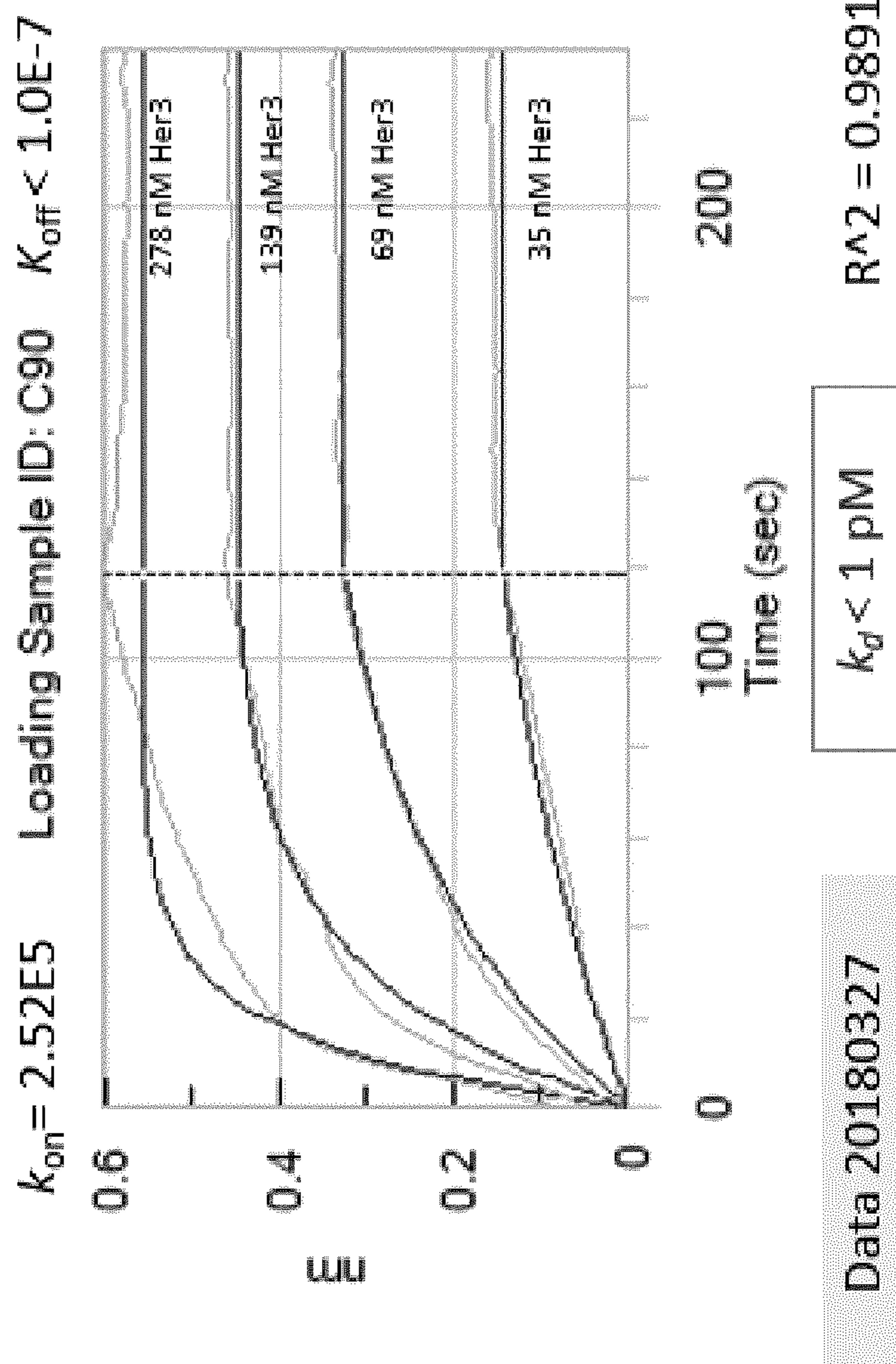


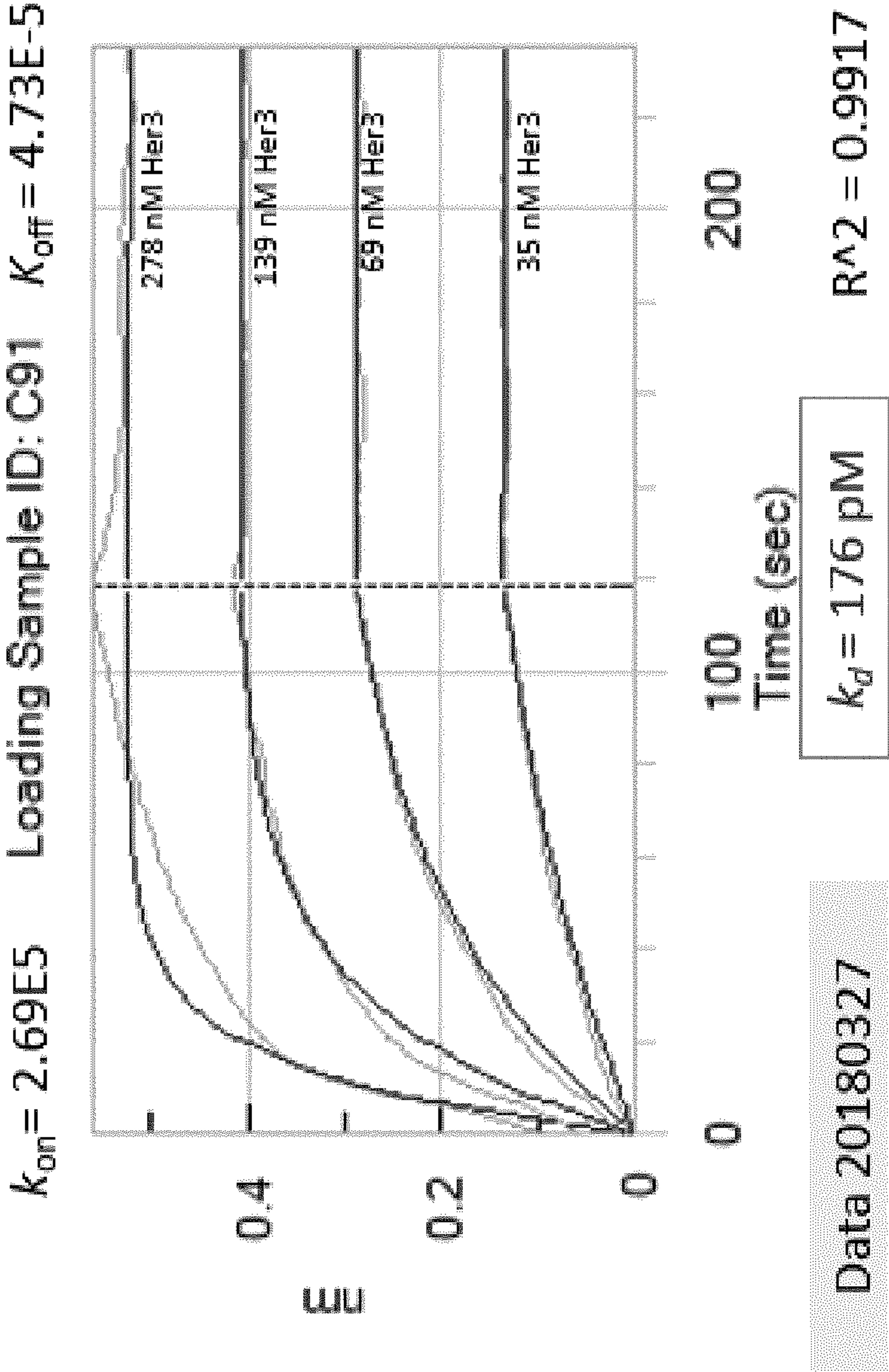
Figure 35C





Loading Sample ID	Cycle	Conc. (nM)	Response	KD (nM)	kon(1/Ms)		kdiss	RMax		kobs(1/s)	Req x(%)	Full X^2	Full R^2		
					KD Error)	Error		Error	Error						
C90	6	35	0.1355	<1.0E-12	5.13E-10	2.52E+05	1.04E+04	<1.0E-07	0.2209	0.0092	8.80E-03	0.2209	100	0.0457	0.9891
C90	6	278	0.5944	<1.0E-12	5.13E-10	2.52E+05	1.04E+04	<1.0E-07	0.5578	0.0053	8.99E-02	0.5578	100	0.0457	0.9891
C90	6	139	0.4533	<1.0E-12	5.13E-10	2.52E+05	1.04E+04	<1.0E-07	0.4543	0.0064	3.50E-02	0.4543	100	0.0457	0.9891
C90	6	69	0.3221	<1.0E-12	5.13E-10	2.52E+05	1.04E+04	<1.0E-07	0.3709	0.009	1.74E-02	0.3709	100	0.0457	0.9891

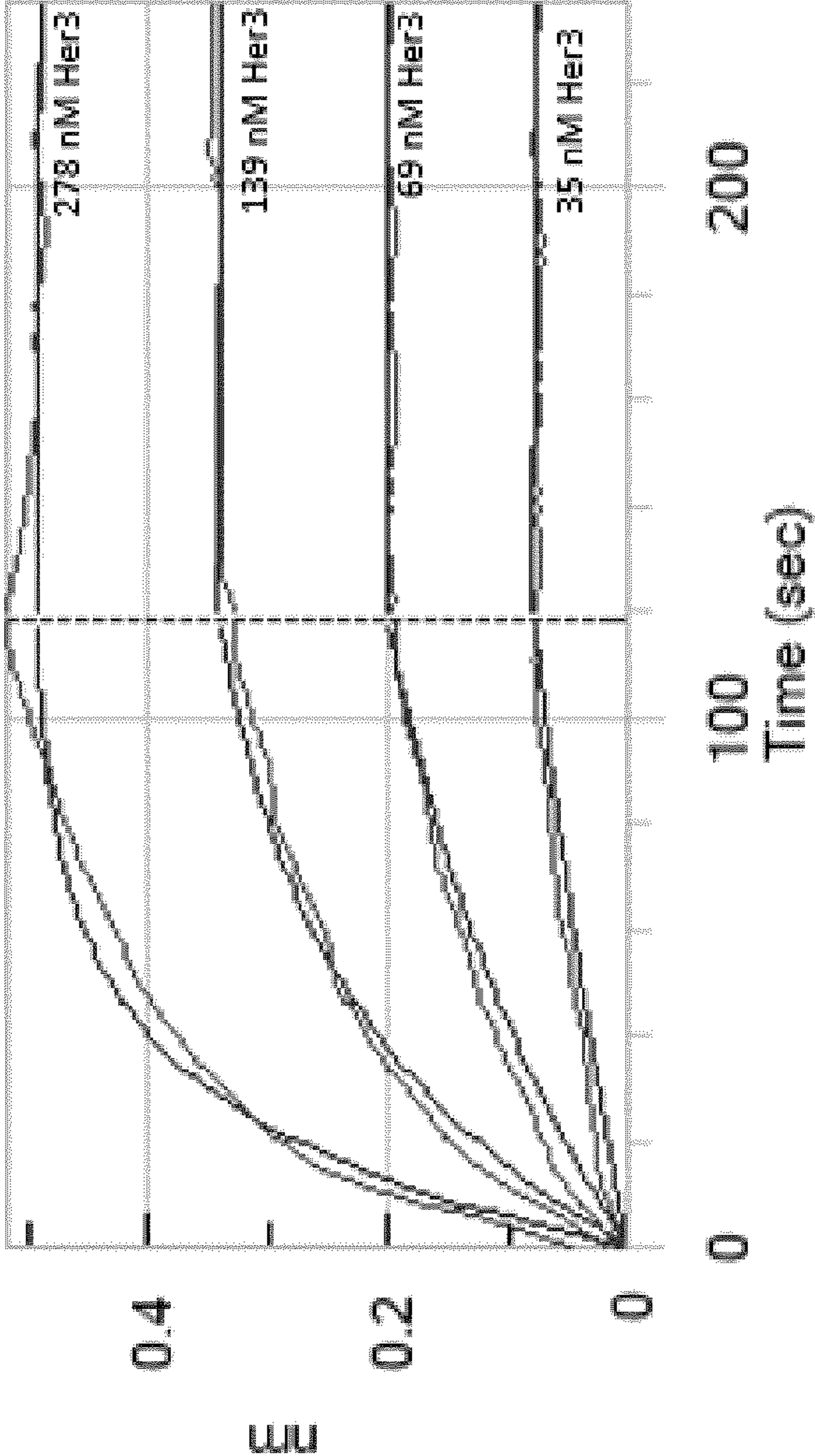
Figure 36B



Loading Sample ID	Cycle	Conc. (nM)	Response	KD (M)	KD Error	kon(1/Ms)	kon Error	kdis(1/s)	kdis Error	RMax	RMax Error	kobs(1/s)	kobs Req	Req/Rmax x(%)	Full X^2	Full R^2
C91	3	35	0.1286	1.78E-10	4.12E-10	2.89E+05	9.57E+03	4.73E-05	1.11E-04	0.202	0.0071	9.48E-03	0.201	99.5	0.033	0.9917
C91	3	139	0.4088	1.78E-10	4.12E-10	2.89E+05	9.57E+03	4.73E-05	1.11E-04	0.4132	0.0048	3.74E-02	0.4127	99.9	0.033	0.9917
C91	3	278	0.5575	1.78E-10	4.12E-10	2.89E+05	9.57E+03	4.73E-05	1.11E-04	0.5255	0.0041	7.48E-02	0.5252	99.9	0.033	0.9917
C91	3	68	0.2851	1.78E-10	4.12E-10	2.89E+05	9.57E+03	4.73E-05	1.11E-04	0.3242	0.0065	1.86E-02	0.3234	99.7	0.033	0.9917

Figure 36C

$k_{on}=1.47E5$ Loading Sample ID: C78 v11b $K_{off}=6.01E-5$



Data 20180327

$k_d=0.41$ nM

$R^2=0.9954$

Loading Sample ID	Cycle	Conc. (nM)	Response	KD (M)	KD Error	kon(1/Ms)	kon Error	kdis(1/s)	kdis Error	RMax	RMax Error	kobs(1/s)	kobs Req	Req/Rmax (%)	Full X^2	Full R^2
C78 v11b	7	69	0.1929	4.10E-10	6.84E-10	1.47E+05	4.57E+05	6.01E-05	1.00E-04	0.288	0.0074	1.02E-02	0.2863	99.4	0.0157	0.9954
C78 v11b	7	35	0.0786	4.10E-10	6.84E-10	1.47E+05	4.57E+05	6.01E-05	1.00E-04	0.1714	0.0072	5.19E-03	0.1695	98.8	0.0157	0.9954
C78 v11b	7	139	0.3283	4.10E-10	6.84E-10	1.47E+05	4.57E+05	6.01E-05	1.00E-04	0.3745	0.006	2.04E-02	0.3734	99.7	0.0157	0.9954
C78 v11b	7	278	0.5147	4.10E-10	6.84E-10	1.47E+05	4.57E+05	6.01E-05	1.00E-04	0.4982	0.0045	4.08E-02	0.4975	99.9	0.0157	0.9954

Figure 36D

$k_{on}=9.74E4$ Loading Sample ID: C85 opt2 $K_{off}=1.68E-3$



Time (sec) 100 200

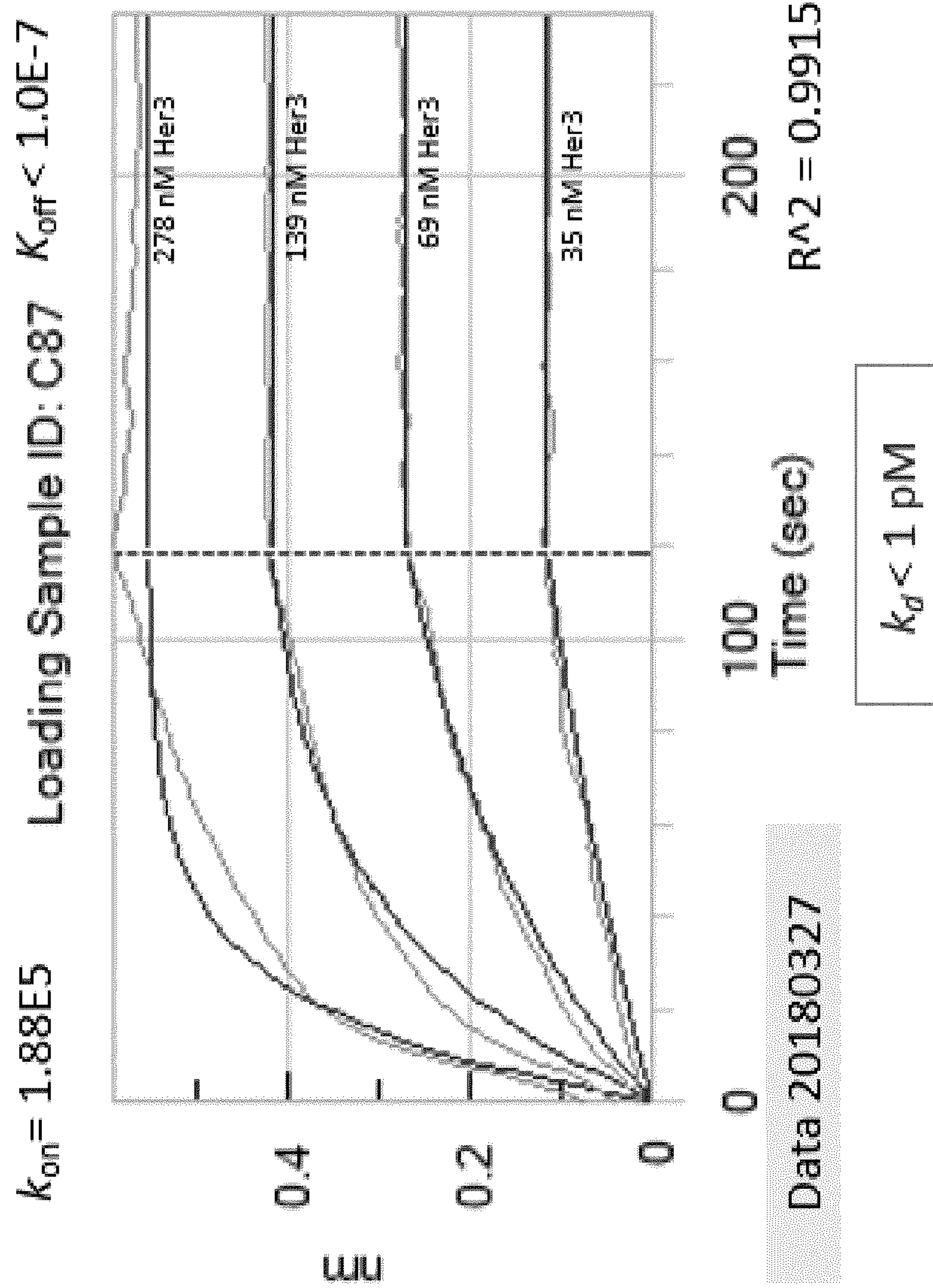
$k_d=17.3$ nM

Data 20180327

$R^2=0.9957$

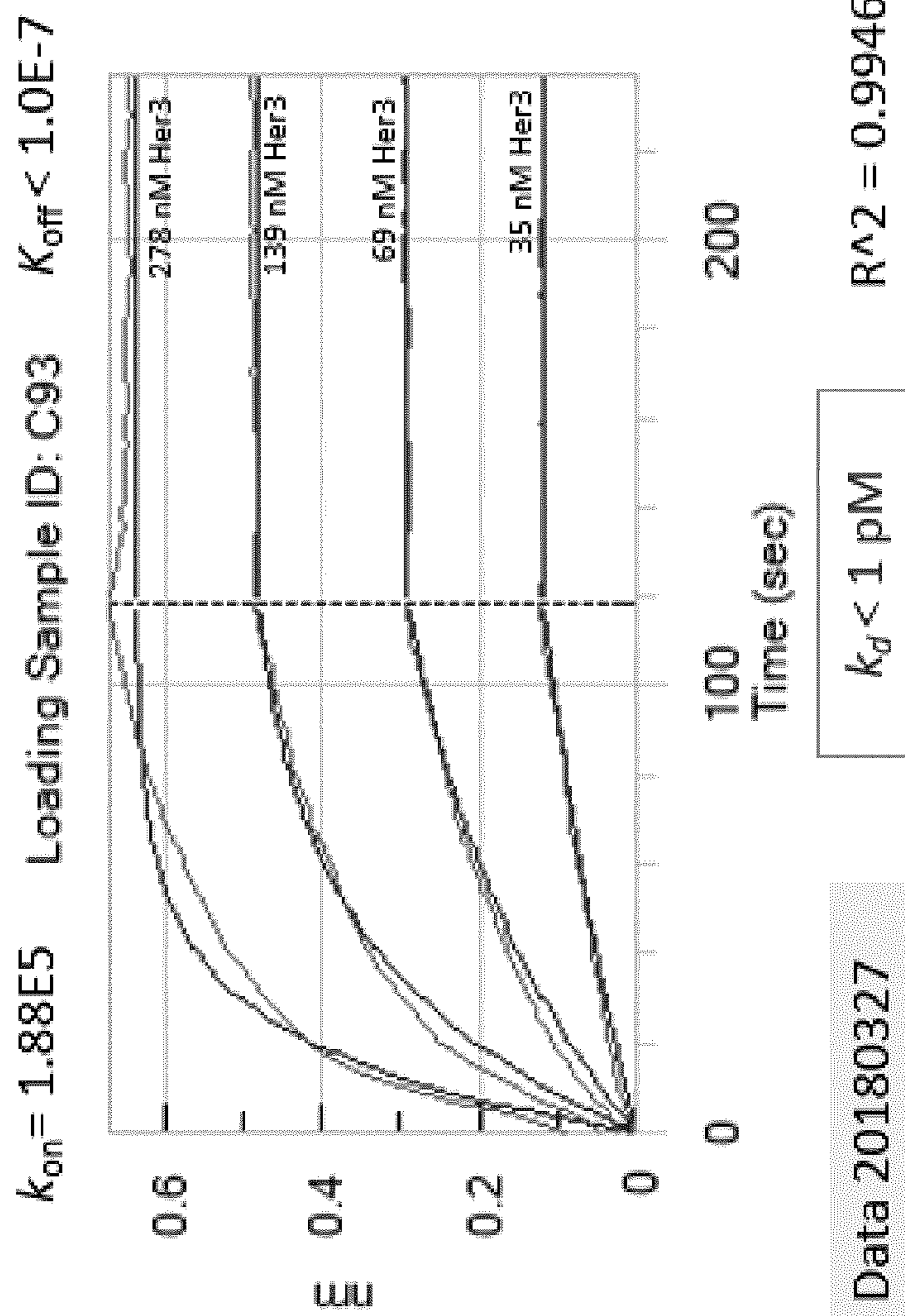
Loading Sample ID	Cycle	Conc. (nM)	Respon e	KD (M)	kon(1/Ms kon		kdis		RMax		kobs(1/s)Req	Req/Rma x(%)	Full X^2	Full R^2		
					KD Error)	Error	kdis(1/s) Error	Error	RMax Error							
C85 opt2	5	139	0.1967	1.73E-08	1.35E-09	9.74E+04	3.54E+03	1.68E-03	1.16E-04	0.2686	0.0066	1.52E-02	0.2389	88.9	0.0086	0.9957
C85 opt2	5	35	0.0338	1.73E-08	1.35E-09	9.74E+04	3.54E+03	1.68E-03	1.16E-04	0.1225	0.0074	5.09E-03	0.082	66.9	0.0086	0.9957
C85 opt2	5	278	0.3885	1.73E-08	1.35E-09	9.74E+04	3.54E+03	1.68E-03	1.16E-04	0.4109	0.006	2.88E-02	0.3868	94.1	0.0086	0.9957
C85 opt2	5	69	0.0911	1.73E-08	1.35E-09	9.74E+04	3.54E+03	1.68E-03	1.16E-04	0.1881	0.0069	8.40E-03	0.1504	80	0.0086	0.9957

Figure 36E

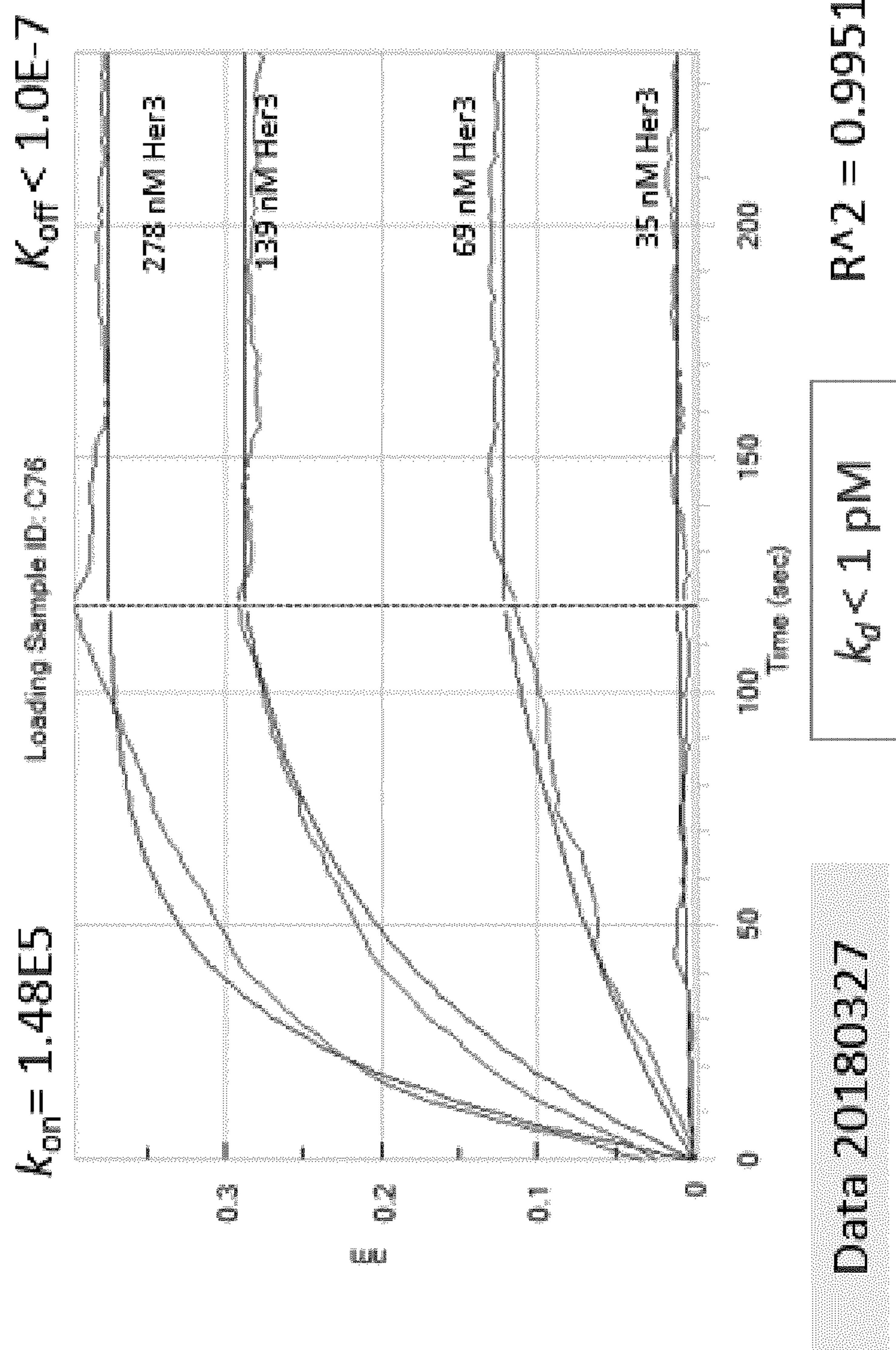


Loading Sample ID	Cycle	Conc. (nM)	Response	KD (M)	kon(1/Ms)		kdiss(1/s)	RMax		kobs(1/s)	Req	Req/Rmax x(%)	Full X^2	Full R^2
					KD Error)	Error		RMax	Error					
C87	4	278	0.5768<1.0E-12	6.64E-10	1.88E+05	7.36E+03	<1.0E-07	0.5516	0.0055	5.23E-02	0.5516	100	0.0357	0.9915
C87	4	69	0.2569<1.0E-12	6.64E-10	1.88E+05	7.36E+03	<1.0E-07	0.3401	0.0095	1.30E-02	0.3401	100	0.0357	0.9915
C87	4	139	0.4134<1.0E-12	6.64E-10	1.88E+05	7.36E+03	<1.0E-07	0.4359	0.0072	2.62E-02	0.4359	100	0.0357	0.9915
C87	4	35	0.114<1.0E-12	6.64E-10	1.88E+05	7.36E+03	<1.0E-07	0.2098	0.0096	6.59E-03	0.2098	100	0.0357	0.9915

Figure 36F

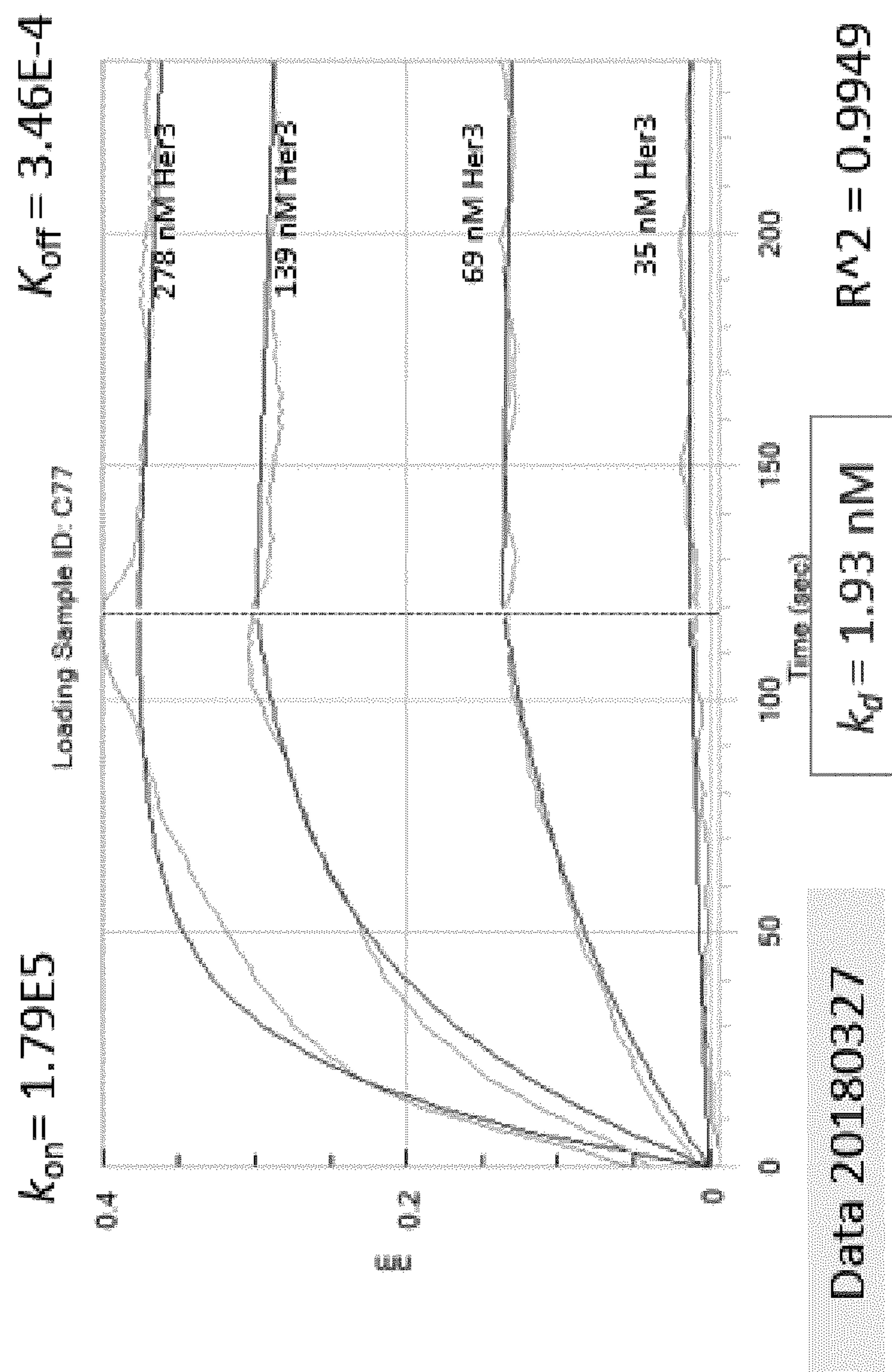


Loading Sample ID	Cycle	Conc. (nM)	Response	KD (M)	kon(1/Ms)		kdis(1/s)		RMax		kobs(1/s)	Req	Req/Rmax	Full X^2	Full R^2
					KD Error)	Error	Error	Error	Error	Error					
C83	1	69	0.2877	<1.0E-12	5.46E-10	1.88E+05	5.99E+03	<1.0E-07	0.37	0.0086	1.30E-02	0.37	100	0.0335	0.9846
C83	1	278	0.6639	<1.0E-12	5.46E-10	1.88E+05	5.99E+03	<1.0E-07	0.6372	0.0052	5.22E-02	0.6372	100	0.0335	0.9846
C83	1	139	0.4777	<1.0E-12	5.46E-10	1.88E+05	5.99E+03	<1.0E-07	0.5032	0.0068	2.61E-02	0.5032	100	0.0335	0.9846
C83	1	35	0.119	<1.0E-12	5.46E-10	1.88E+05	5.99E+03	<1.0E-07	0.2179	0.0086	6.58E-03	0.2179	100	0.0335	0.9846



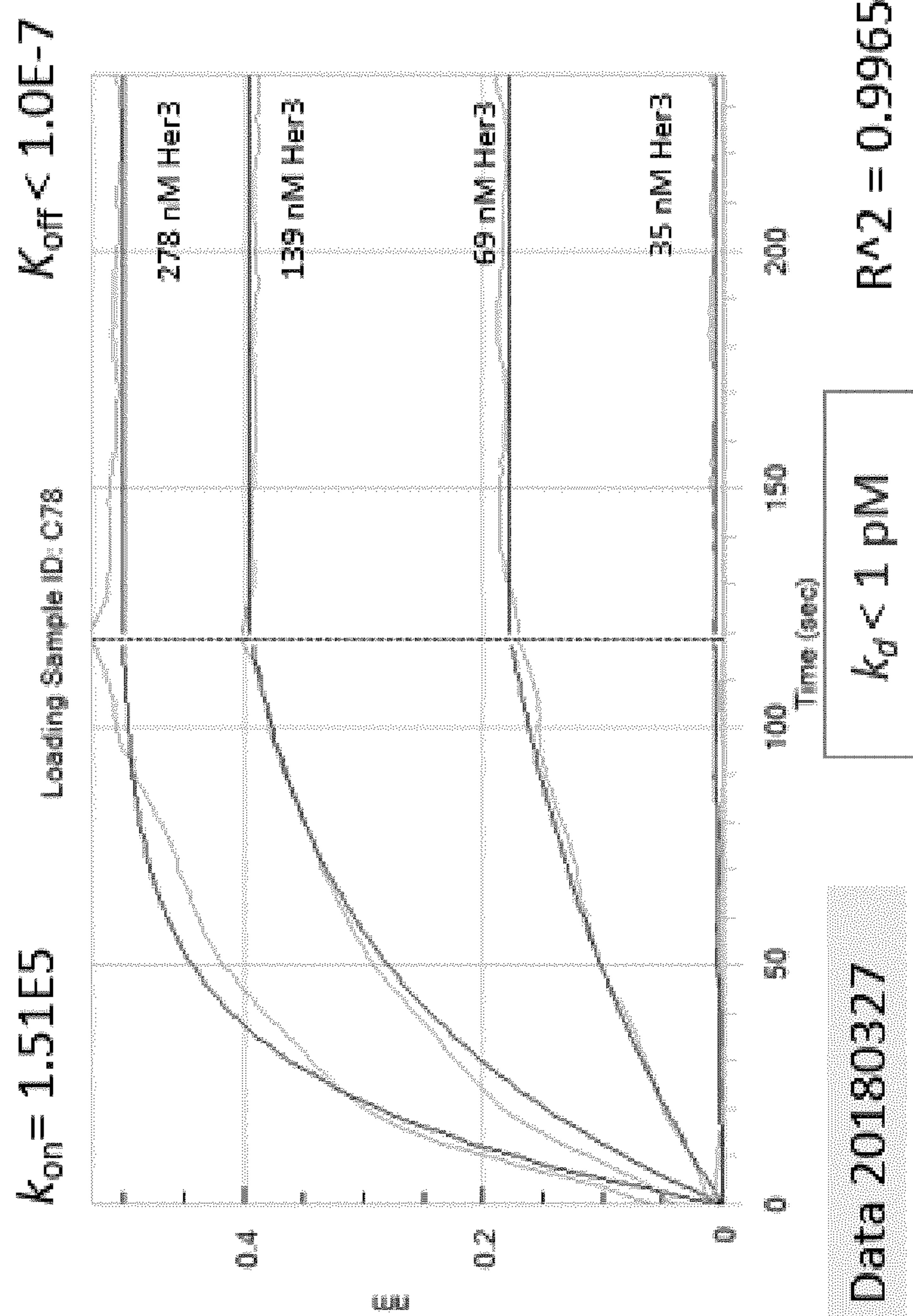
Loading Sample ID	Conc. (nM)	Cycle	Respon s	KD (M)	KD Error)	kon(1/Ms kon		kdis		RMax		kobs(1/s)Req	Req/Rma x(%)	Full X^2	Full R^2	
						Error		Error		Error						
C76	3	278	0.3903	<1.0E-12	7.94E-10	1.48E+05	5.36E+03	<1.0E-07		0.3772	0.004	4.13E-02	0.3772	100	0.0122	0.9851
C76	3	139	0.2888	<1.0E-12	7.94E-10	1.48E+05	5.36E+03	<1.0E-07		0.3143	0.0057	2.06E-02	0.3143	100	0.0122	0.9851
C76	3	69	0.1082	<1.0E-12	7.94E-10	1.48E+05	5.36E+03	<1.0E-07		0.172	0.0054	1.02E-02	0.172	100	0.0122	0.9851
C76	3	35	0.0037	<1.0E-12	7.94E-10	1.48E+05	5.36E+03	<1.0E-07		0.0208	0.0047	5.19E-03	0.0208	100	0.0122	0.9851

Figure 36H



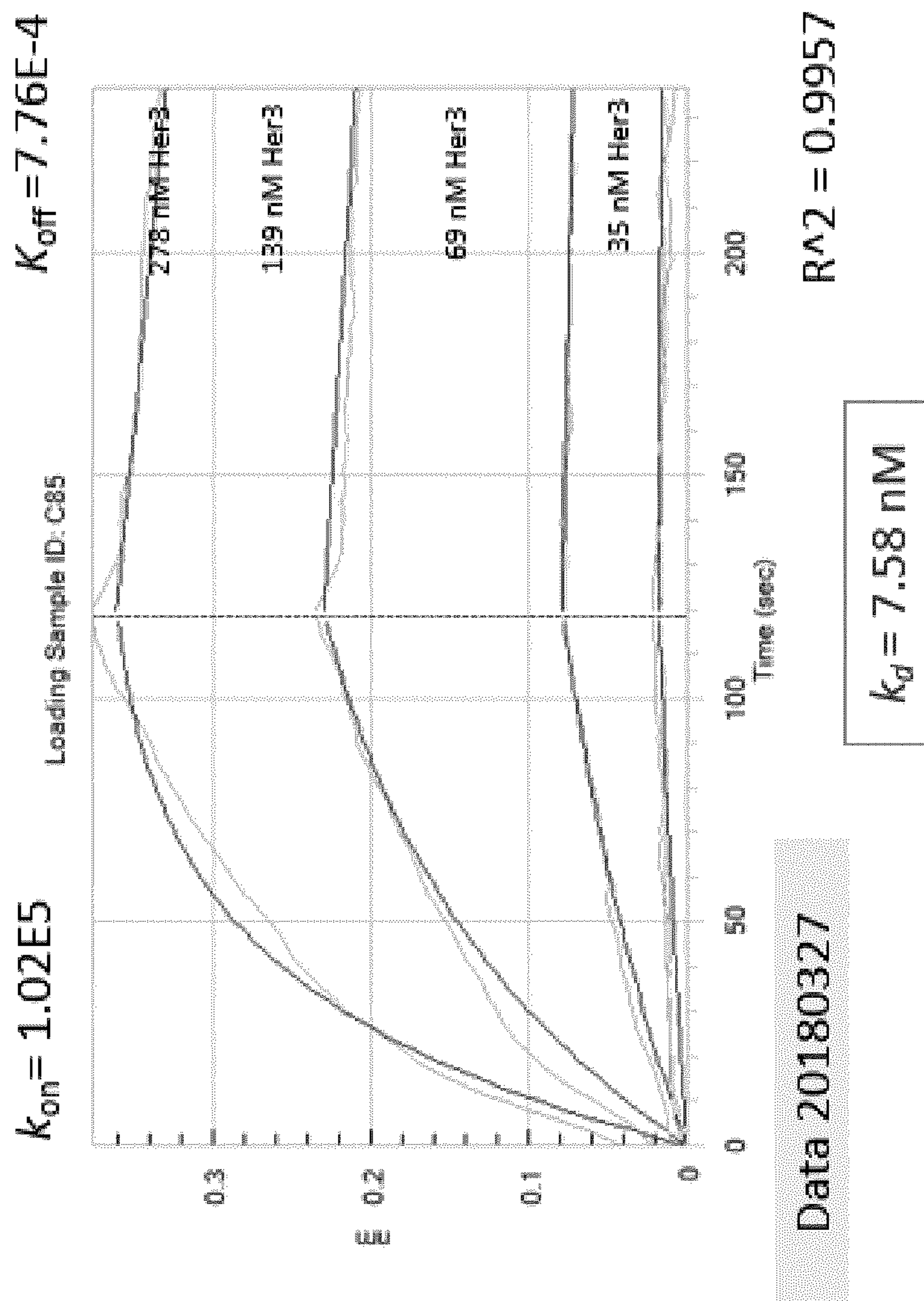
Loading Sample ID	Cycle	Conc. (nM)	Respons e	KD (M)	kon(1/Ms kon		kdiss		RMax		kobs(1/s)Req	Req/Rma x(%)	Full X^2	Full R^2		
					KD Error)	Error	Error	Error	RMax	Error						
C77	2	35	0.0096	1.93E-09	6.58E-10	1.79E+05	6.34E+03	3.46E-04	1.17E-04	0.0236	0.0043	6.62E-03	0.0224	84.8	0.0142	0.9848
C77	2	69	0.1318	1.93E-09	6.58E-10	1.79E+05	6.34E+03	3.46E-04	1.17E-04	0.1784	0.0051	1.27E-02	0.1745	87.3	0.0142	0.9848
C77	2	139	0.3036	1.93E-09	6.58E-10	1.79E+05	6.34E+03	3.46E-04	1.17E-04	0.3187	0.005	2.53E-02	0.3143	88.6	0.0142	0.9848
C77	2	278	0.3995	1.93E-09	6.58E-10	1.79E+05	6.34E+03	3.46E-04	1.17E-04	0.3804	0.0036	5.02E-02	0.3778	89.3	0.0142	0.9848

Figure 36I



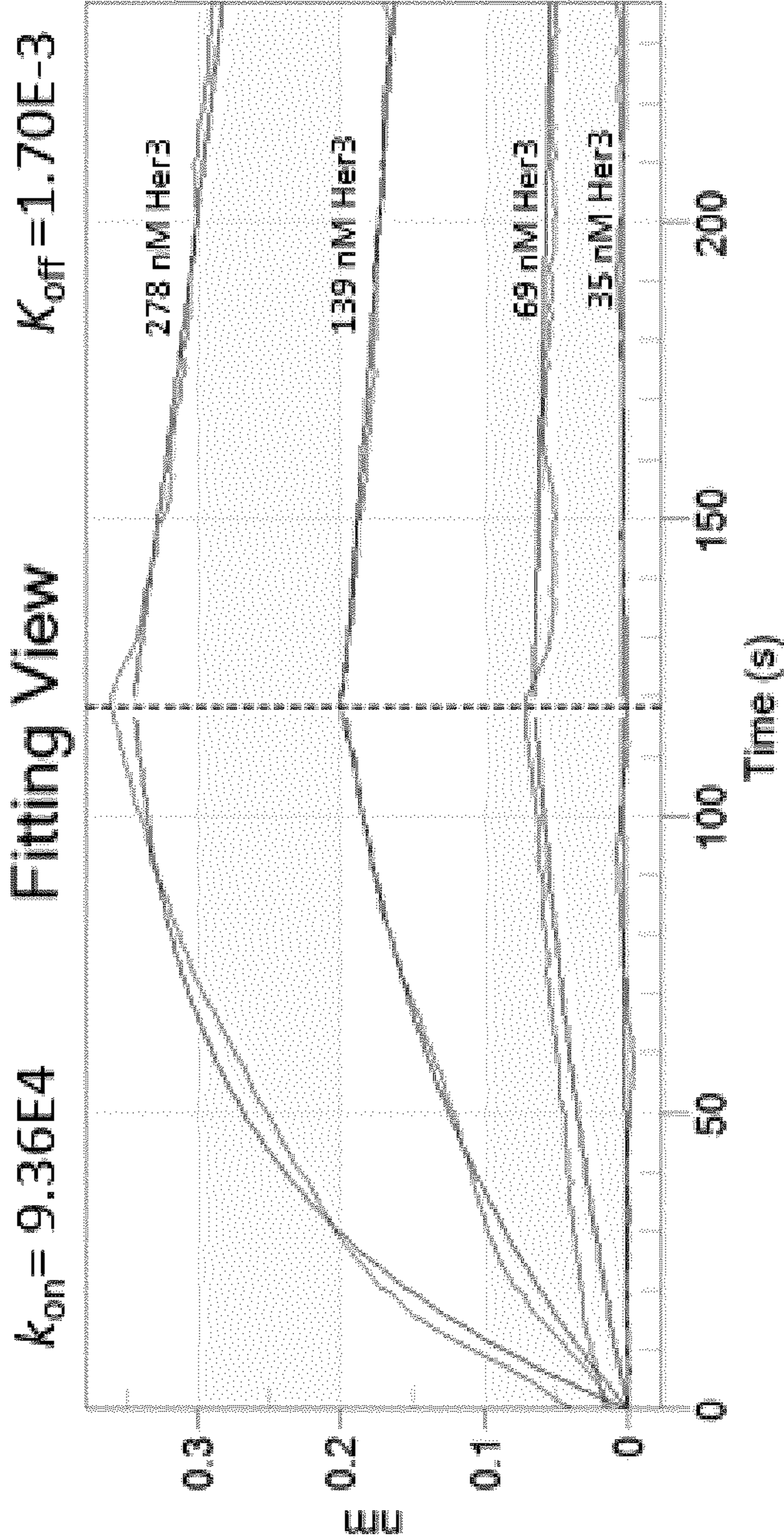
Loading Sample ID	Cycle	Conc. (nM)	Respon s	KD (M)	kon(1/Ms		kdiss(1/s)	RMax		kobs(1/s)	Req x(%)	Full X^2	Full R^2		
					KD Error)	Error		RMax	Error						
C78	4	278	0.5153	<1.0E-12	8.54E-10	1.51E+05	4.80E+03	<1.0E-07	0.5037	0.0044	4.21E-02	0.5037	100	0.0176	0.9865
C78	4	35	0.0036	<1.0E-12	8.54E-10	1.51E+05	4.80E+03	<1.0E-07	0.0136	0.0052	5.30E-03	0.0136	100	0.0176	0.9865
C78	4	68	0.1588	<1.0E-12	8.54E-10	1.51E+05	4.80E+03	<1.0E-07	0.2485	0.0064	1.04E-02	0.2485	100	0.0176	0.9865
C78	4	139	0.3891	<1.0E-12	8.54E-10	1.51E+05	4.80E+03	<1.0E-07	0.429	0.0064	2.10E-02	0.429	100	0.0176	0.9865

Figure 36J



Loading Sample ID	Conc. (nM)	Cycle	Respon- se	KD (nM)	kon(1/Ms kon		kdiss		RMax		kobs(1/s)Req	Req/Rma x(%)	Full X^2	Full R^2		
					KD Error)	Error	Error	Error	RMax	Error						
C85	1	278	0.3712	7.58E-09	1.19E-09	1.02E+05	3.85E+03	7.76E-04	1.19E-04	0.3816	0.0054	2.92E-02	0.3715	97.3	0.0091	0.9857
C85	1	69	0.0753	7.58E-09	1.19E-09	1.02E+05	3.85E+03	7.76E-04	1.19E-04	0.1436	0.0057	7.83E-03	0.1294	90.1	0.0091	0.9857
C85	1	139	0.2284	7.58E-09	1.19E-09	1.02E+05	3.85E+03	7.76E-04	1.19E-04	0.2898	0.007	1.50E-02	0.2748	94.8	0.0091	0.9857
C85	1	35	0.017	7.58E-09	1.19E-09	1.02E+05	3.85E+03	7.76E-04	1.19E-04	0.053	0.0059	4.36E-03	0.0435	82.2	0.0091	0.9857

Figure 36L



Data 20180327

$k_d = 18.2 \text{ nM}$

$R^2 = 0.9957$

Loading Sample ID	Cycle	Conc. (nM)	Response	KD (M)	KD Error	kon(1/Ms)	kon Error	kdis(1/s)	kdis Error	RMax	RMax Error	kobs(1/s)	Req x(%)	Full X^2	Full R^2
C85 opt1	1	278	0.3524	1.82E-08	1.54E-09	9.36E+04	3.75E+04	1.70E-03	1.27E-04	0.3807	0.0063	2.77E-02	0.3573	0.008	0.9857
C85 opt1	1	139	0.1929	1.82E-08	1.54E-09	9.36E+04	3.75E+04	1.70E-03	1.27E-04	0.2709	0.0074	1.47E-02	0.2396	0.008	0.9857
C85 opt1	1	69	0.0697	1.82E-08	1.54E-09	9.36E+04	3.75E+04	1.70E-03	1.27E-04	0.1329	0.0059	8.16E-03	0.1052	0.008	0.9857
C85 opt1	1	35	0.0006	1.82E-08	1.54E-09	9.36E+04	3.75E+04	1.70E-03	1.27E-04	0.0131	0.0061	4.97E-03	0.0086	0.008	0.9857

Figure 36M

Clones	Heavy Chain	Light Chain	Developability								
	Homology	Homology	Deamidation (NS, NG, NH, NN)	Isomerization (DS, DG)	Protease Cleavage (DP)	Free Cys	Exposed M	Glycosylation	Immunogenicity (HC+LC)	pl_HC	pl_LC
10D1_c75	82.5%(Hu)	80.0%(Ma)	NG,	None	None	None	YES (CDR3)	NPT	3+6	8.102	6.615
10D1_c76	83.5%(Hu)	77.9%(Ma)	NG,	None	None	None	YES (CDR3)	NPS	3+5	8.121	6.614
10D1_c77	83.5%(Hu)	78.5%(Hu)	NG,	None	None	None	YES (CDR3)	NPS	4+3	8.121	7.618
10D1_c78	83.5%(Hu)	81.1%(Ma)	None	None	None	None	YES (CDR3)	NPS	3+3	8.591	8.128
V11b78L	88.7%(Hu)	81.1%(Ma)	None	None	None	None	YES (CDR3)	NPS	3+3	8.453	8.128
10D1_c85	82.5% (Hu)	81.1%(Ma)	None	None	None	None	YES (CDR3)	NPS	1+3	8.952	8.578
10D1_c85_opt1	83.5% (Hu)	81.1%(Ma)	None	None	None	None	NO	NPS	0+3	8.6	8.578
10D1_c85_opt2	83.5% (Hu)	81.1%(Ma)	None	None	None	None	NO	NPS	0+3	8.952	8.578
10D1_c87	82.5% (Hu)	80.0%(Ma)	NG,	None	None	None	YES (CDR3)	NPS	3+5	8.13	4.646
10D1_c89	89.9% (Hu)	85.3% (Hu/Ma)	None	None	None	None	YES (CDR3)	None	3+4	7.965	6.545
10D1_c90	89.9% (Hu)	80.0% (Ma)	None	None	None	None	YES (CDR3)	None	3+4	7.965	5.388
10D1_c91	87.9% (Hu)	84.2 (Hu/Ma)	None	None	None	None	YES (CDR3)	None	3+3	7.935	7.468
10D1_c92	82.5% (Hu)	78.9% (Ma)	None	None	None	None	YES (CDR3)	N.A.	4+6	8.07	6.46
10D1_c93	82.5% (Hu)	82.1%(Ma)	NG	None	None	None	YES (CDR3)	NPS	3+5	8.13	7.535

Figure 37

$k_{on} = 1.8e^5 \text{ M}^{-1} \text{ s}^{-1}$ $K_D = 34 \text{ nM}$ $k_{dis} = 0.61e^{-2} \text{ s}^{-1}$

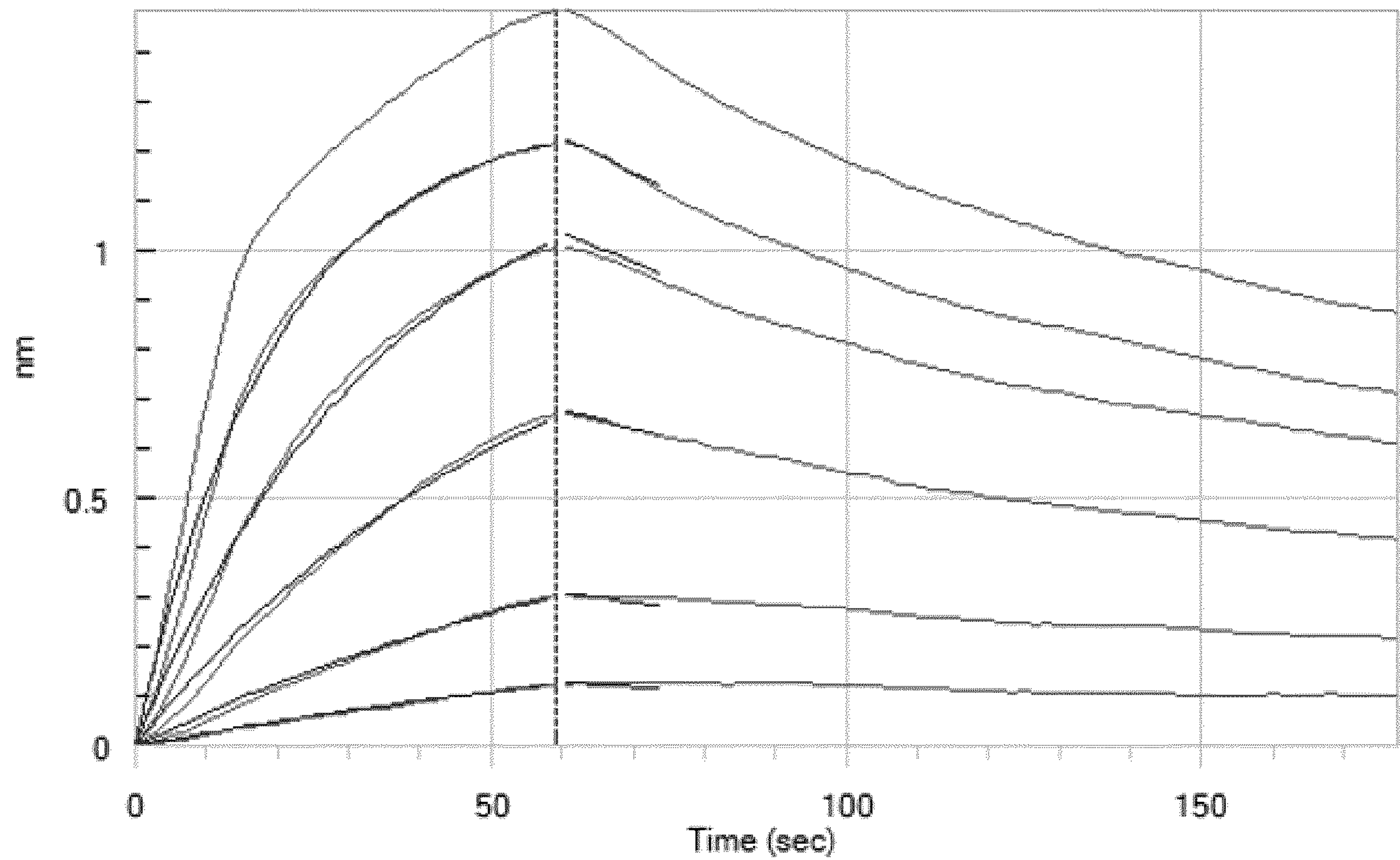


Figure 38A

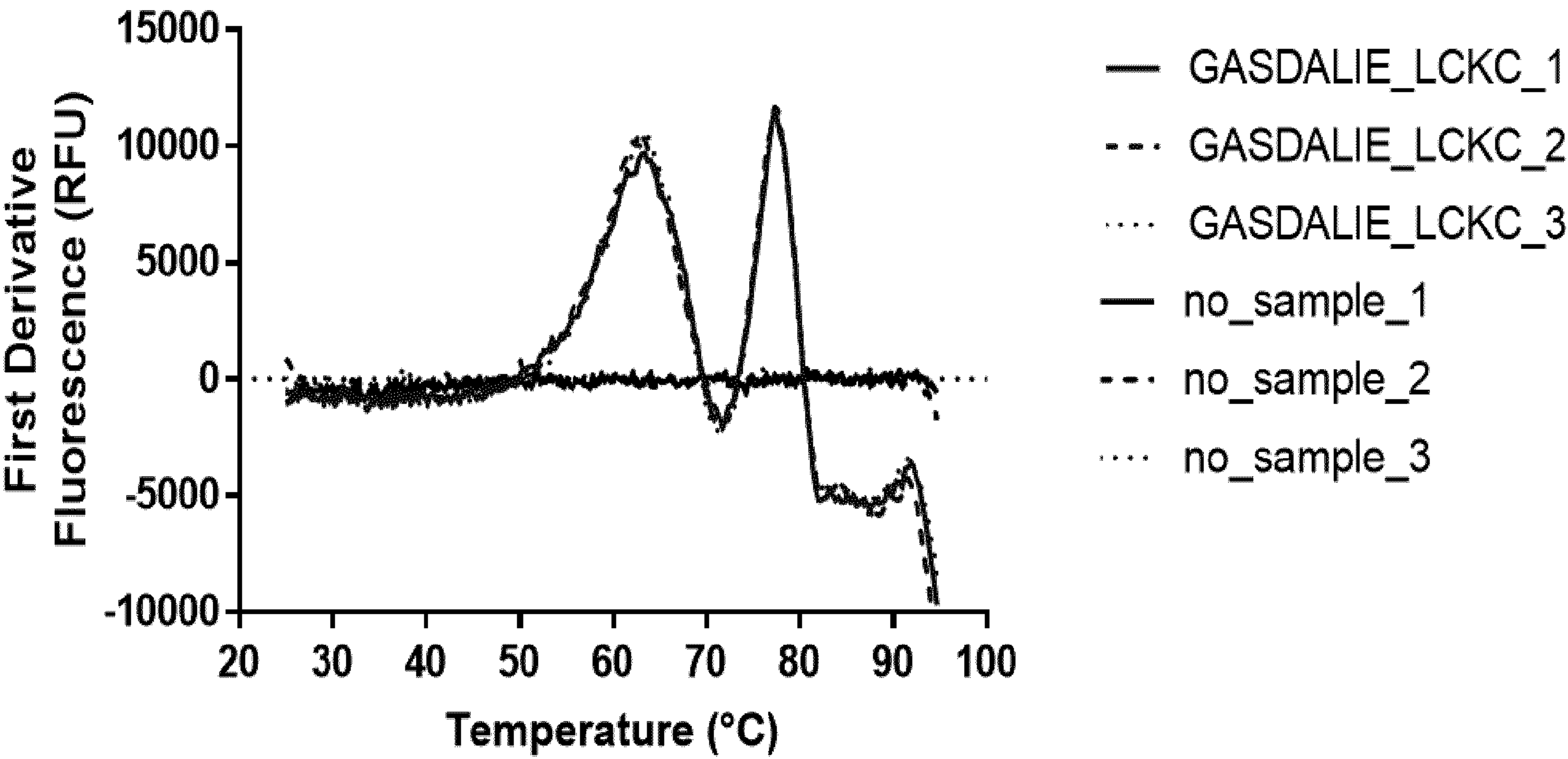


Figure 38B

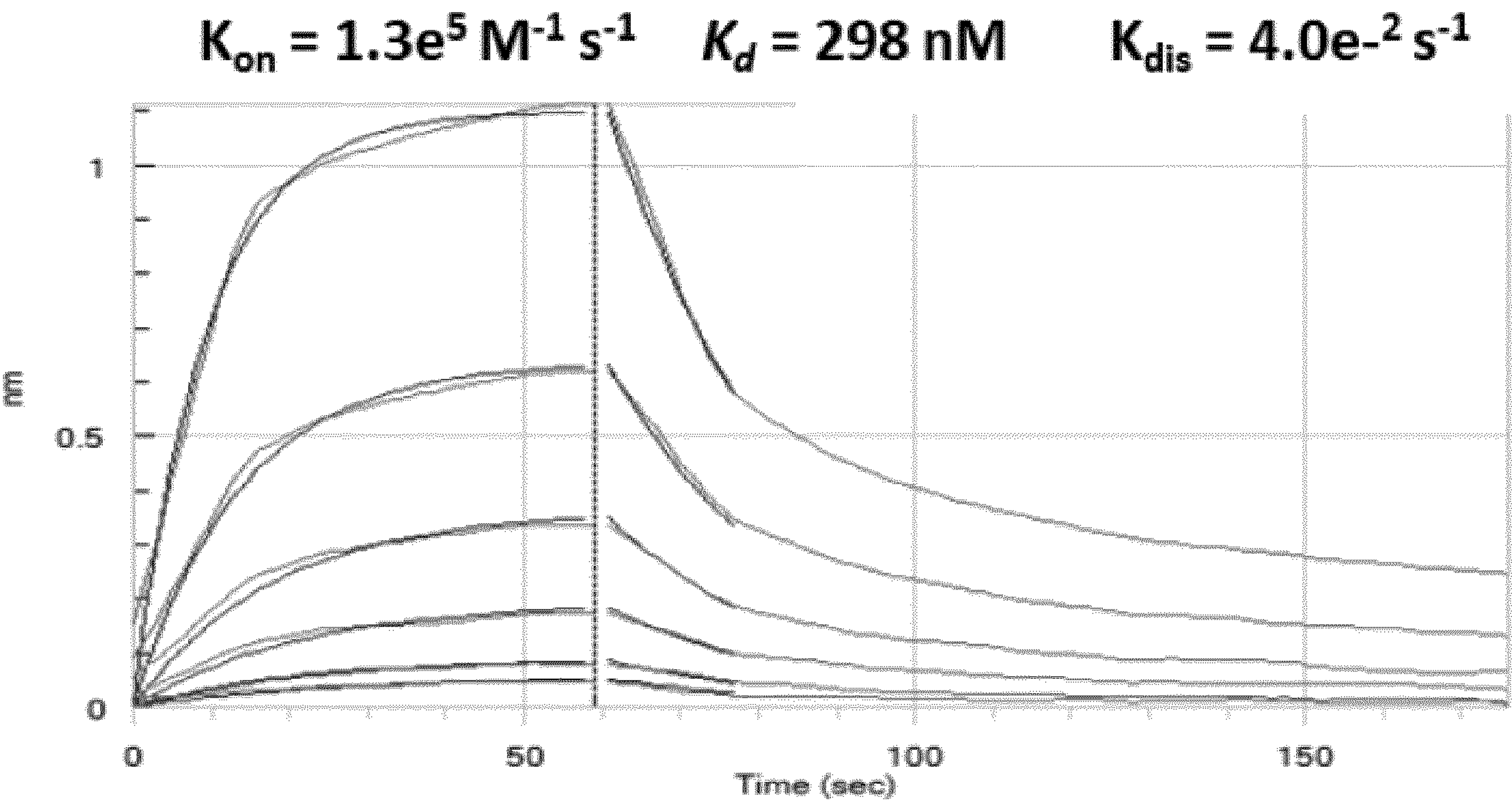


Figure 39A

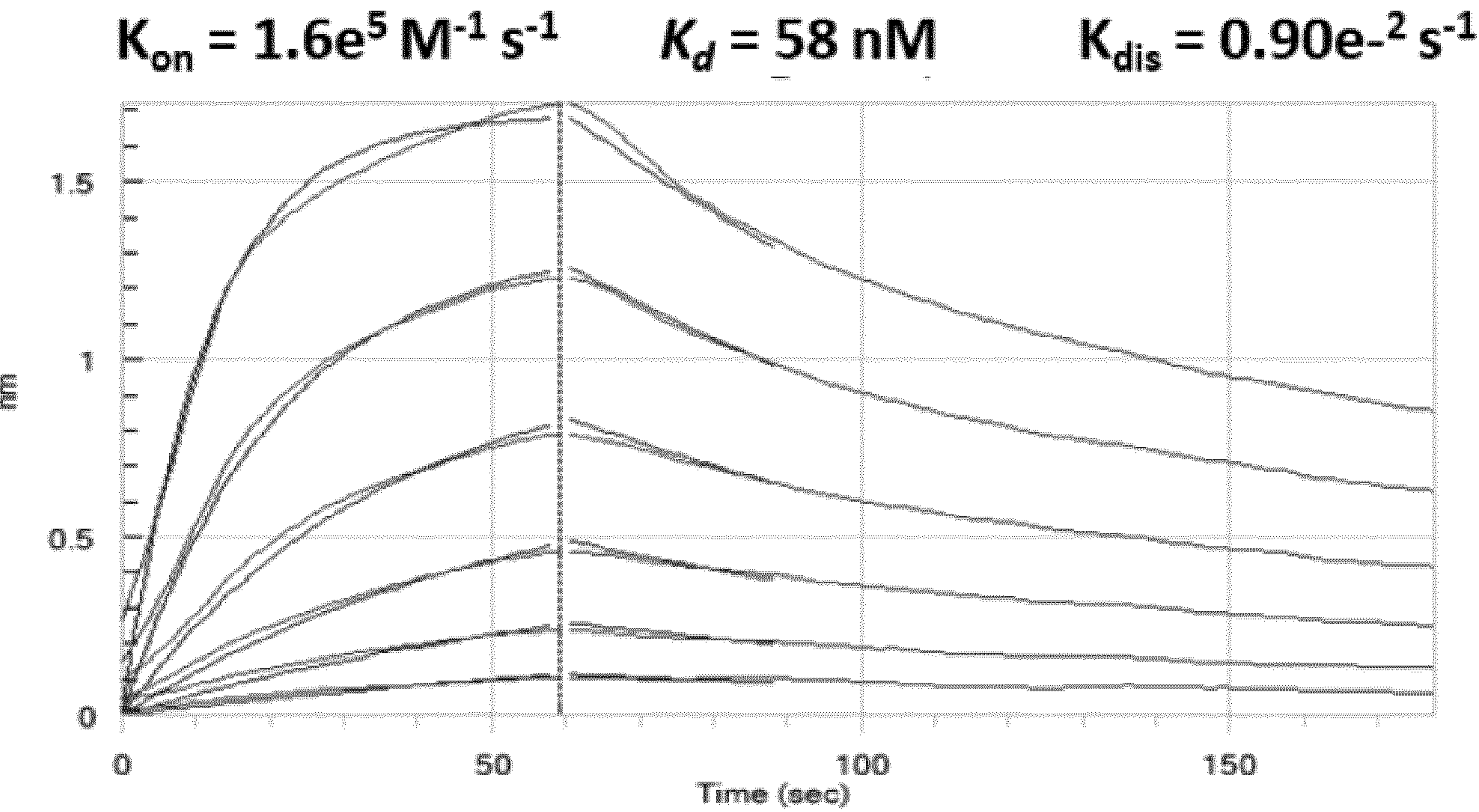


Figure 39B

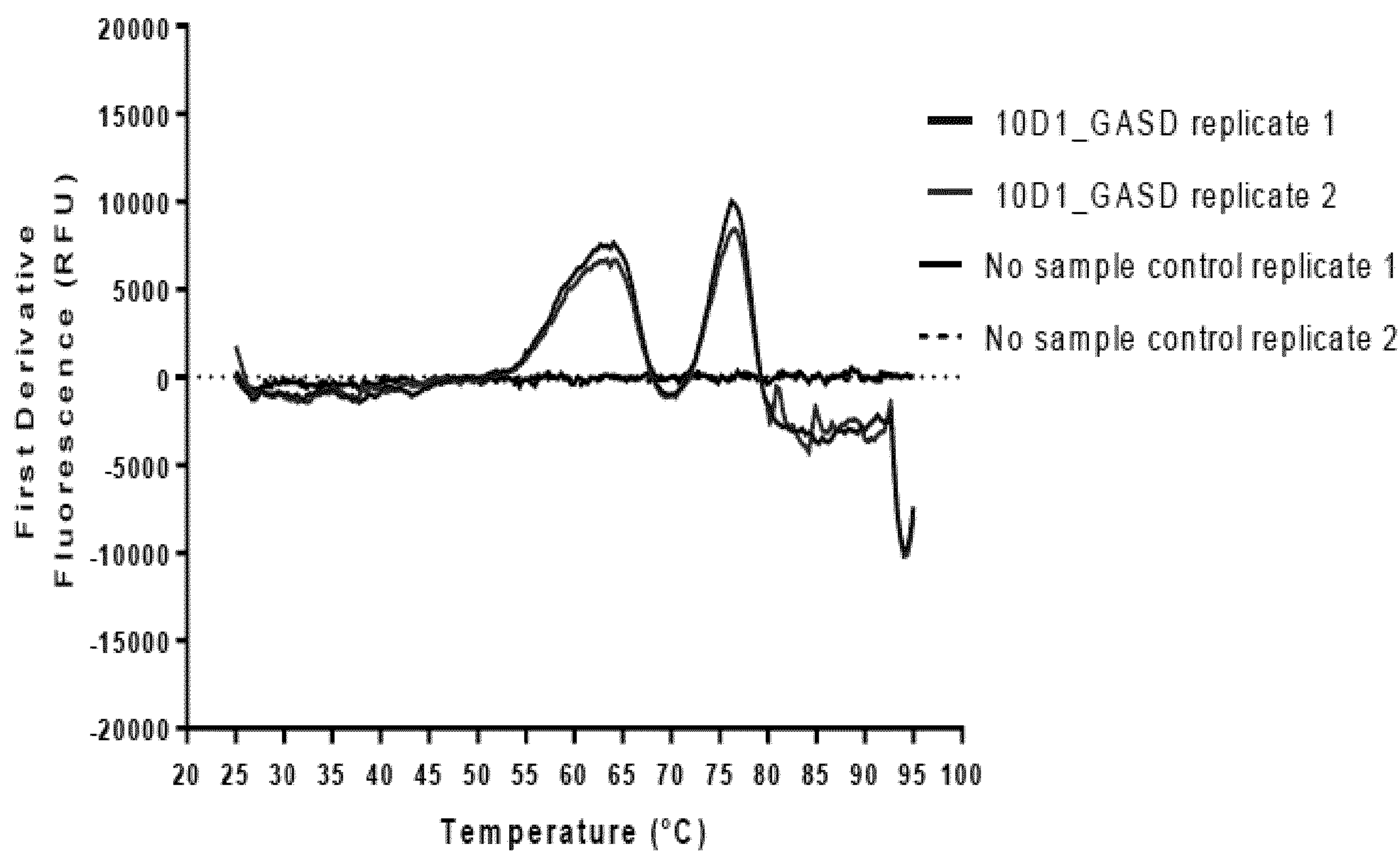


Figure 40

Receptor	Gene	Function	Binding Affinity	Reported K_D (nM)	10D1F.FcA: 10D1F hlgG1 K_D (nM)	10D1F.FcB: 10D1F hlgG1 GASDALIE-LCKC K_D (nM)	10D1F hlgG1 N297Q K_D (nM)	10D1F hlgG2 K_D (nM)	10D1F hlgG4 K_D (nM)	LJM716 hlgG1 K_D (nM)	Seribantumab hlgG2 K_D (nM)
FcRn	FCGRT	Recycling (Increased affinity → Increased half life)	Medium	hlgG1: 737	47.6	37.4	54.6	6.43	10.3	16.5	11.5
				hlgG2: 540							
				hlgG3: 585							
				hlgG4: 717							
FcγRIIIA (V158)	CD16A	Cell activation	Medium	hlgG1: 252-500	986	82.1	ND	ND	ND	705	7050
				hlgG2: 14286							
				hlgG3: 102							
				hlgG4: 4000							
FcγRIIIA (F158)	CD16A	Cell activation	Low	hlgG1: 855-4454	ND	162	ND	ND	ND	5380	ND
				hlgG2: 33333							
				hlgG3: 130							
				hlgG4: 5000							
FcγRIIA (H167)	CD32A	Cell activation	Low	hlgG1: 192-4486	1800	561	ND	670	ND	1480	222
				hlgG2: 2222							
				hlgG3: 1124							
				hlgG4: 5882							
FcγRIIA (R167)	CD32A	Cell activation	Low	hlgG1: 286-1550	976	400	ND	ND	ND	1500	243
				hlgG2: 10000							
				hlgG3: 1099							
				hlgG4: 4762							
FcγRIIB	CD32B	Cell inhibition	Low	hlgG1: 500-9275	ND	580	ND	ND	ND	ND	1440
				hlgG2: 50000							
				hlgG3: 5882							
				hlgG4: 5000							

Figure 41A

Receptor	Gene	Function	Binding affinity	Reported K_D (nM)	10D1F.FcA 10D1F hlgG1 K_D (nM)	10D1F.FcB 10D1F hlgG1 GASDALIE-LCKC K_D (nM)	10D1F hlgG1 N297Q K_D (nM)	10D1F hlgG2 K_D (nM)	10D1F hlgG4 K_D (nM)	LJM716 hlgG1 K_D (nM)	Seribantumab hlgG2 K_D (nM)
moFcRn	FCGRT	Recycling (Increased affinity → Increased half life)	Medium	mlgG1: 1157 mlgG2a: 490 mlgG2b: 545 mlgG3: 140 hlgG1: 72 hlgG2: 63 hlgG3: 230 hlgG4: 116	14.6	15.2	13.7	7.33	13	12.8	6.69
moFcγRIV	CD16-2	Cell activation	High	mlgG1: ND mlgG2a: 34.5 mlgG2b: 59 mlgG3: ND hlgG1: 280 hlgG2: ND hlgG3: 170 hlgG4: 26000	1,810	55.4	ND	ND	ND	701	ND
moFcγRIII	CD16	Cell activation	Low	mlgG1: 3200 mlgG2a: 1460 mlgG2b: 1555 mlgG3: ND hlgG1: 9300 hlgG2: 9700 hlgG3: 1300 hlgG4: 21000	ND	ND	ND	ND	ND	ND	ND
moFcγRIIb	CD32	Cell inhibition	Low	mlgG1: 301 mlgG2a: 2390 mlgG2b: 448 mlgG3: ND hlgG1: 1100 hlgG2: 7900 hlgG3: 700 hlgG4: 11000	ND	ND	ND	ND	ND	ND	ND

Figure 41B

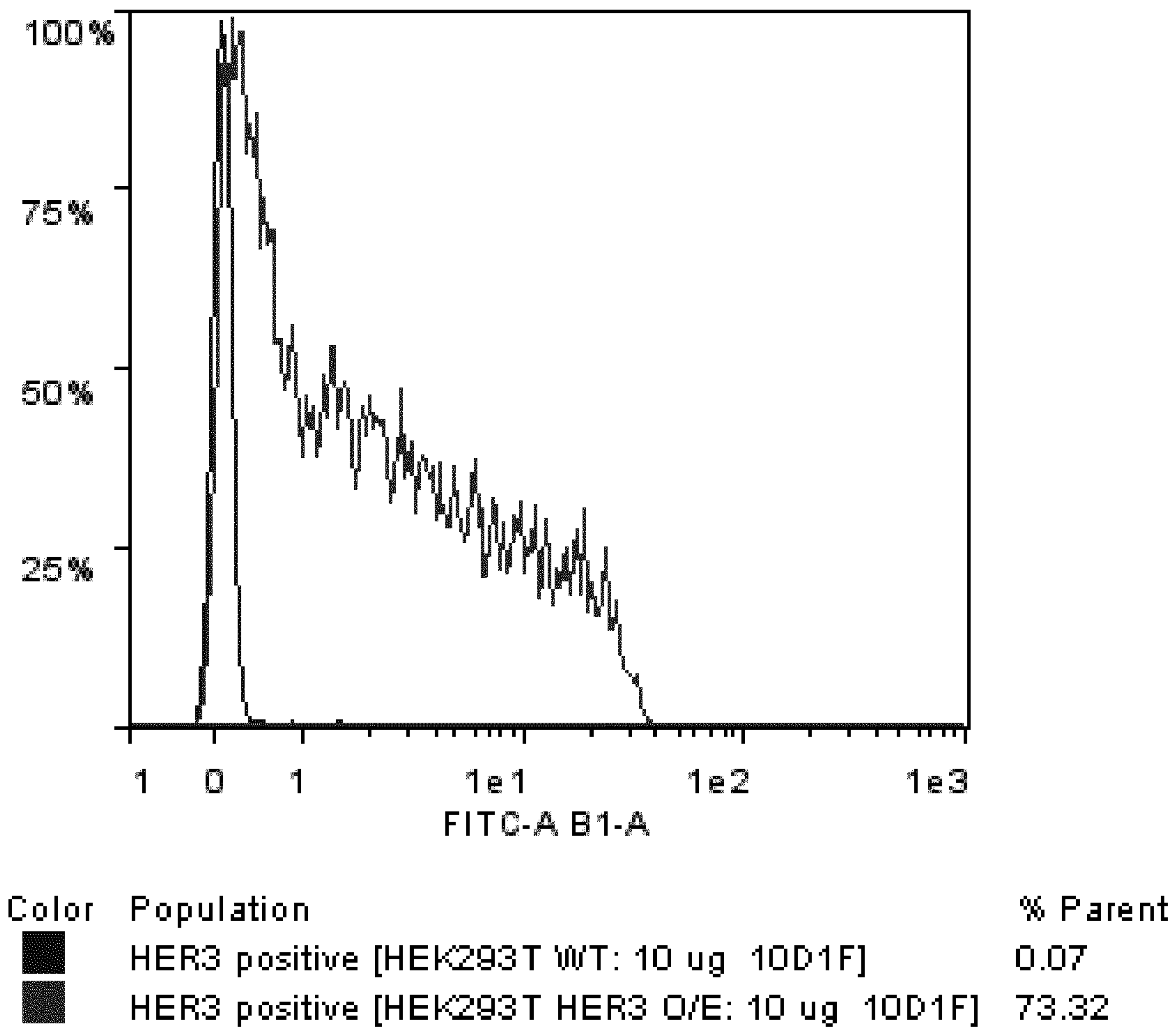


Figure 42A

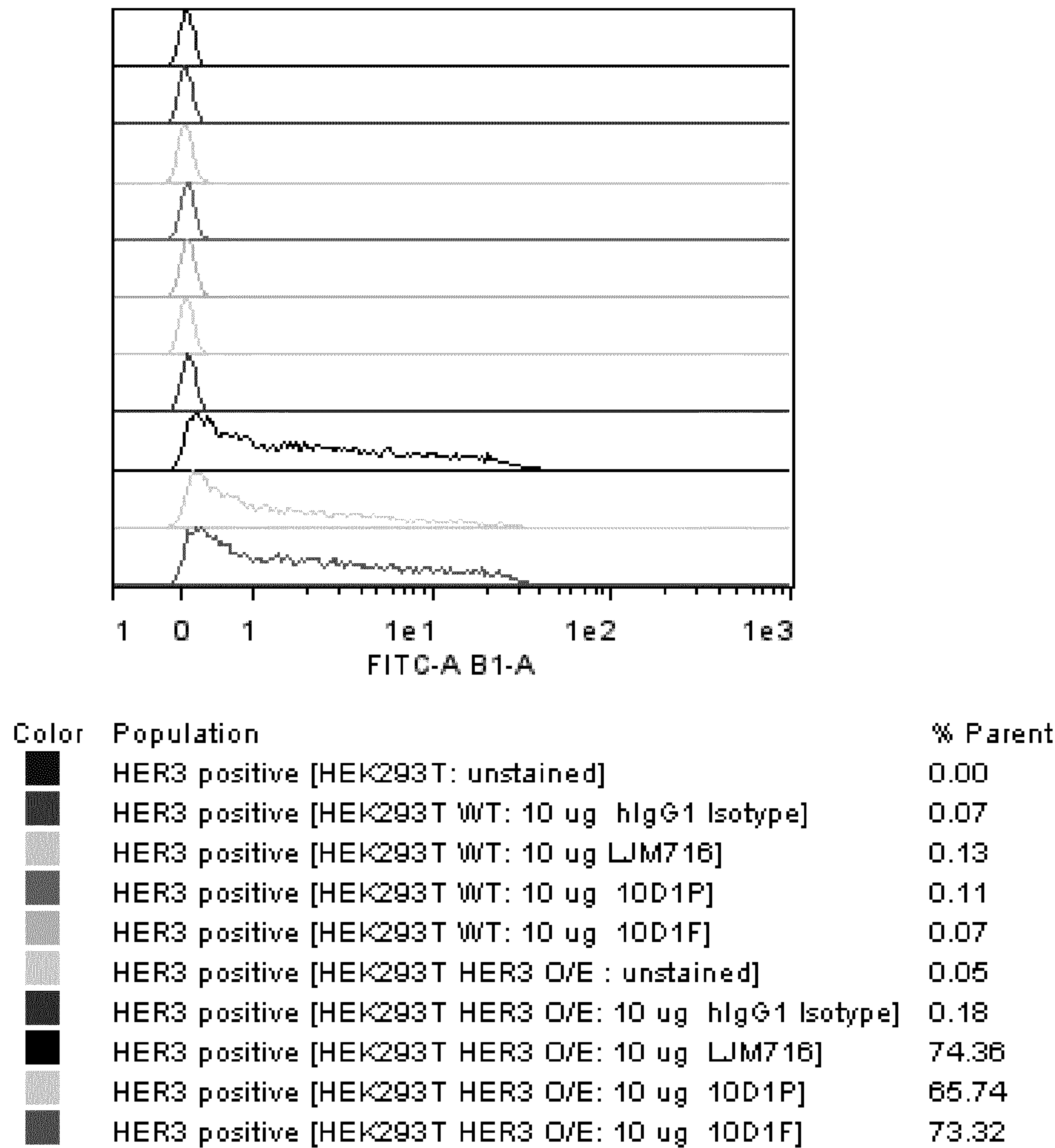
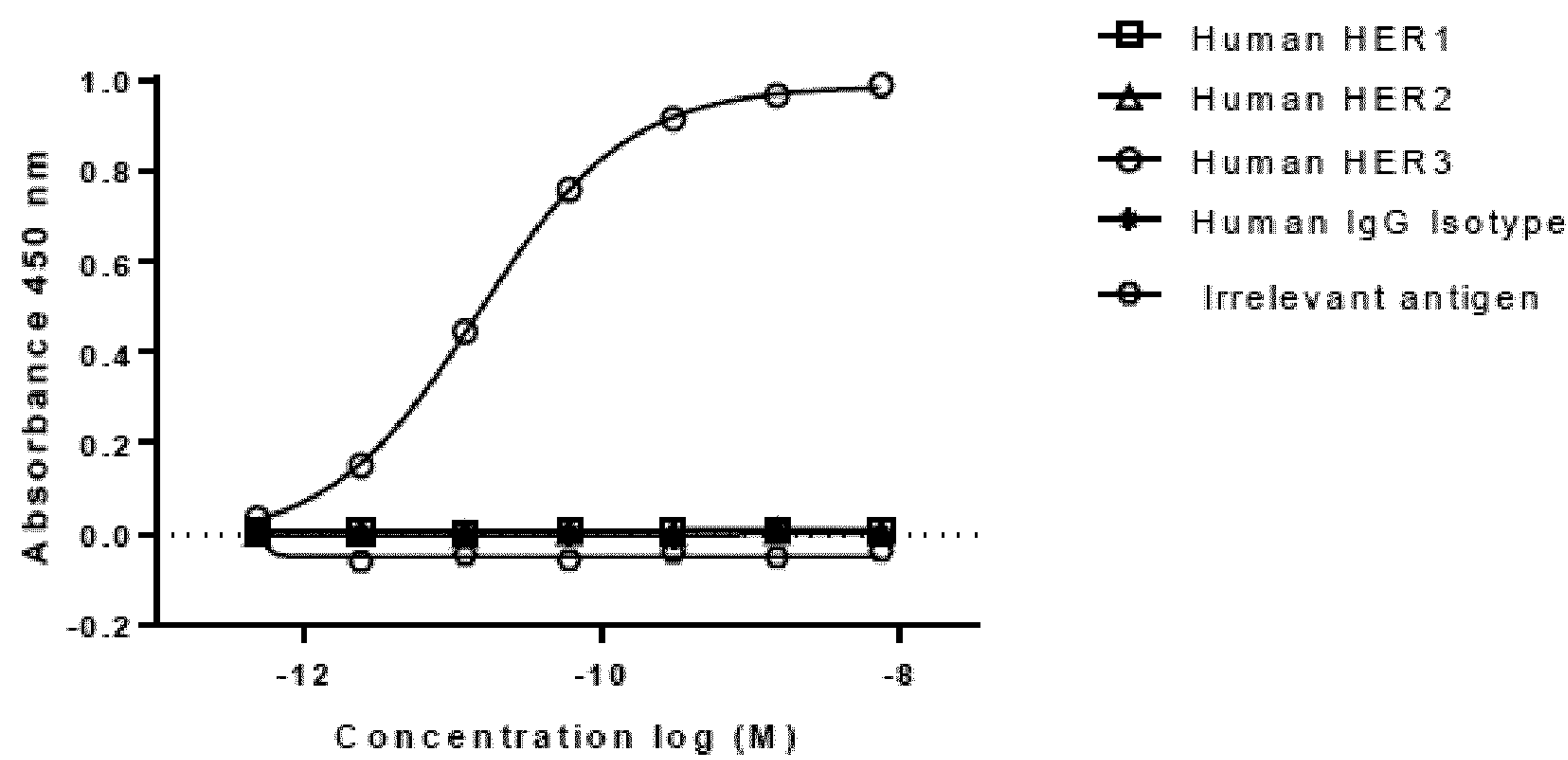


Figure 42B



	Human EGFR	Human HER2	Human HER3
EC ₅₀ (M)	NA	NA	1.437e-011

Figure 43

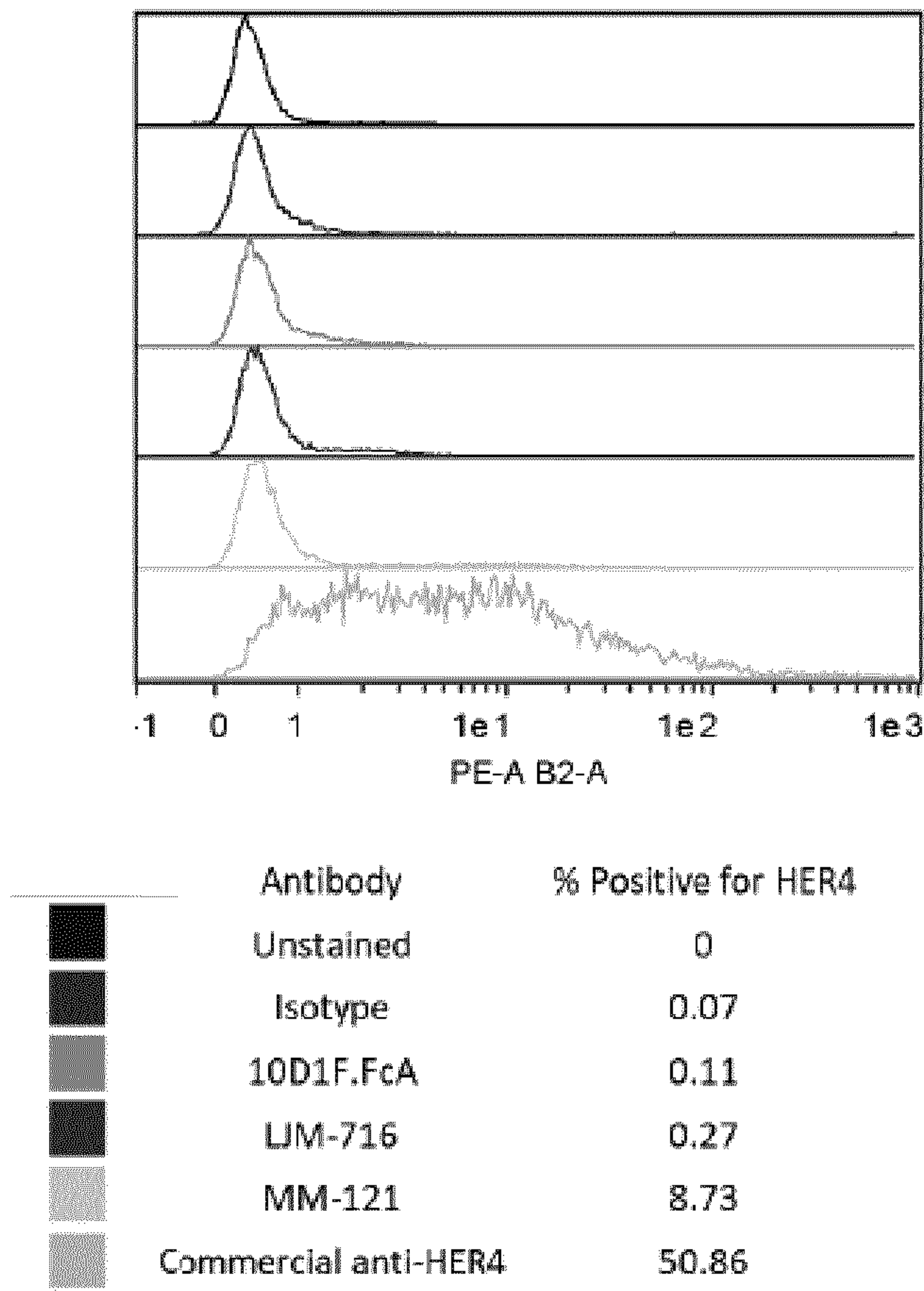
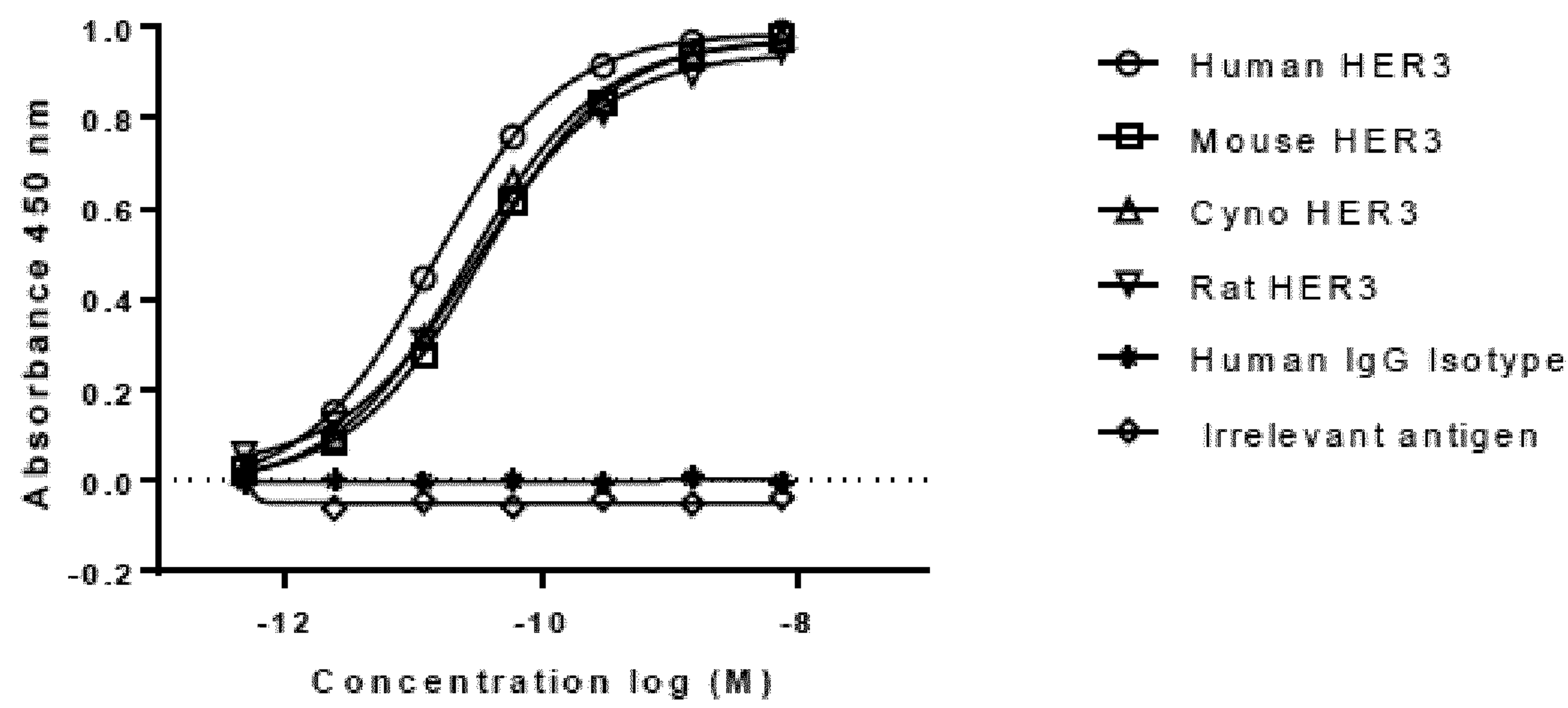


Figure 44



	Human HER3	Mouse HER3	Rat HER3	Cyno HER3
EC ₅₀ (M)	1.437e-011	3.322e-011	3.032e-011	2.581e-011

Figure 45

Conc. (nM)	Response	KD (M)	KD Error	kon(1/Ms)	kon Error	kdis(1/s)	kdis Error	RMax	RMax Error	kobs(1/s)	Req	Req/Rmax(%)	Full X^2	Full R^2
69	0.2882	7.26E-11	3.88E-10	2.97E+05	1.12E+04	2.16E-05	1.15E-04	0.3206	0.0063	2.05E-02	0.3202	99.9	0.0341	0.9902
35	0.1471	7.26E-11	3.88E-10	2.97E+05	1.12E+04	2.16E-05	1.15E-04	0.2068	0.0071	1.04E-02	0.2064	99.8	0.0341	0.9902
278	0.5458	7.26E-11	3.88E-10	2.97E+05	1.12E+04	2.16E-05	1.15E-04	0.513	0.0041	8.26E-02	0.5129	100	0.0341	0.9902
139	0.3968	7.26E-11	3.88E-10	2.97E+05	1.12E+04	2.16E-05	1.15E-04	0.3943	0.0046	4.13E-02	0.3941	99.9	0.0341	0.9902

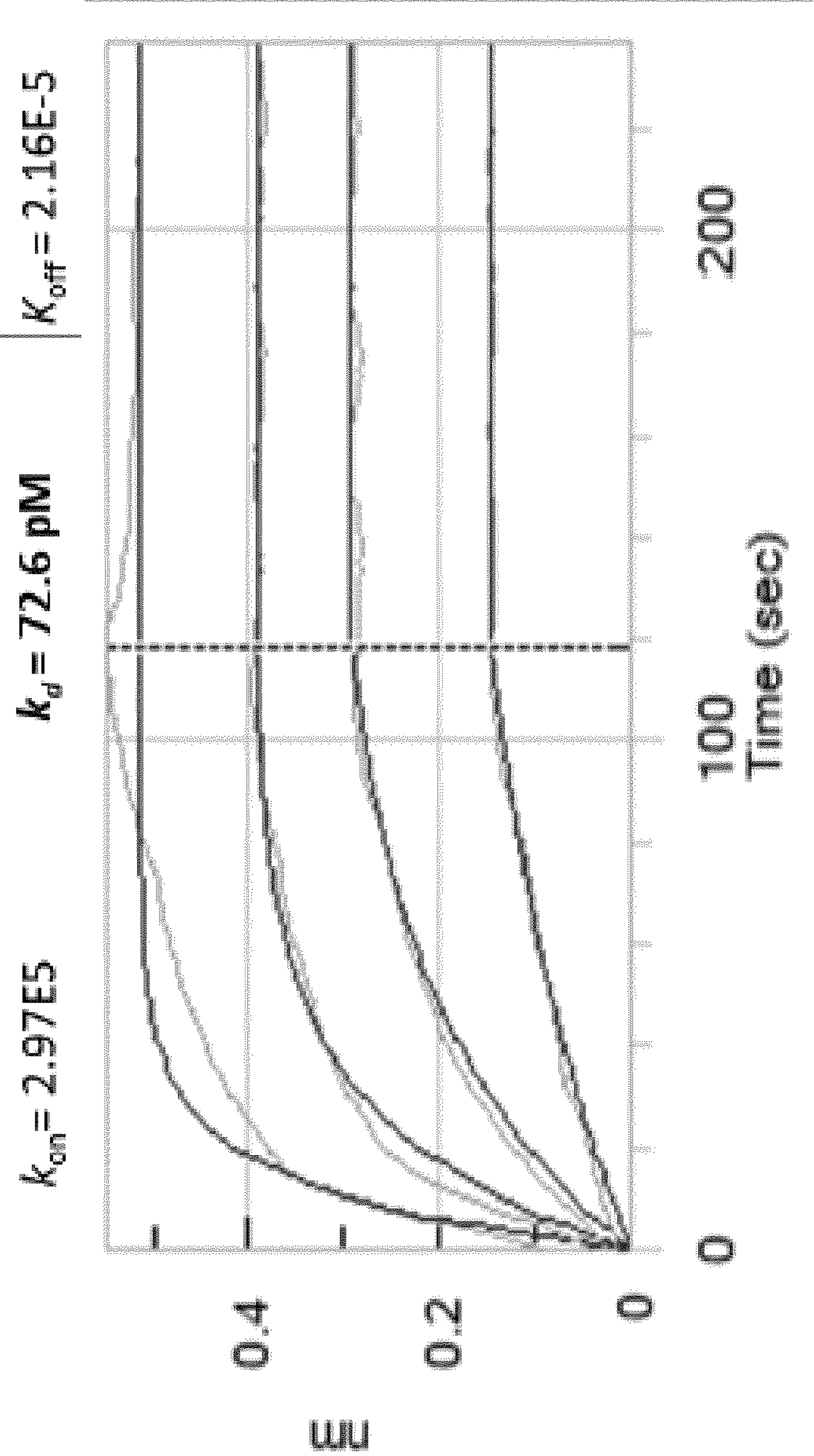


Figure 46A

Conc. (nM)	Response	KD (M)	KD Error	kon(1/Ms)	kon Error	kdis(1/s)	kdis Error	RMax	RMax Error	kobs(1/s)	Req	Req/Rmax(%)	Full X^2	Full R^2
242	0.4624	2.22E-11	2.70E-11	2.23E+05	3.28E+03	4.96E-06	6.03E-06	0.4468	0.001	5.40E-02	0.4467	100	0.0108	0.999
121	0.2437	2.22E-11	2.70E-11	2.23E+05	3.28E+03	4.96E-06	6.03E-06	0.2478	0.001	2.70E-02	0.2478	100	0.0108	0.999
60.5	0.0679	2.22E-11	2.70E-11	2.23E+05	3.28E+03	4.96E-06	6.03E-06	0.0869	0.0009	1.35E-02	0.0868	100	0.0108	0.999
30.3	0.0208	2.22E-11	2.70E-11	2.23E+05	3.28E+03	4.96E-06	6.03E-06	0.0469	0.0011	6.77E-03	0.0468	99.9	0.0108	0.999

$k_{on} = 2.23E5$ $k_d = 22.2 \text{ pM}$ $k_{off} = 4.96E-6$

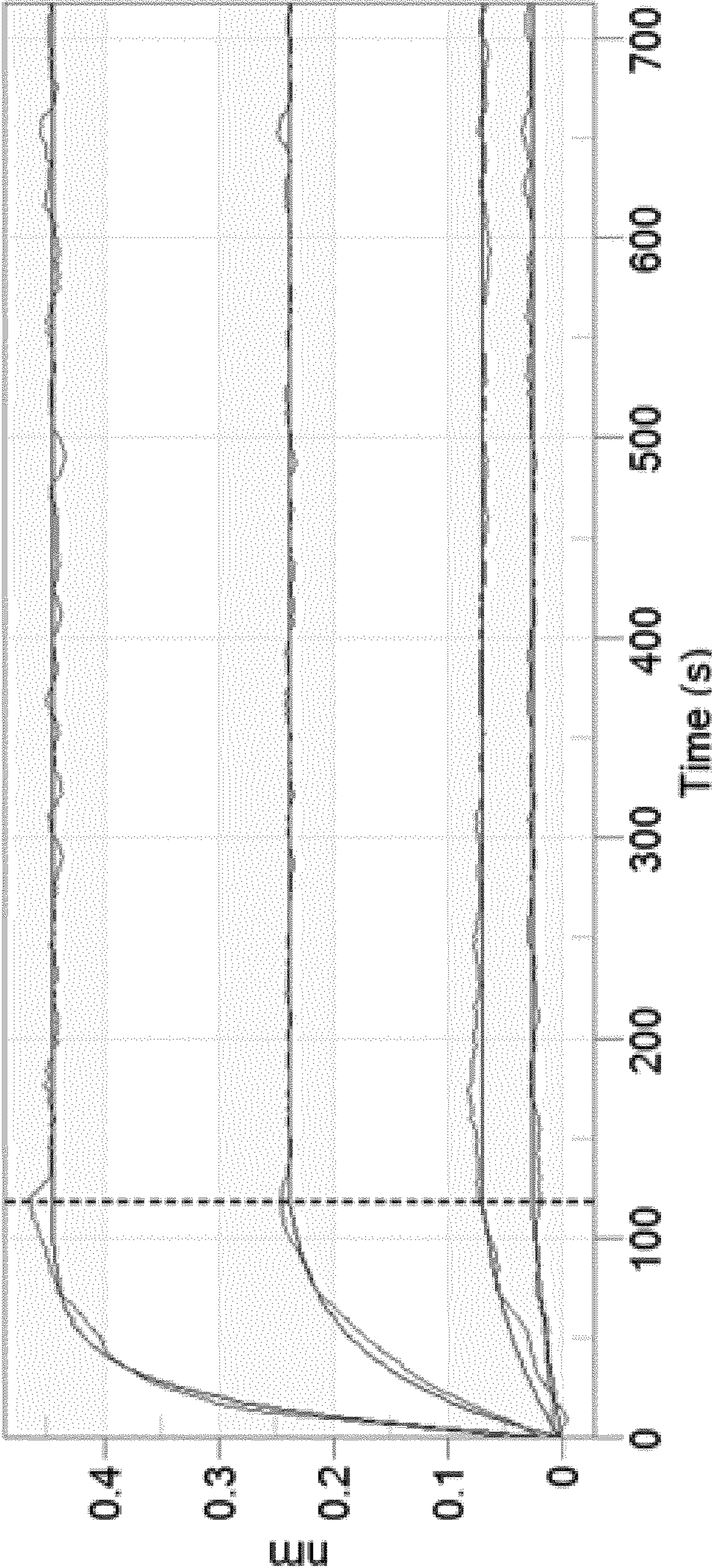
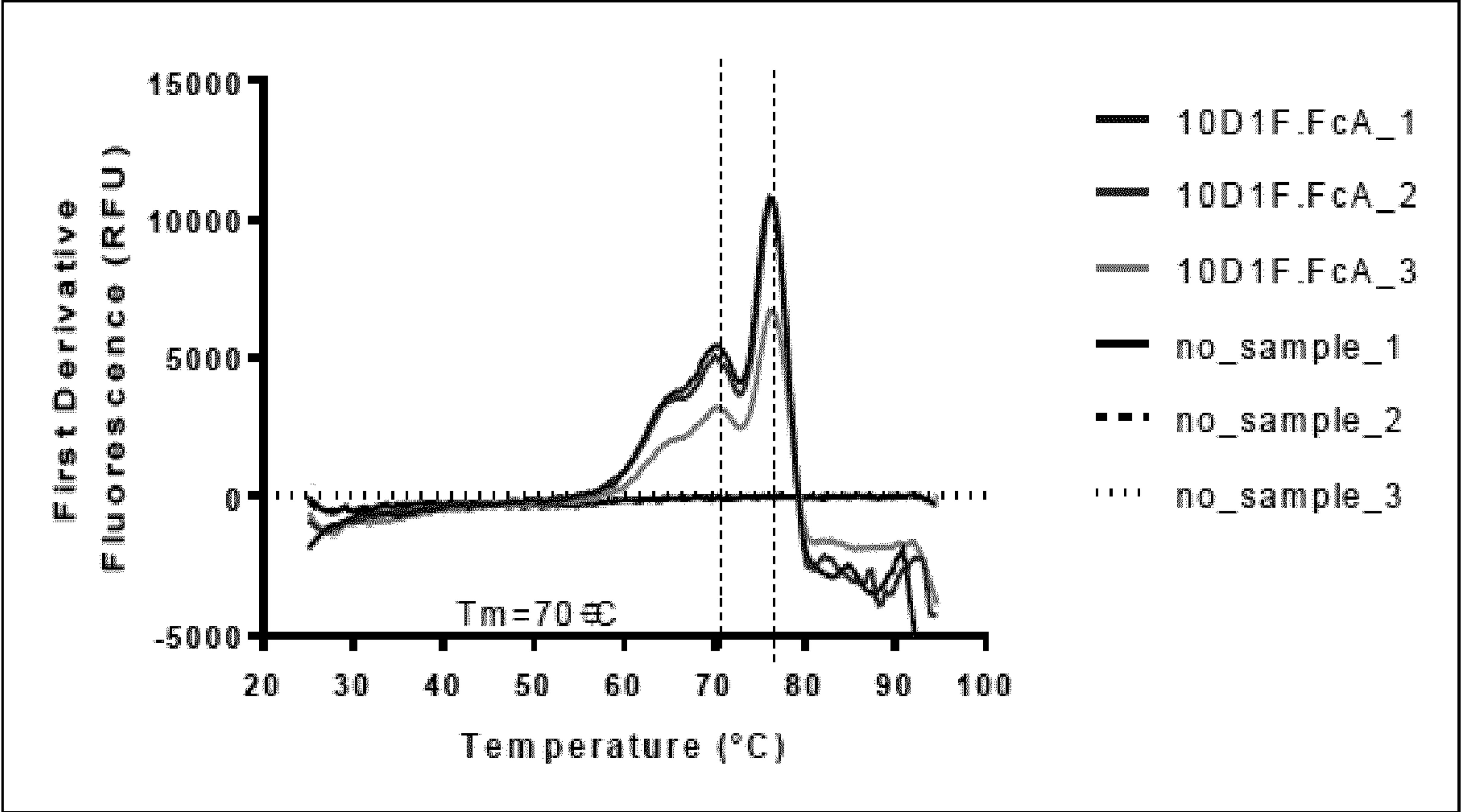
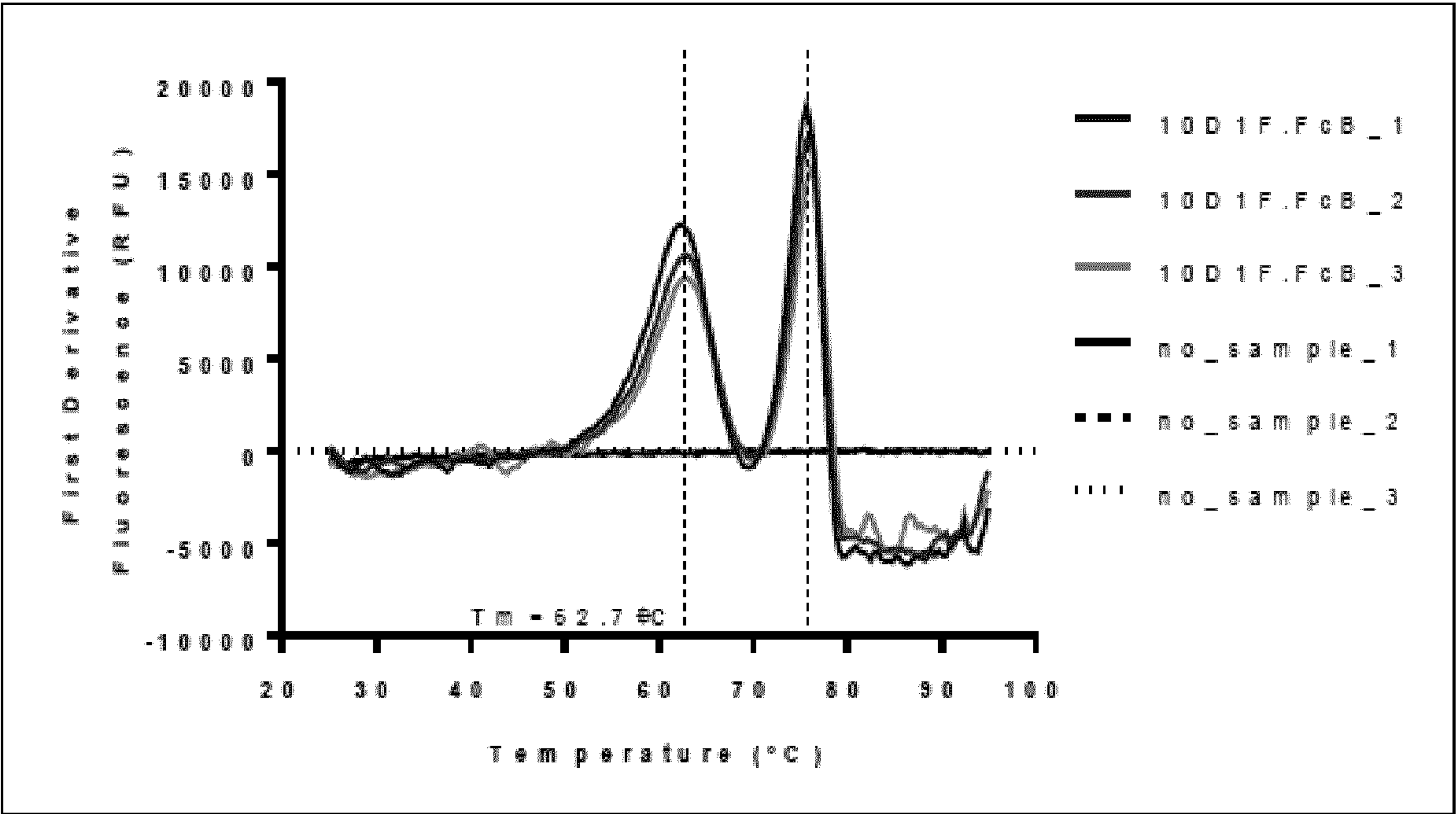


Figure 46B



	Tm1 (°C)	Tm2 (°C)
HMBD-001-10D1F.FcA	70.0	76.8

Figure 47A



	Tm1 (°C)	Tm2 (°C)
HMBD-001-10D1F.FcB	62.7	76.0

Figure 47B

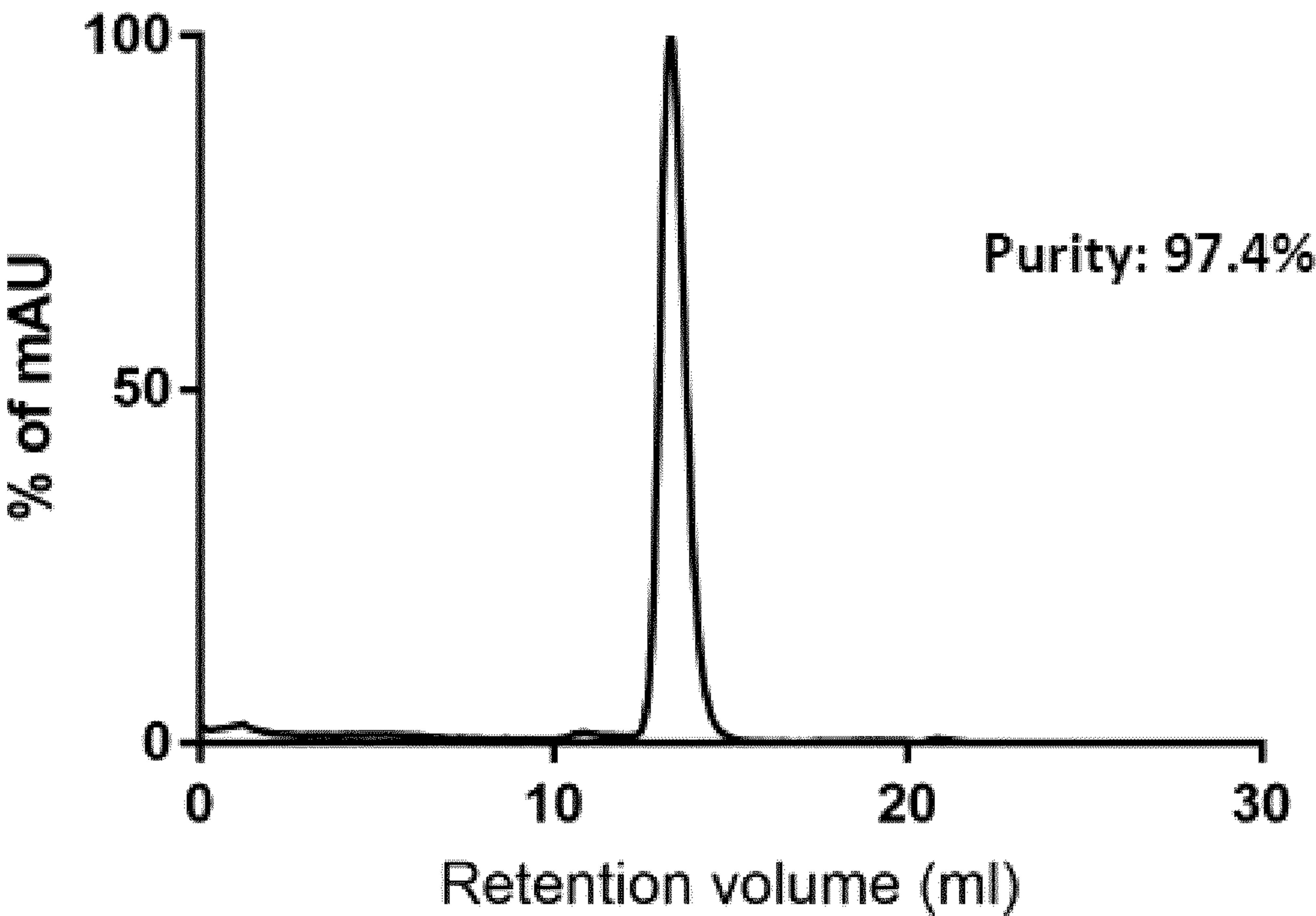


Figure 48A

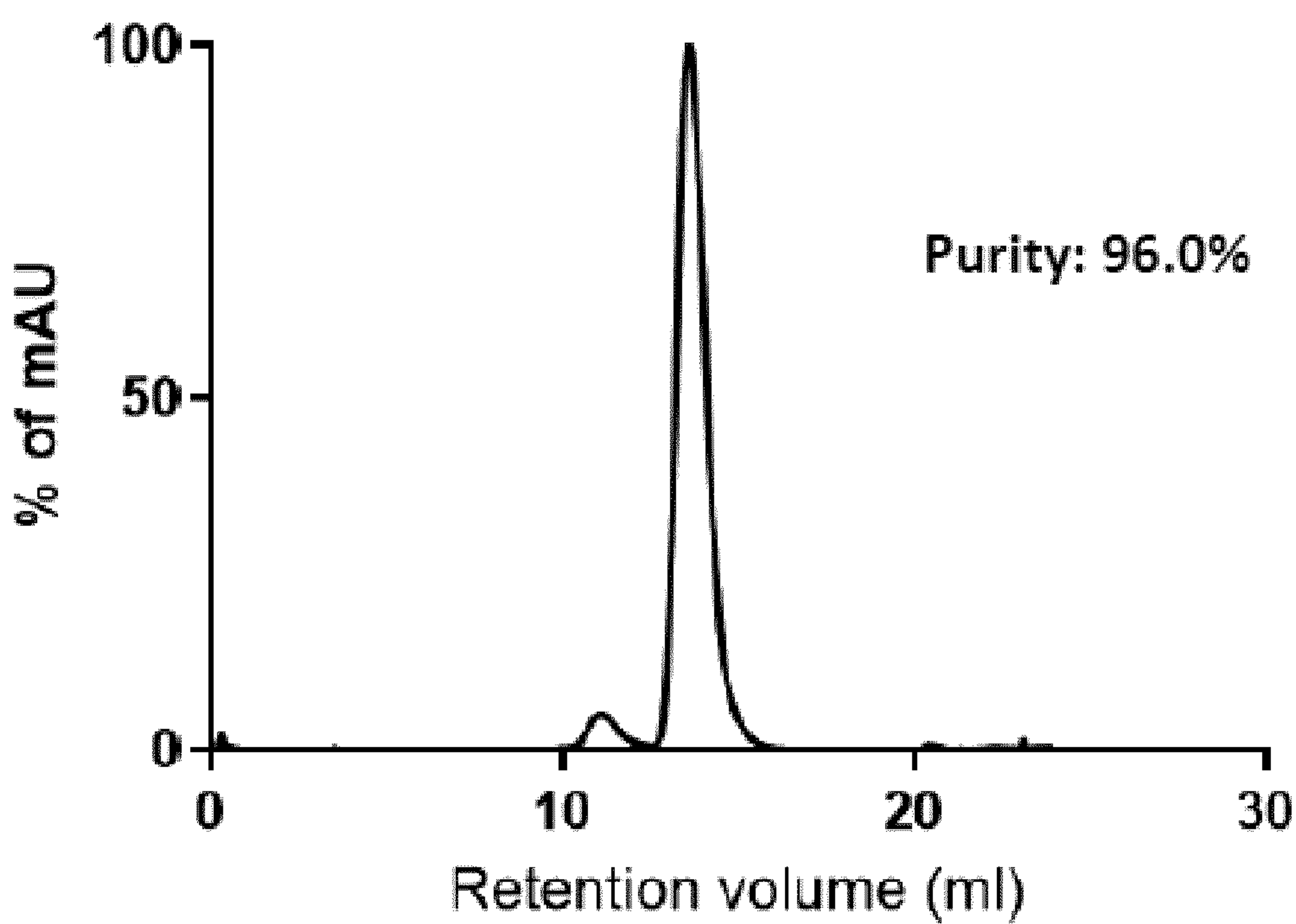


Figure 48B

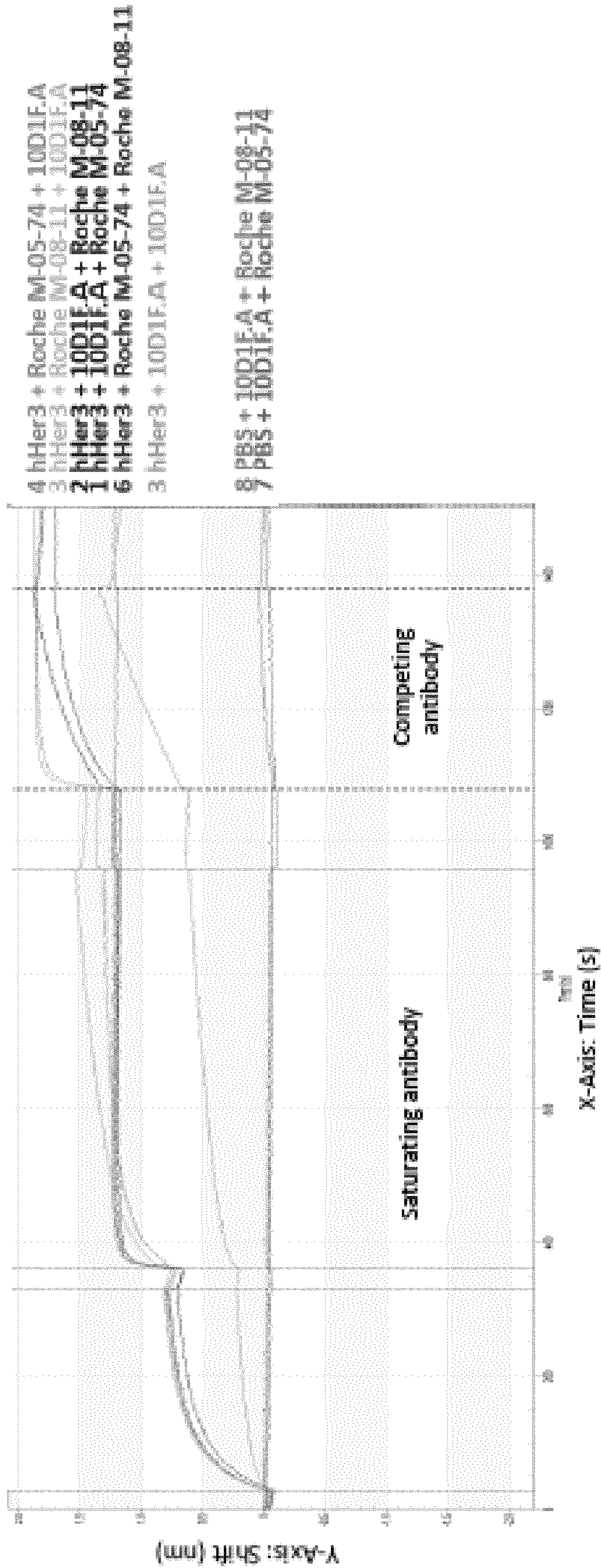


Figure 49A

Competing Antibody				
Saturating Antibody		10D1	Roche M-05-74	Roche M-08-11
	10D1	X	0.5084	0.5614
	Roche M-05-74	0.5023	X	0.6424
	Roche M-08-11	0.4114	x	x

Figure 49B

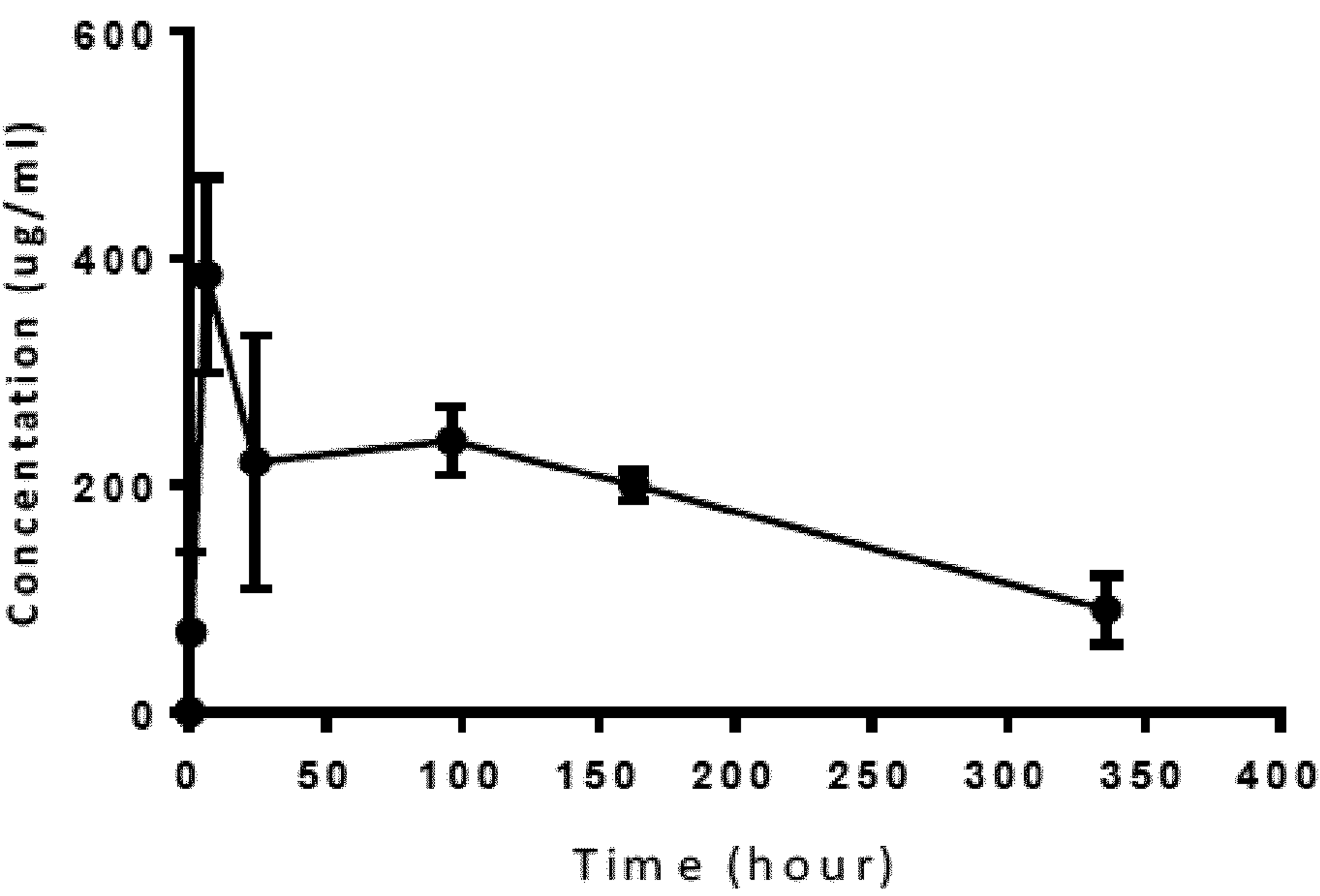


Figure 50

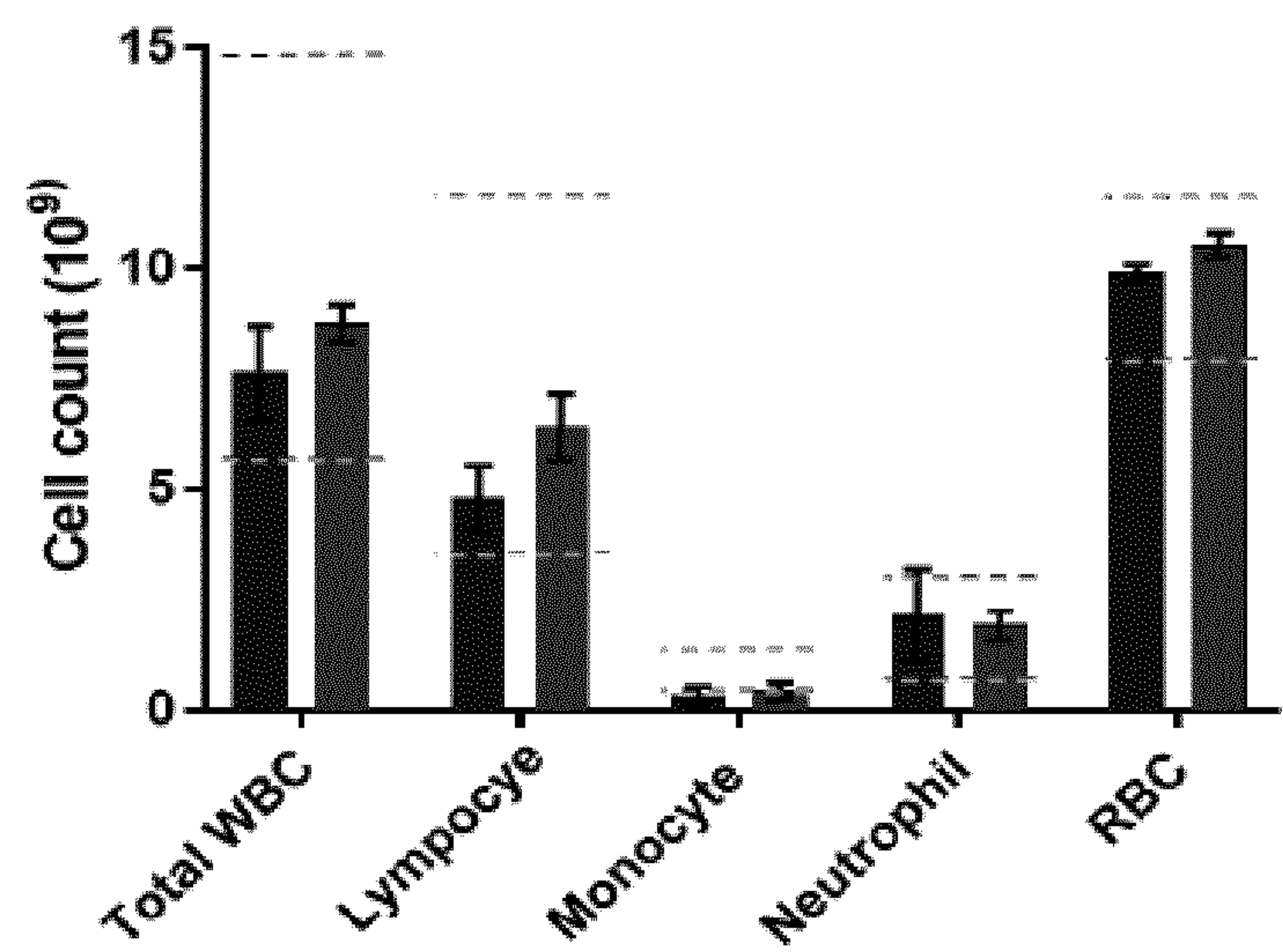


Figure 51A

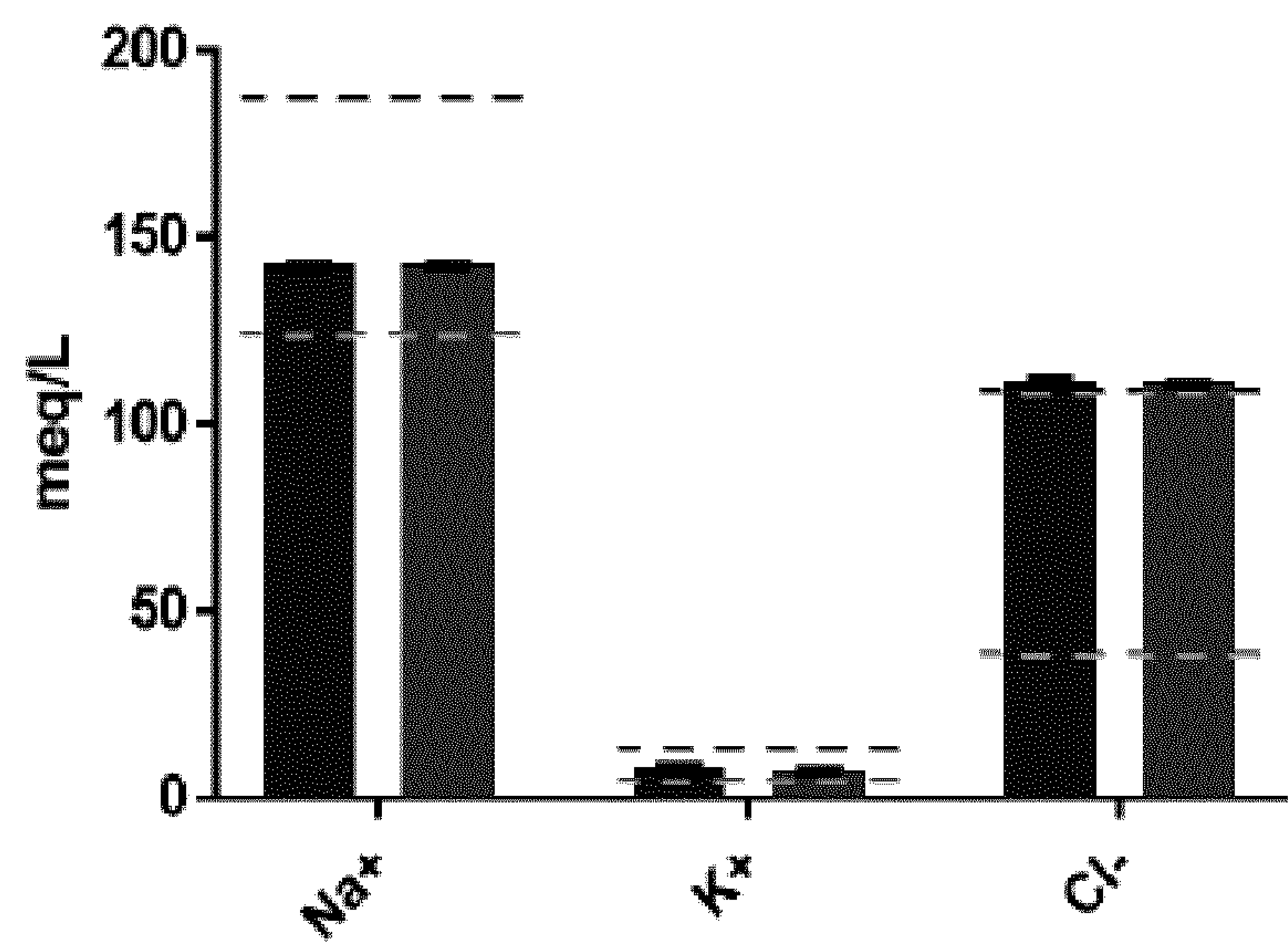


Figure 51B

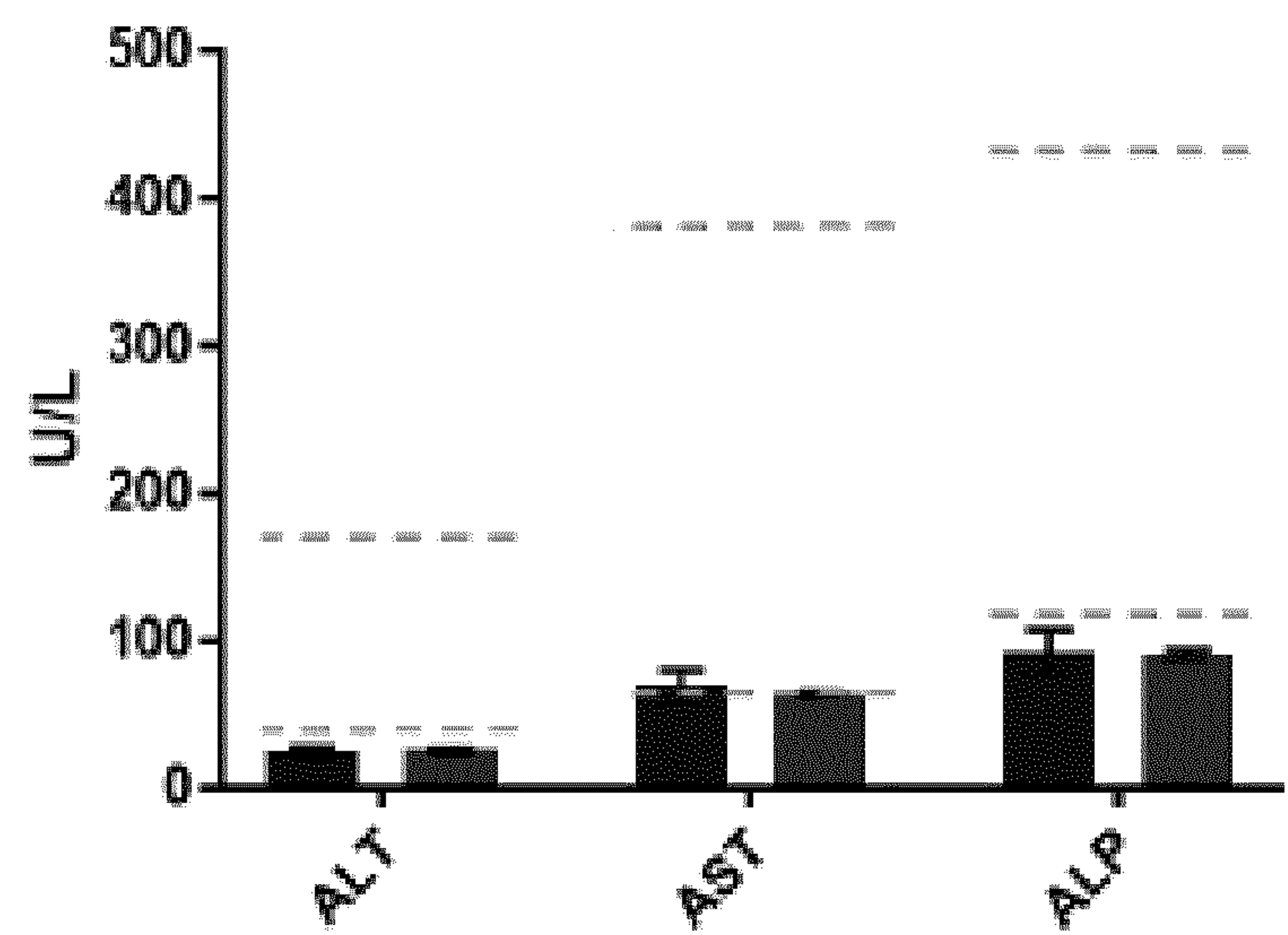


Figure 51C

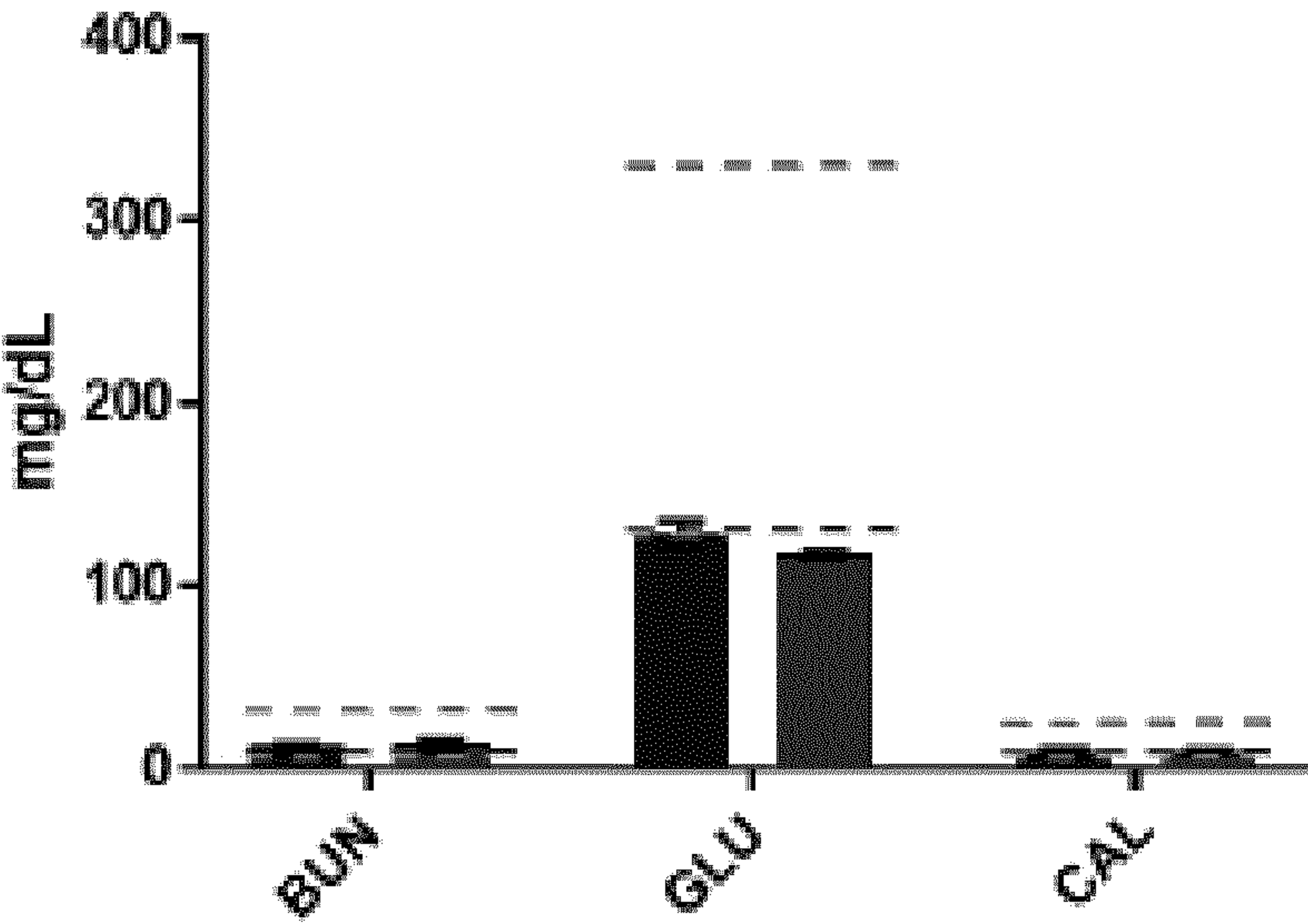


Figure 51D

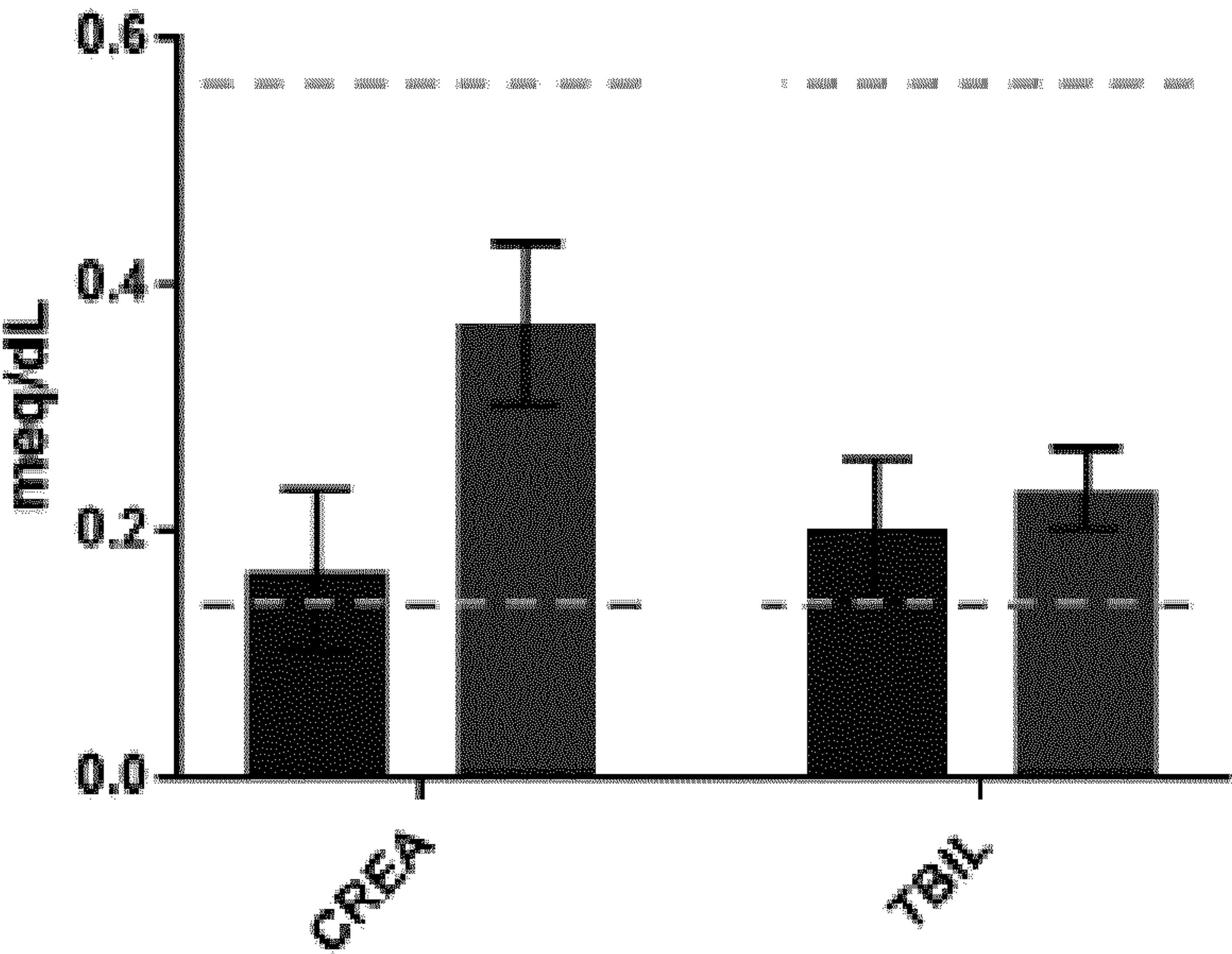


Figure 51E

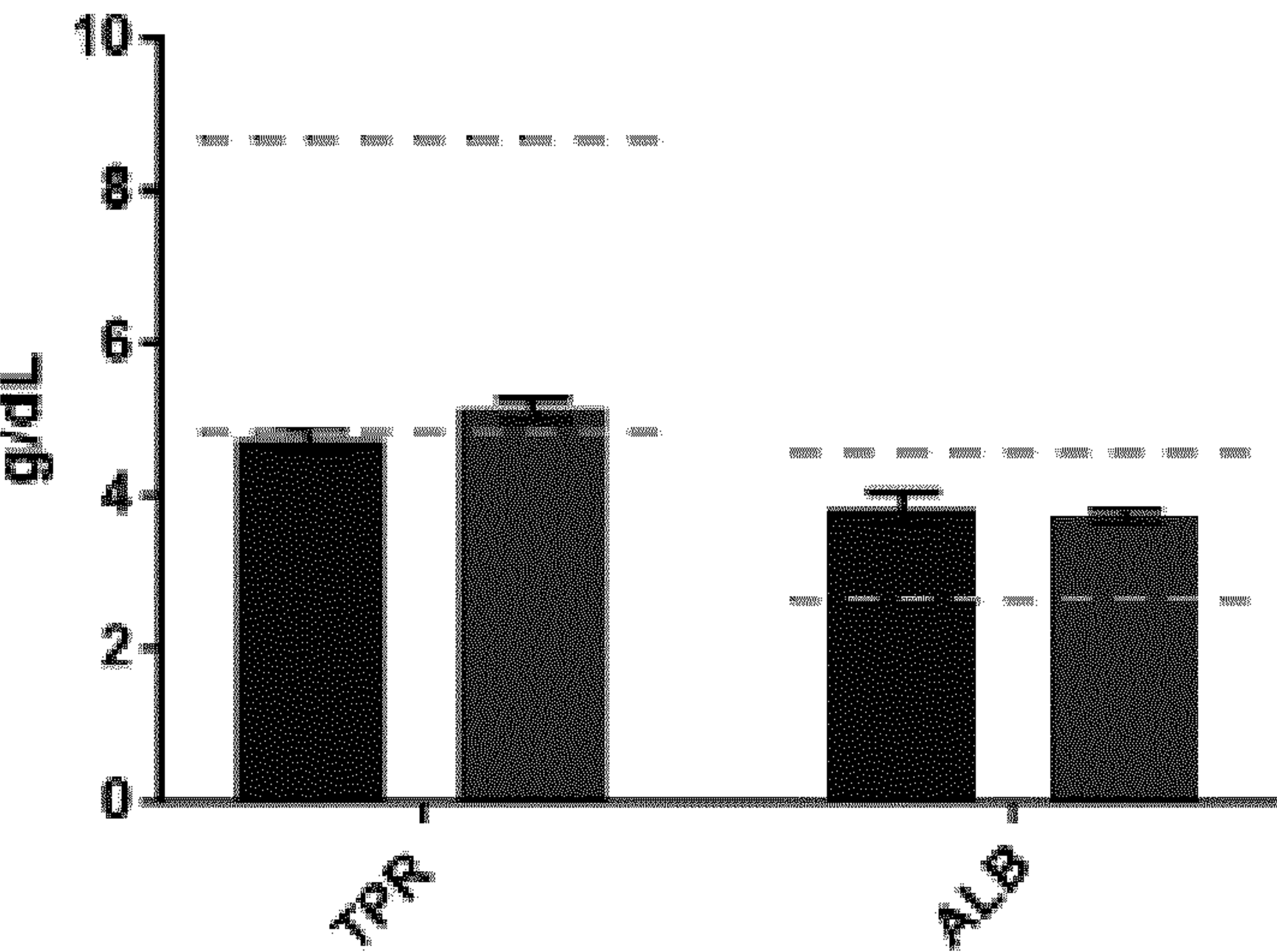


Figure 51F

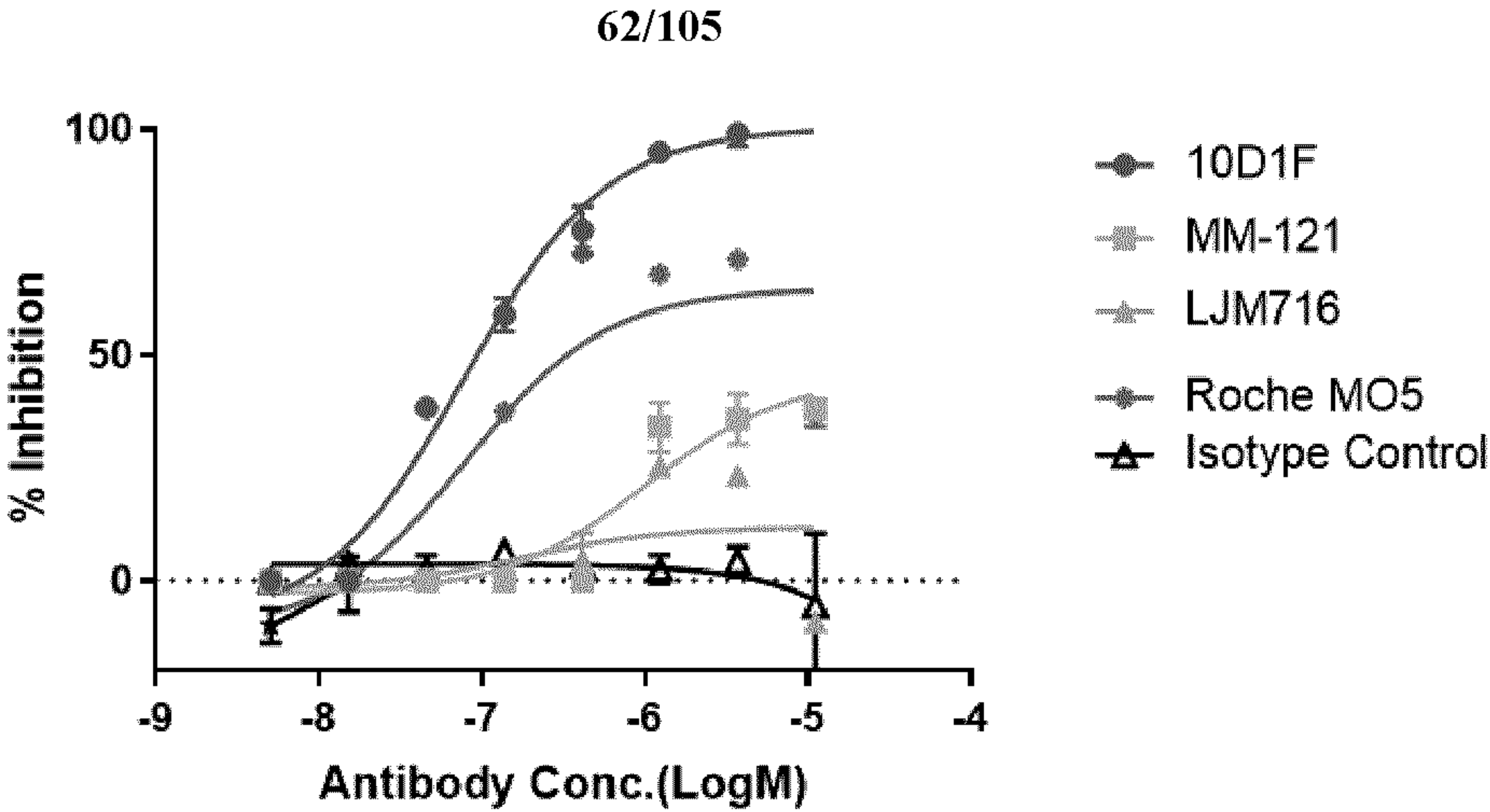


Figure 52

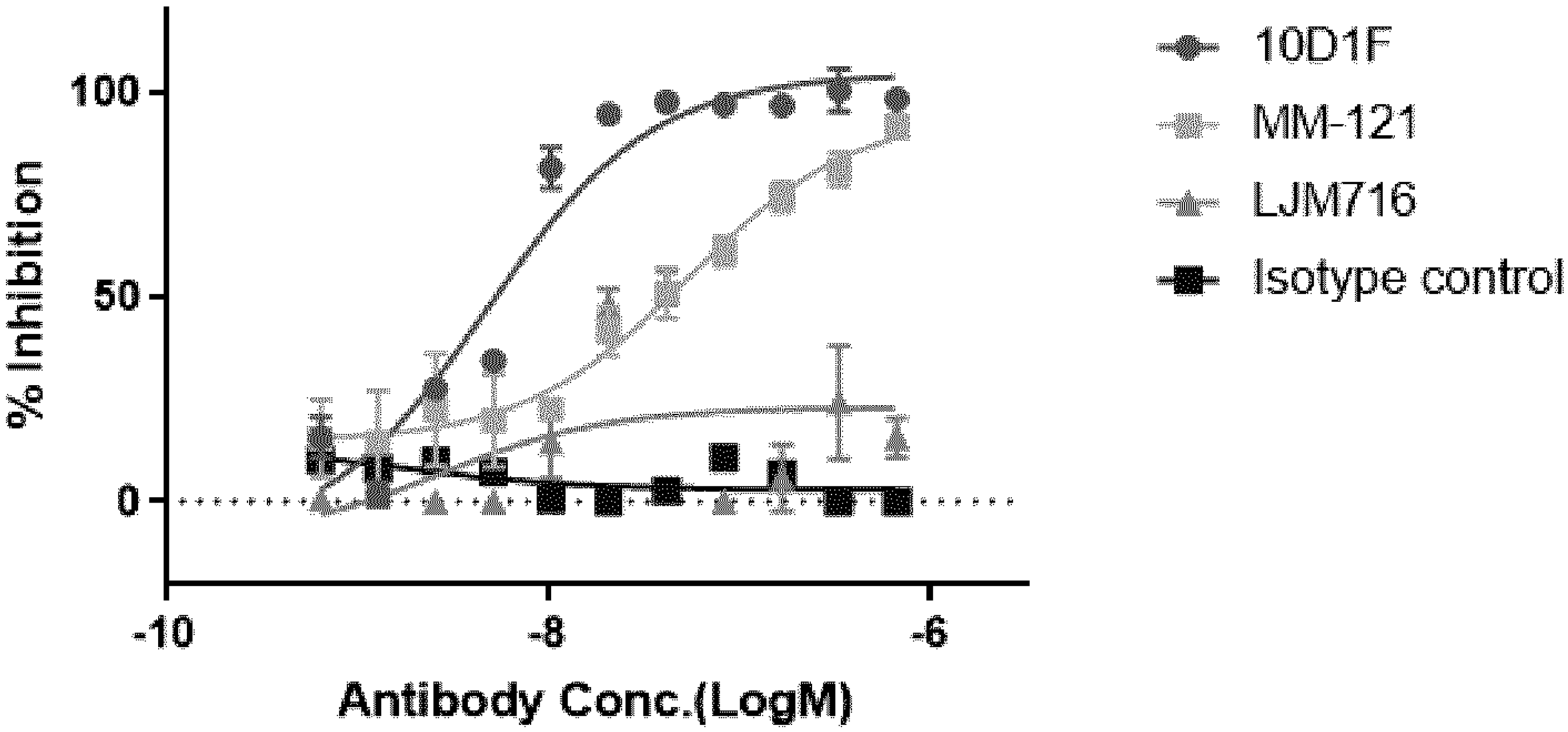
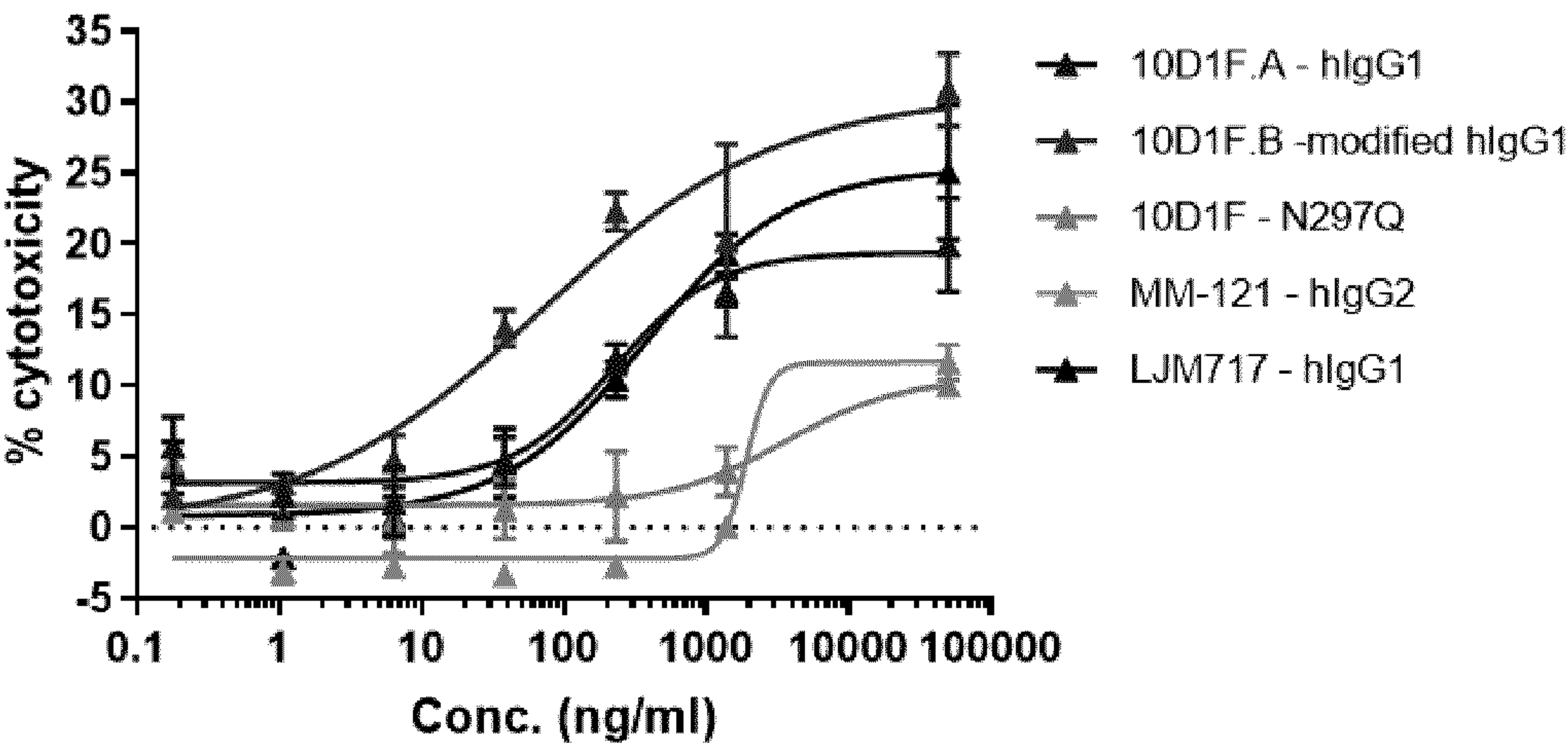


Figure 53



	10D1F.FcA 10D1F hlgG1	10D1F.FcB 10D1F hlgG1 GASDALIE-LCKC	10D1F hlgG1 N297Q	SBT hlgG2	LJM716 hlgG1
EC ₅₀ (ng/ml)	224.4	68.96	NA	NA	377.3

Figure 54

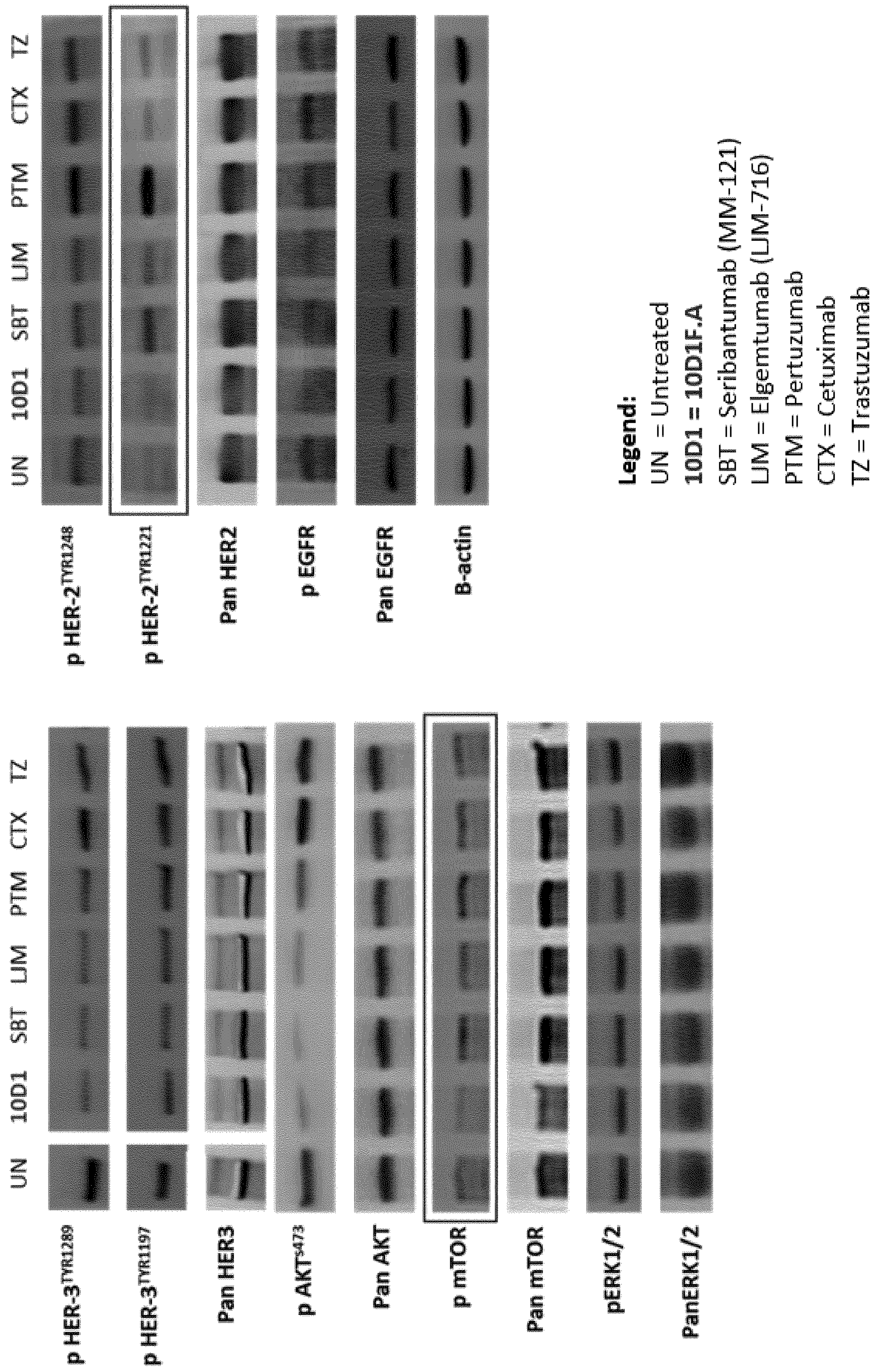


Figure 55A

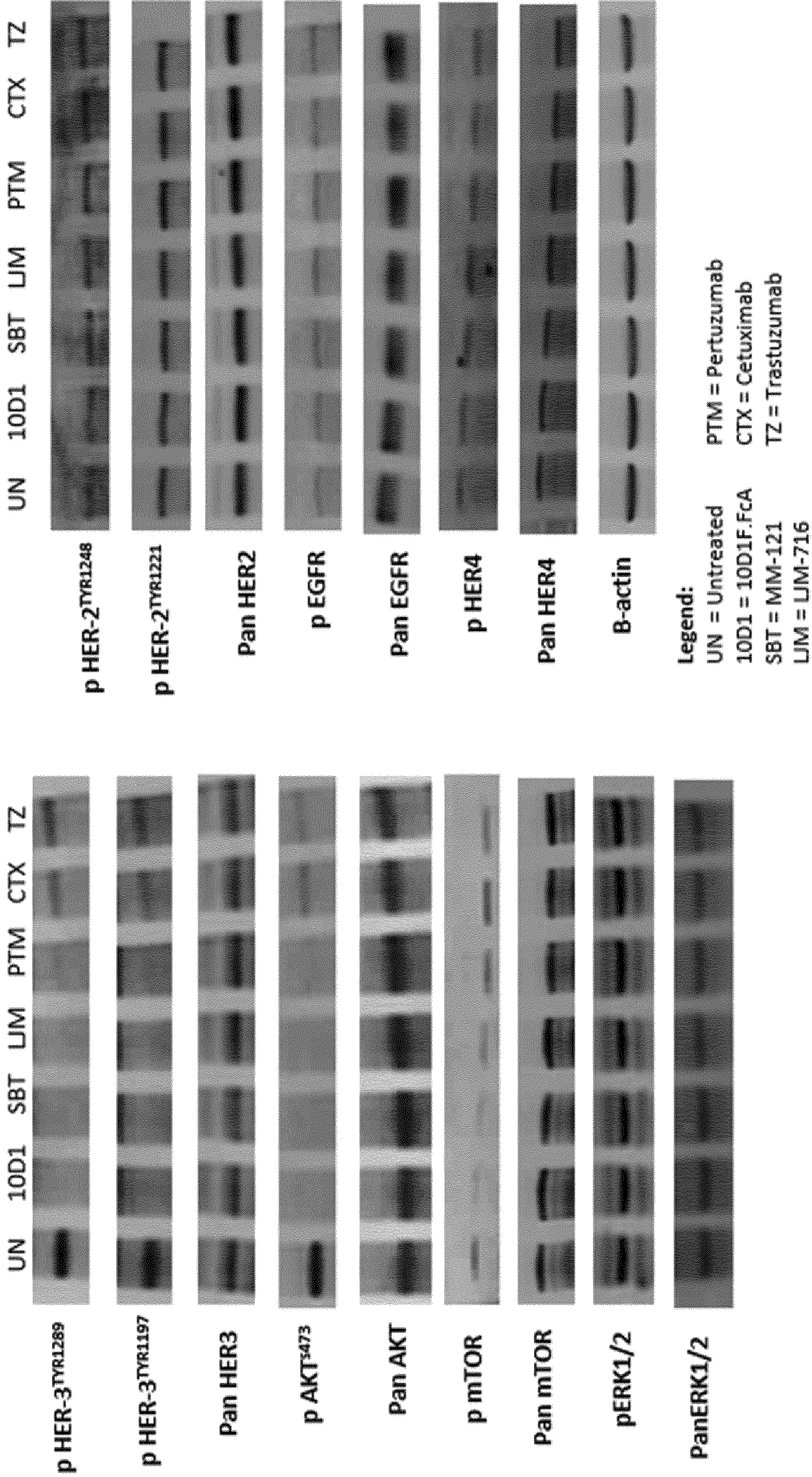


Figure 55B

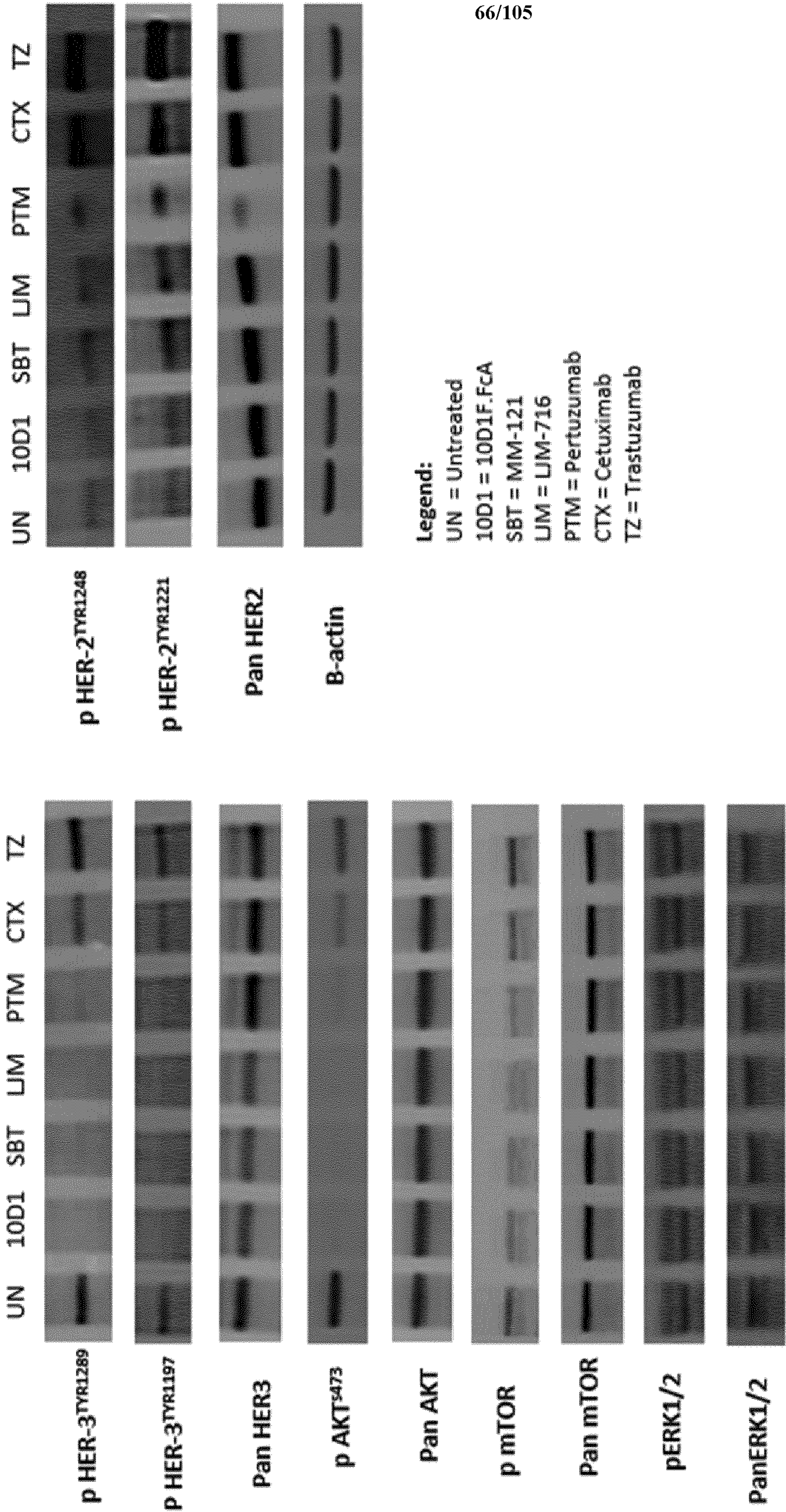
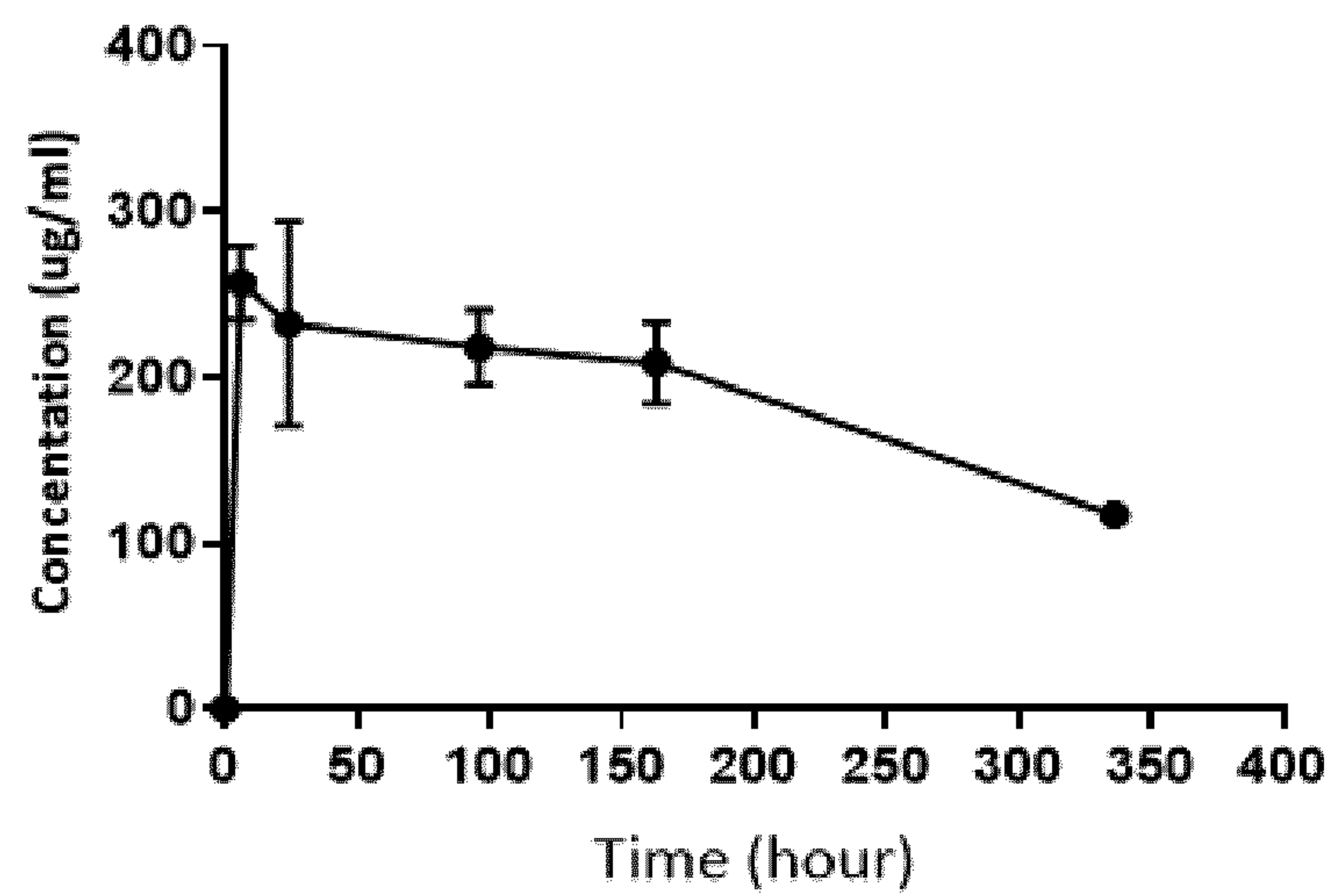
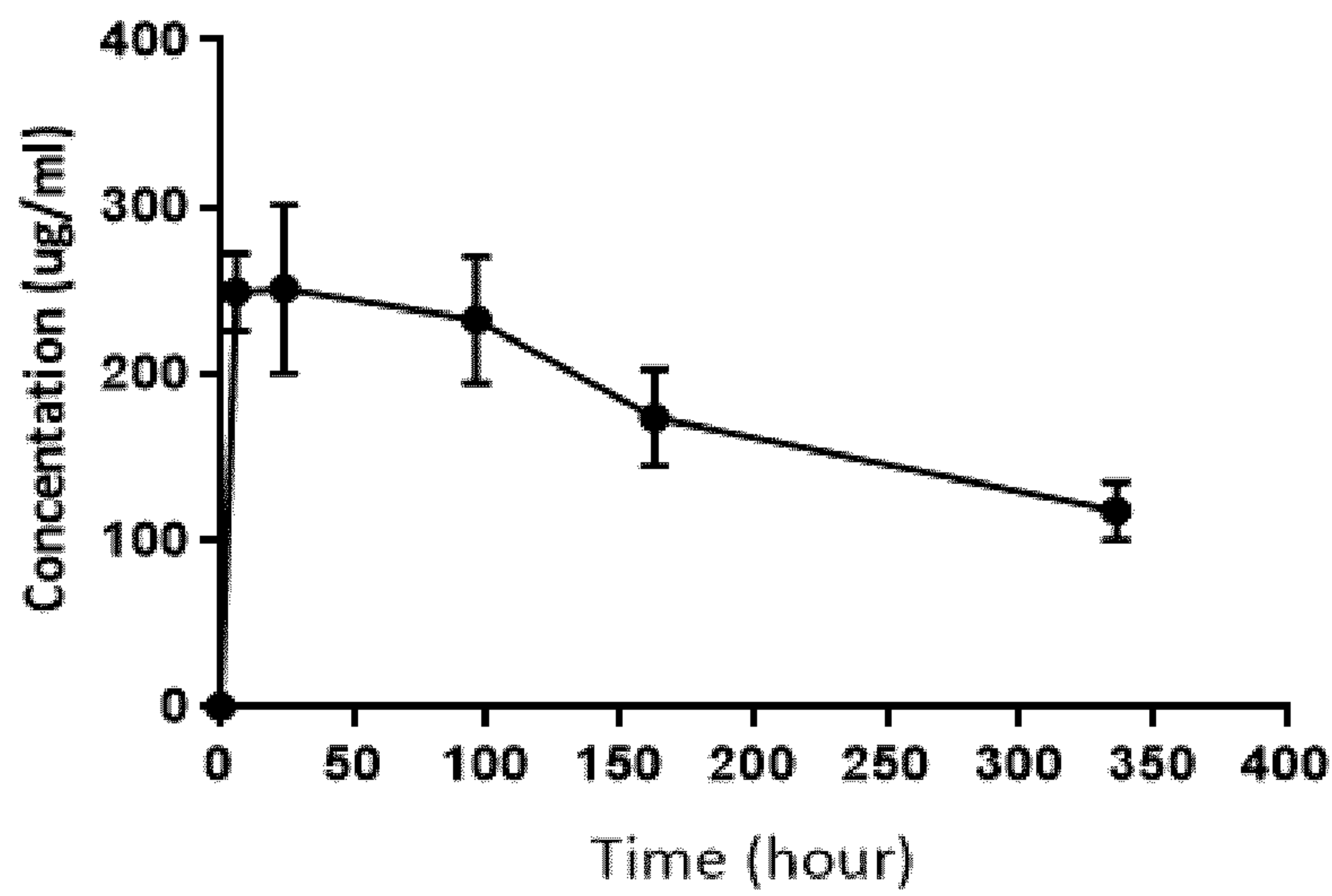


Figure 55C



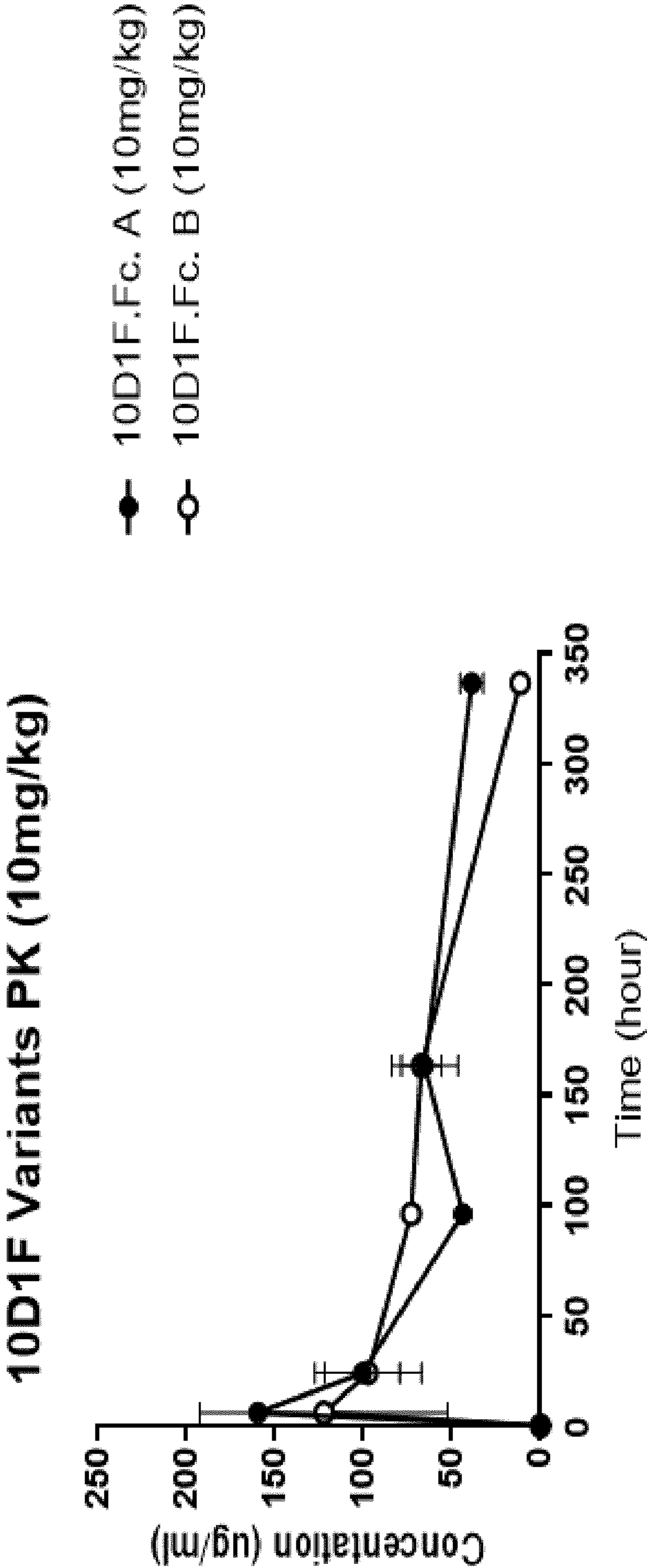
Cmax (ug/ml)	Tmax (hr)	AUC0-336 (ug*h/ml)	AUC0-Infinity (ug*h/ml)	Elimination Rate KEL(h-1)	T1/2 (hr)	CL (ml/h)	Vd (mL/kg)
257.297	6.000	64677.050	107359.970	0.003	252.753	0.005	1.697

Figure 56A



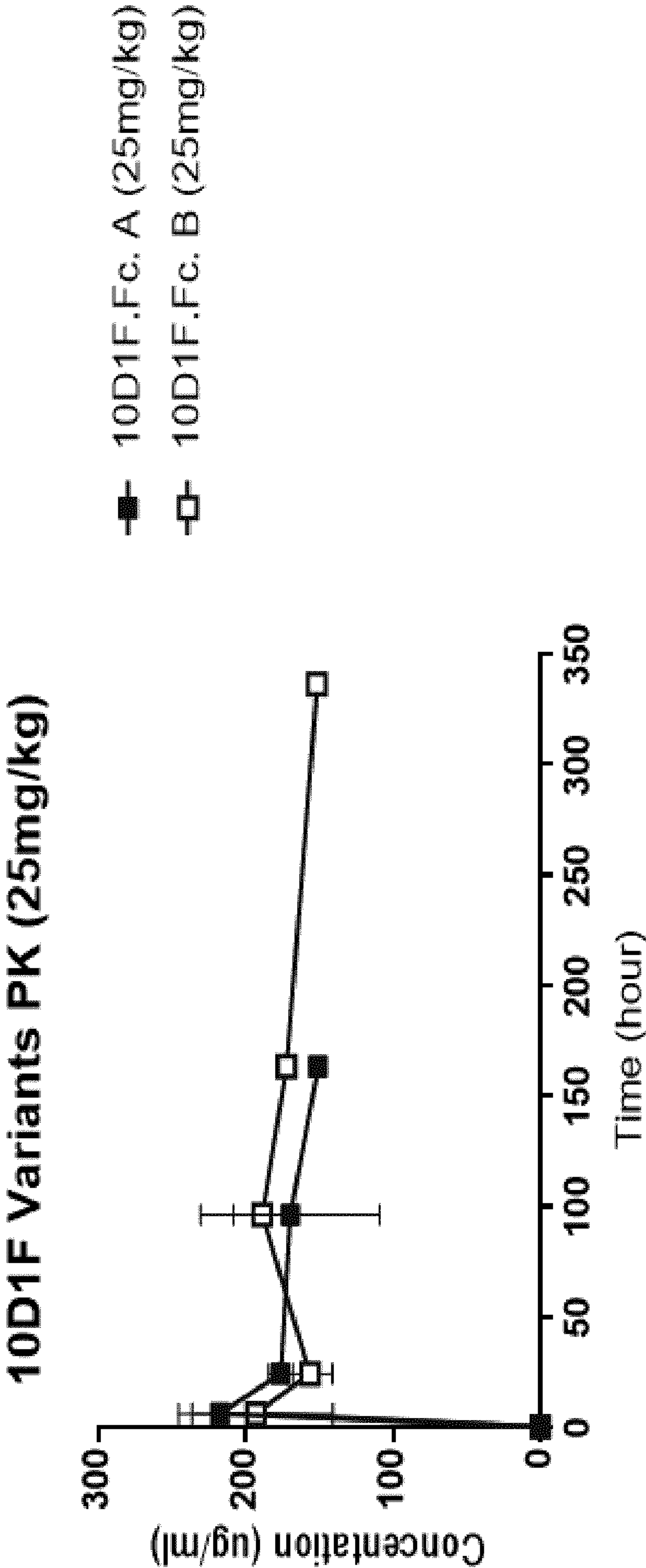
Cmax (ug/ml)	Tmax (hr)	AUC0-336 (ug*h/ml)	AUC0-Infinity (ug*h/ml)	Elimination Rate KEL(h-1)	T1/2 (hr)	CL (ml/h)	Vd (mL/kg)
250.673	24.000	62163.226	108529.704	0.003	273.167	0.005	1.804

Figure 56B



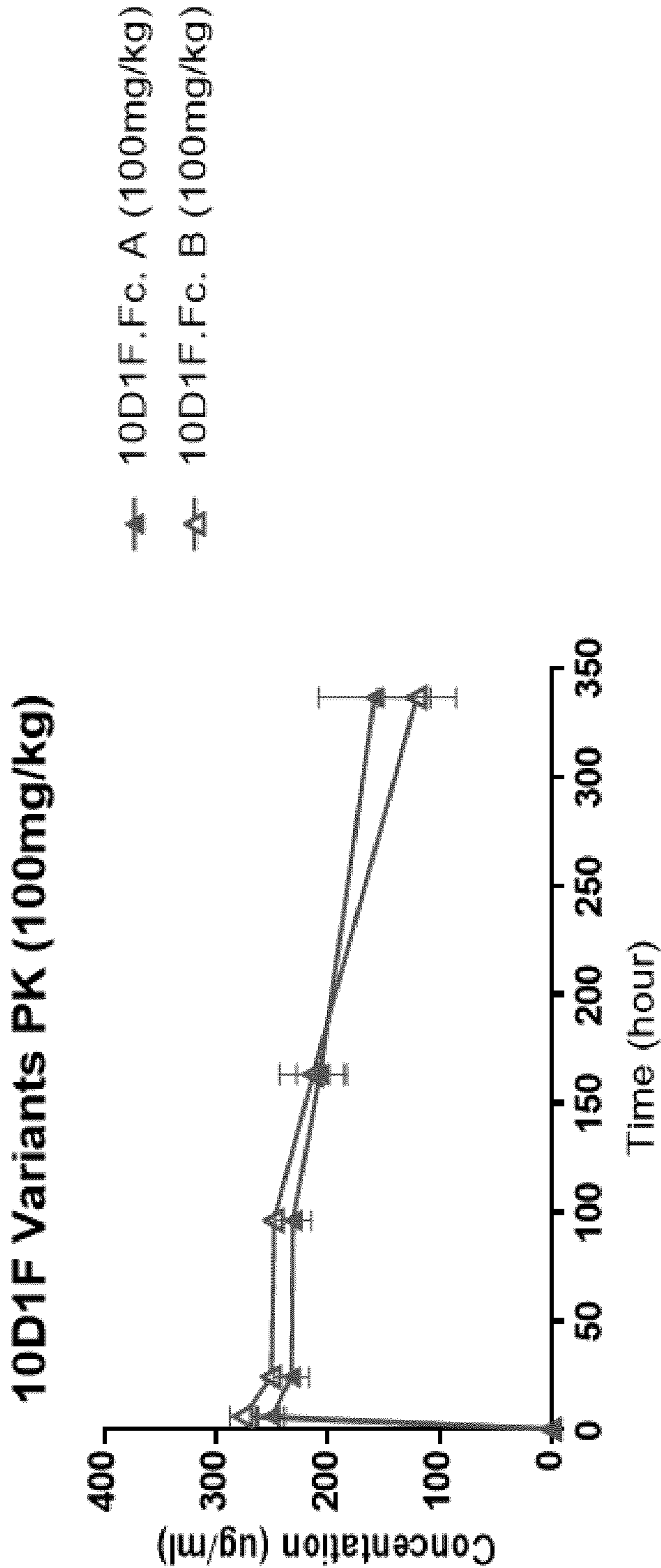
Arms	Dose	Cmax (ug/ml)	Tmax (hr)	AUC0-336 (ug*h/ml)	AUC0- Infinity (ug*h/ml)	T1/2 (hr)	CL (ml/h)	Vd (mL/kg)
10D1F.Fc.A	10 mg/kg	159.851	6.000	21286.213	32543.407	199.434	0.077	23.273
10D1F.Fc.B	10 mg/kg	122.573	6.000	20585.915	22289.688	102.642	0.112	15.741

Figure 57A



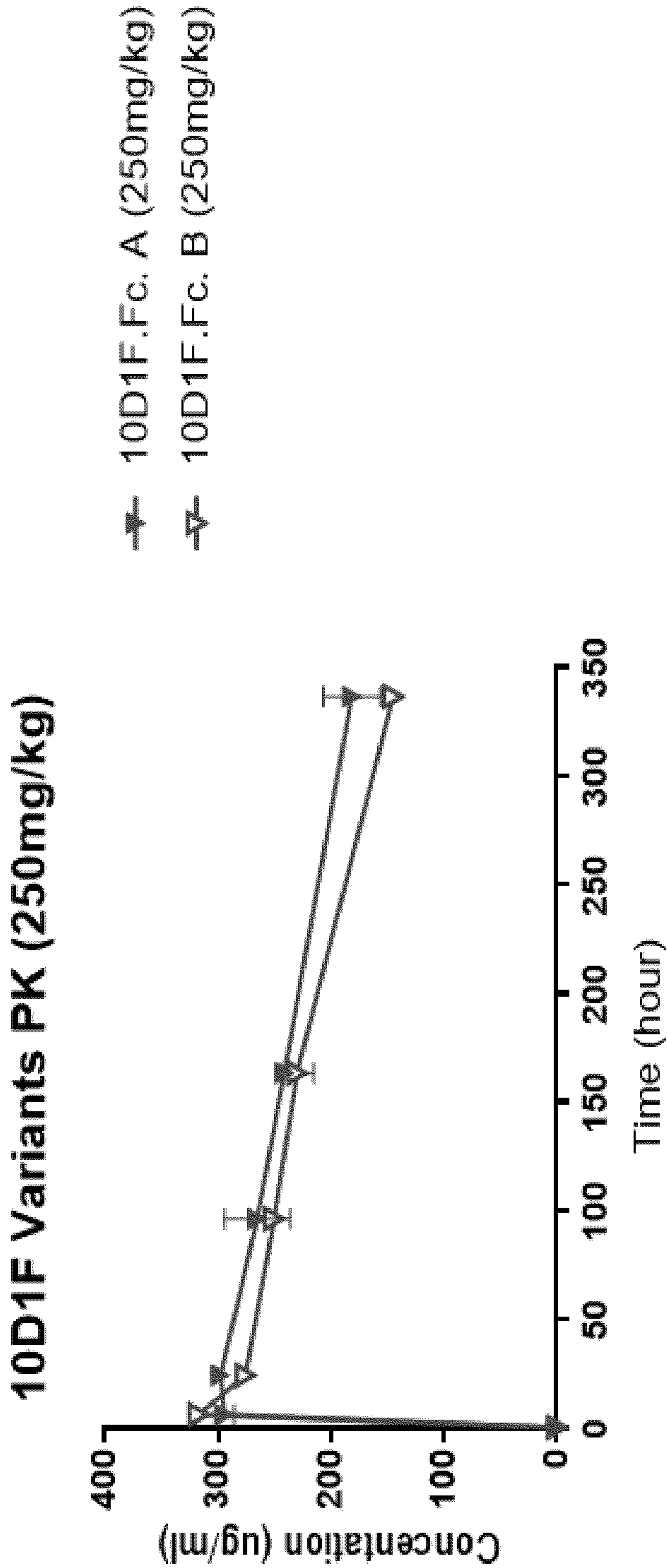
Arms	Dose	Cmax (ug/ml)	Tmax (hr)	AUC0-336 (ug*h/ml)	AUC0- Infinity (ug*h/ml)	T1/2 (hr)	CL (ml/h)	Vd (mL/kg)
10D1F.Fc.A	25 mg/kg	217.686	6.000	28911.974	168078.210	639.672	0.037	34.093
10D1F.Fc.B	25 mg/kg	193.450	6.000	57007.087	228551.339	783.712	0.027	31.210

Figure 57B



Arms	Dose	Cmax (ug/ml)	Tmax (hr)	AUC0-336 (ug*h/ml)	AUC0-Infinity (ug*h/ml)	T1/2 (hr)	CL (ml/h)	Vd (mL/kg)
10D1F.Fc.A	100 mg/kg	250.516	6.000	69078.168	169396.299	438.789	0.148	93.857
10D1F.FcB	100 mg/kg	276.288	6.000	69125.006	108489.826	225.714	0.230	75.978

Figure 57C



Arms	Dose	Cmax (ug/ml)	Tmax (hr)	AUC0-336 (ug*h/ml)	AUC0- Infinity (ug*h/ml)	T1/2 (hr)	CL (ml/h)	Vd (mL/kg)
10D1F.Fc.A	250 mg/kg	297.919	6.000	81208.032	196765.343	440.240	0.318	200.826
10D1F.Fc.B	250 mg/kg	317.402	6.000	75091.243	141663.523	317.629	0.441	198.287

Figure 57D

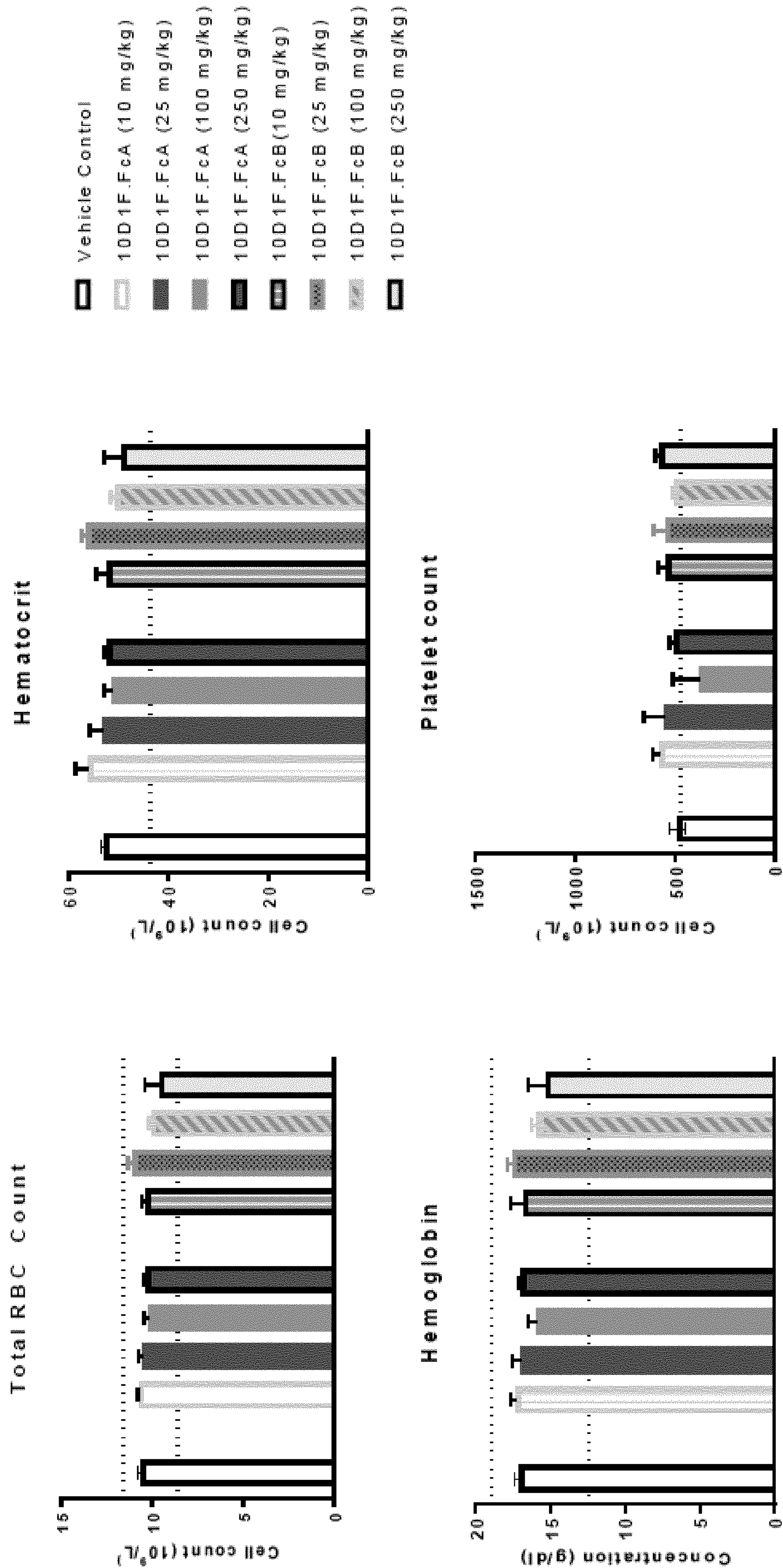


Figure 58A

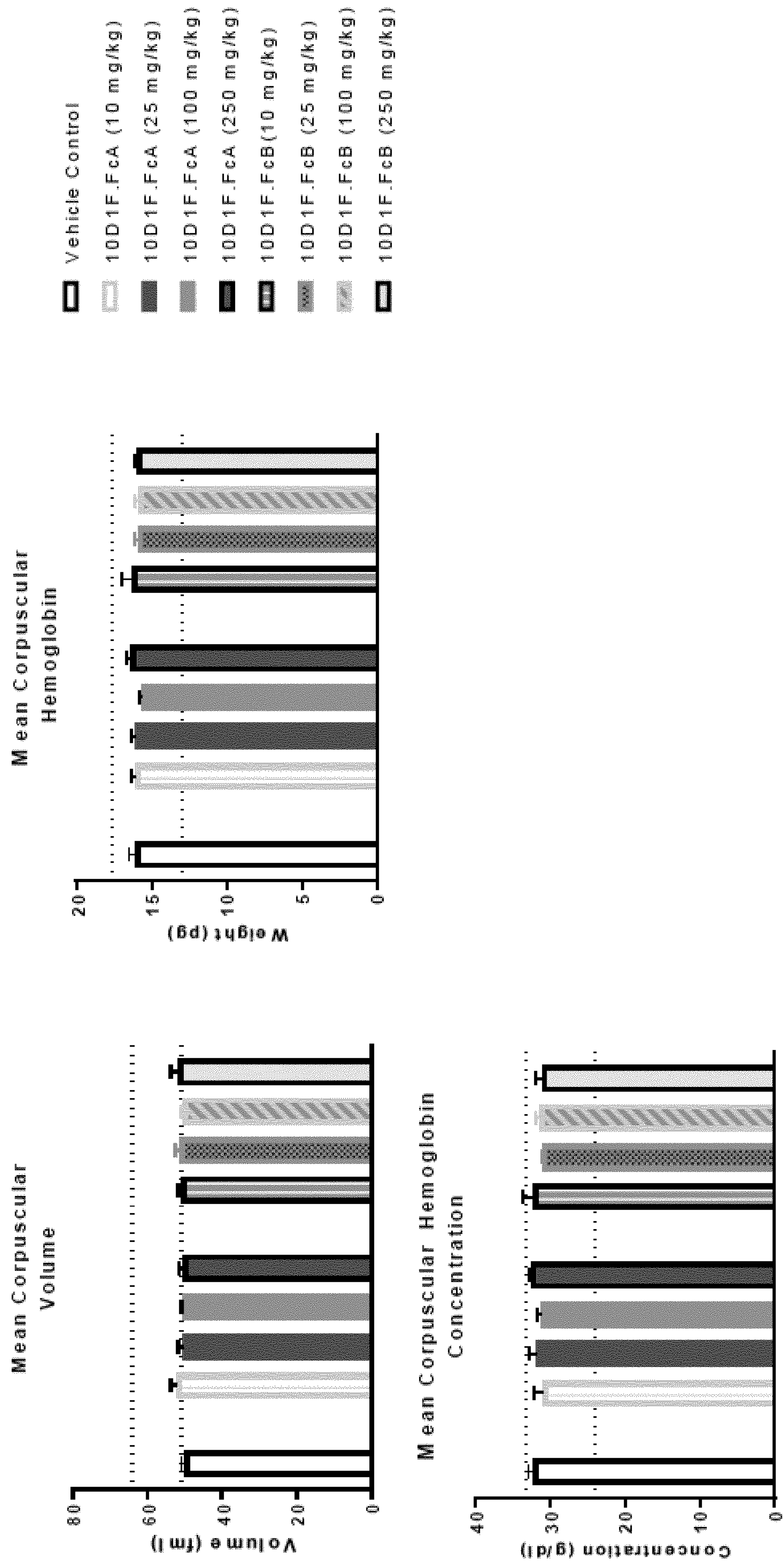


Figure 58B

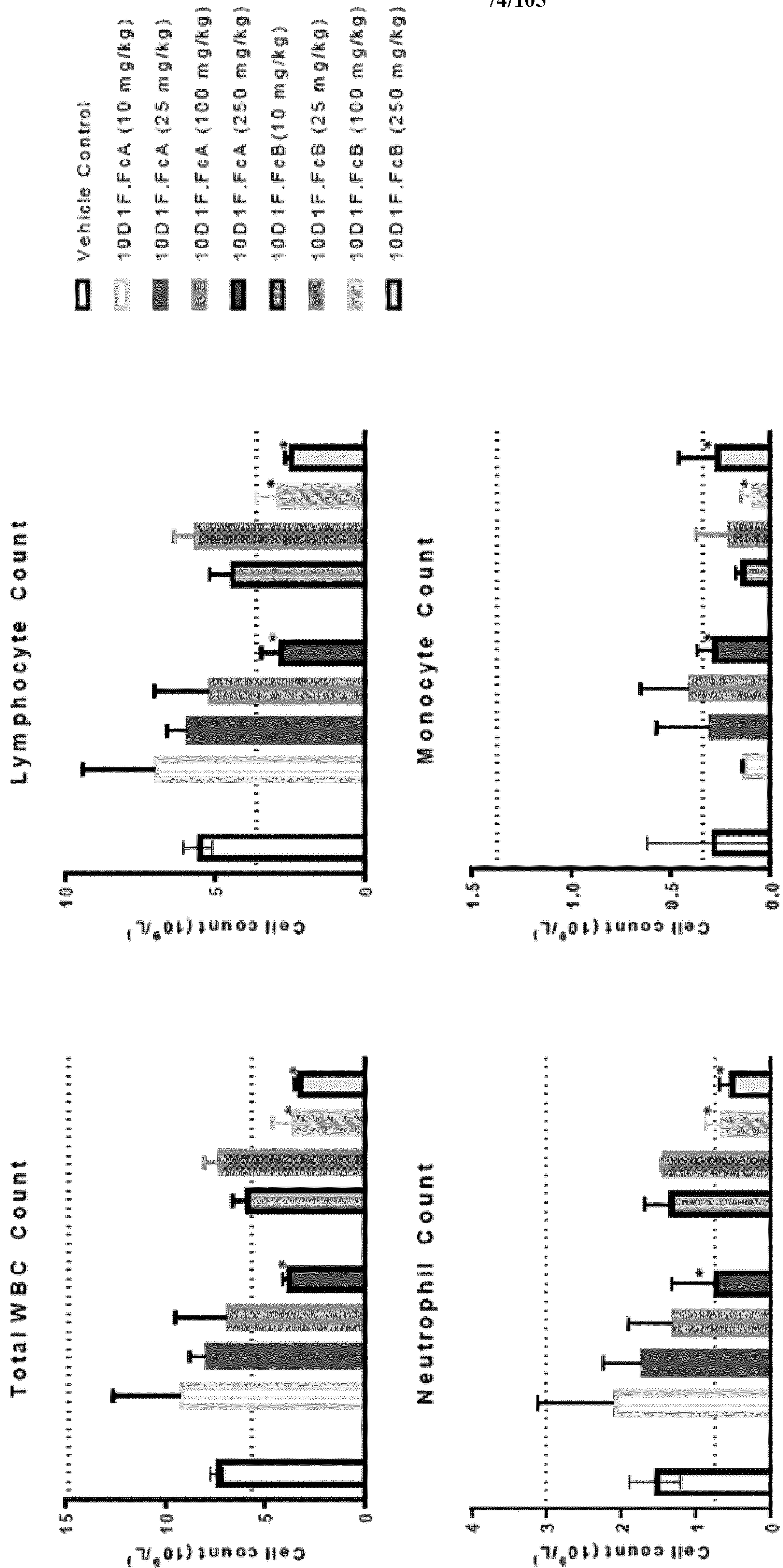


Figure 58C

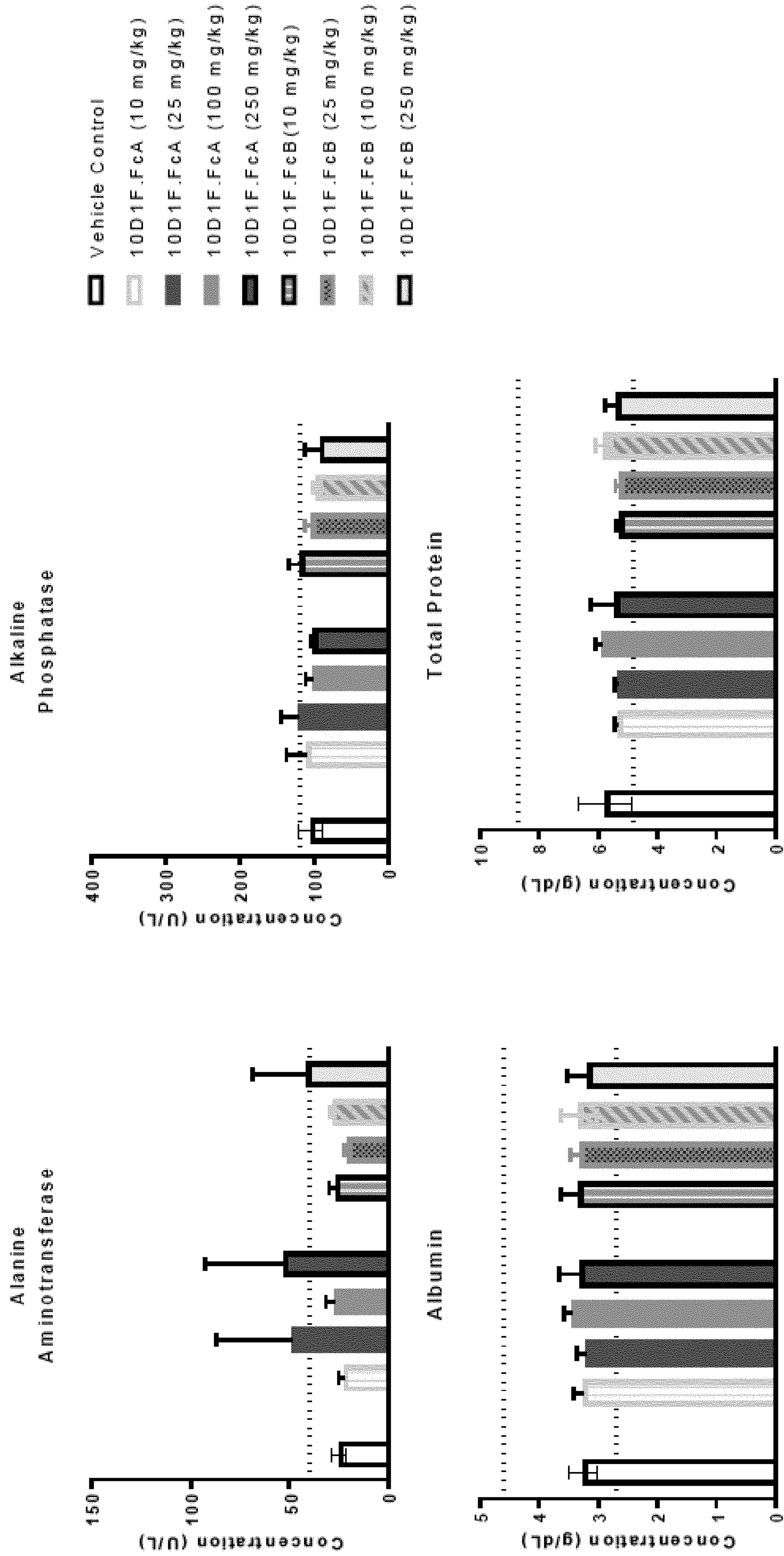


Figure 58D

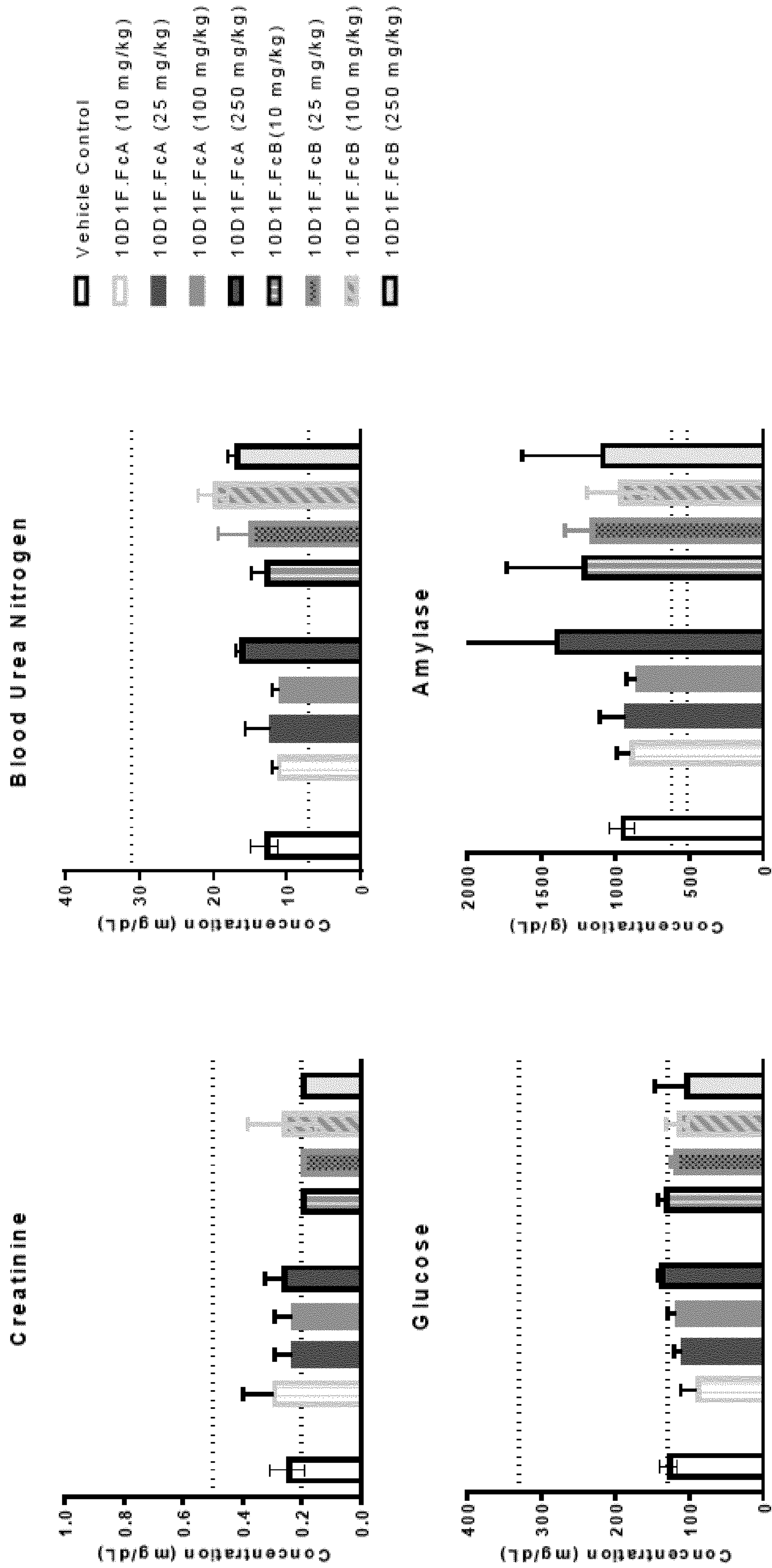


Figure 58E

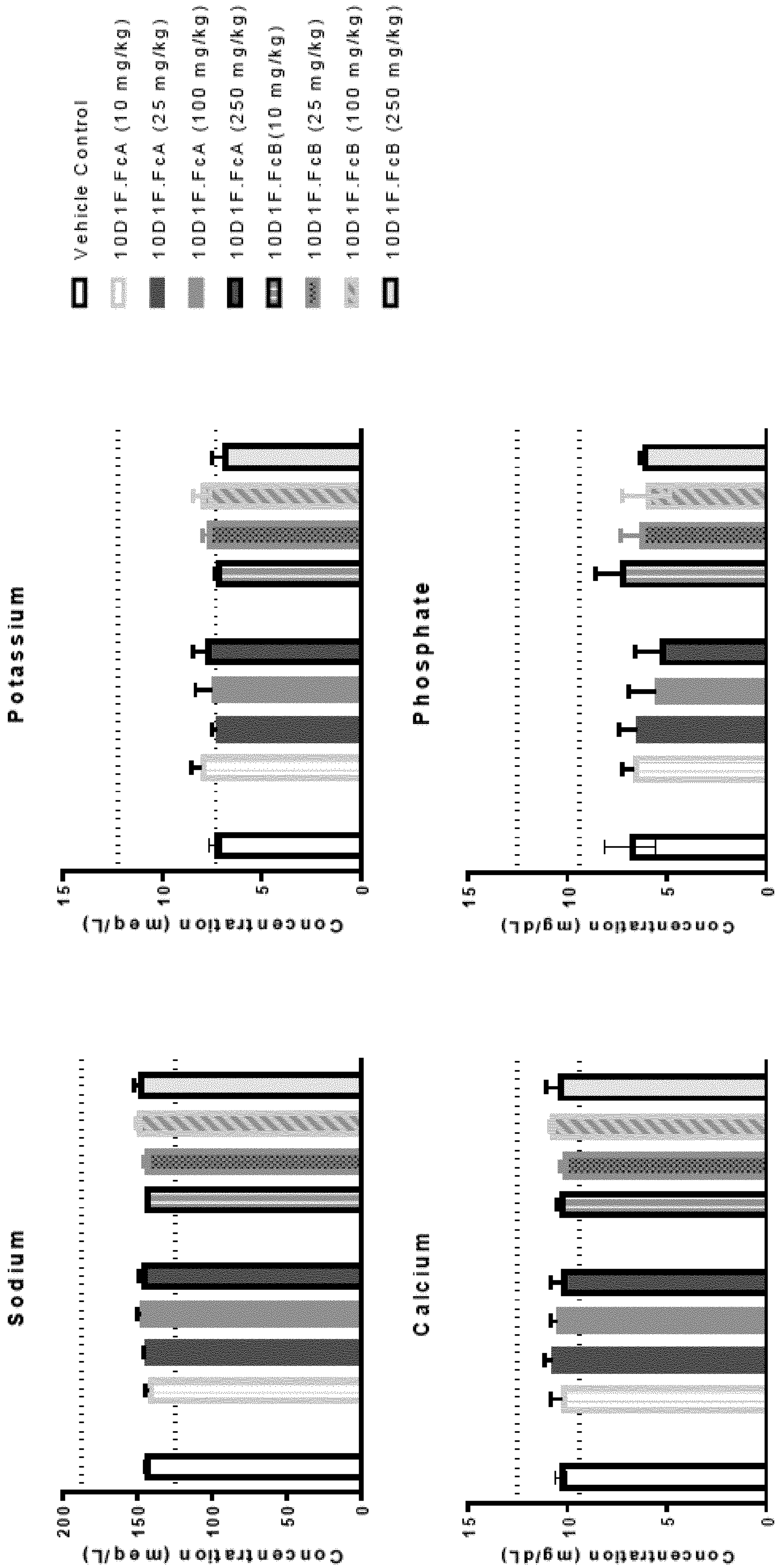


Figure 58F

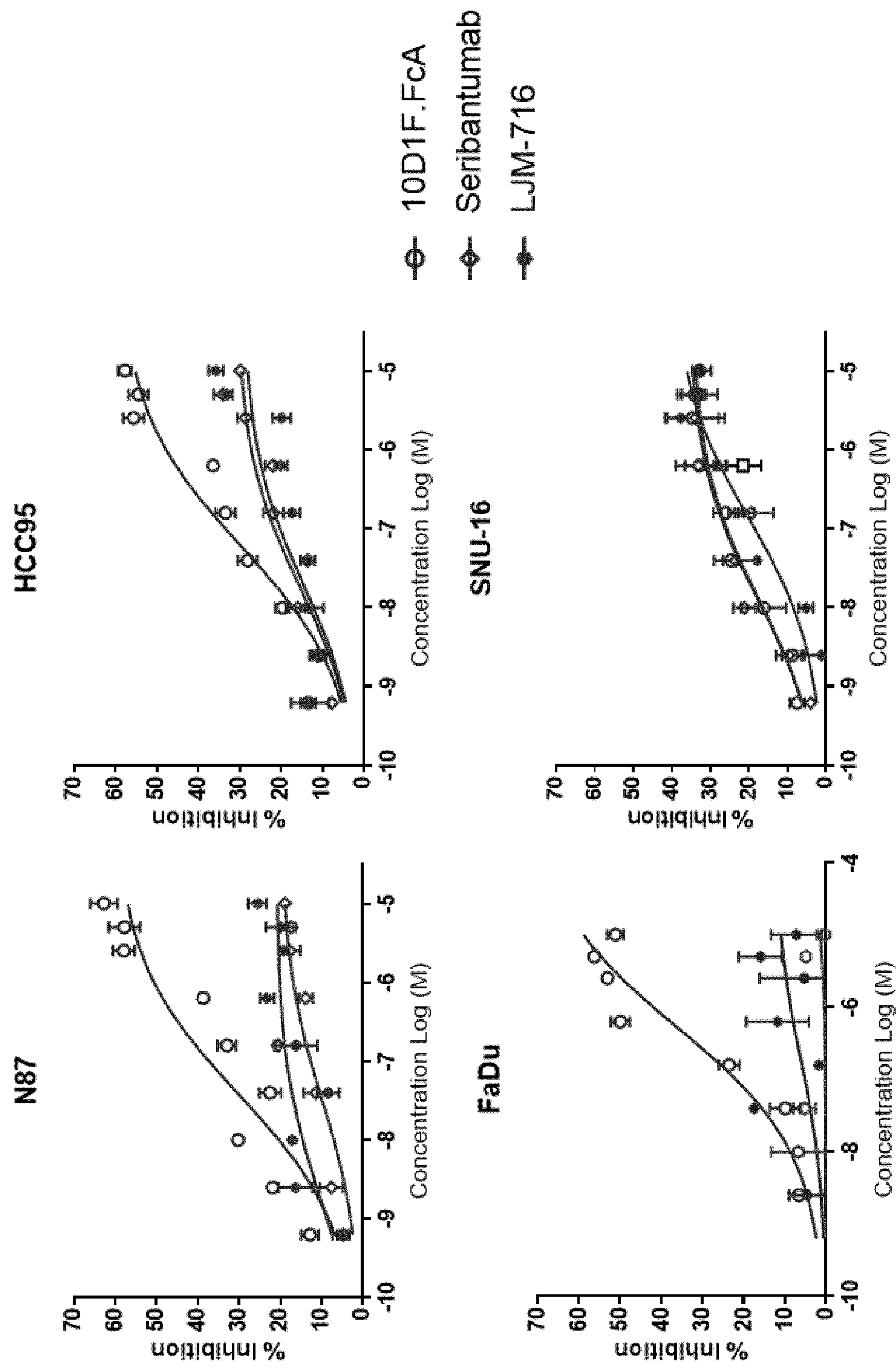


Figure 59A

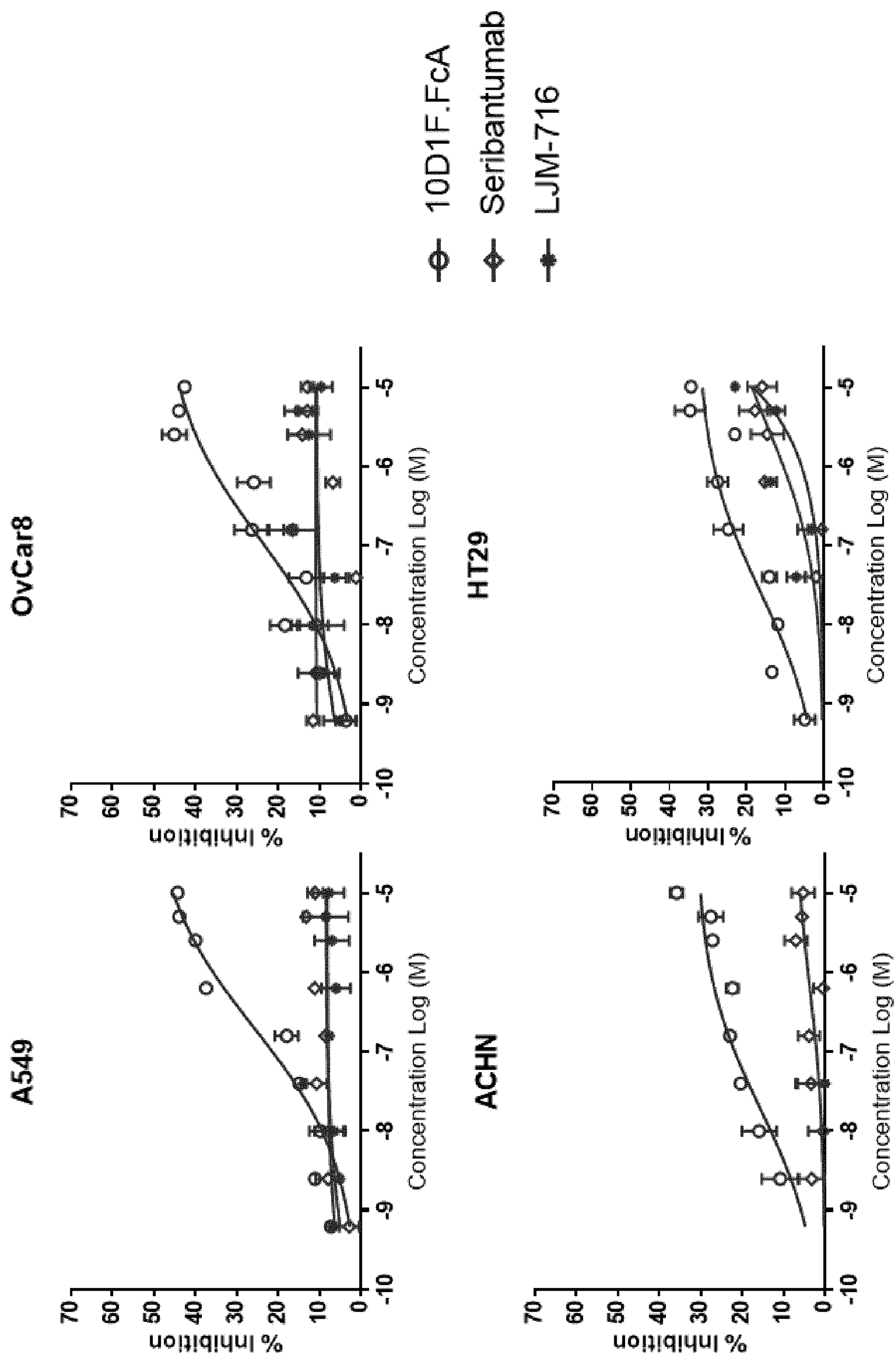


Figure 59B

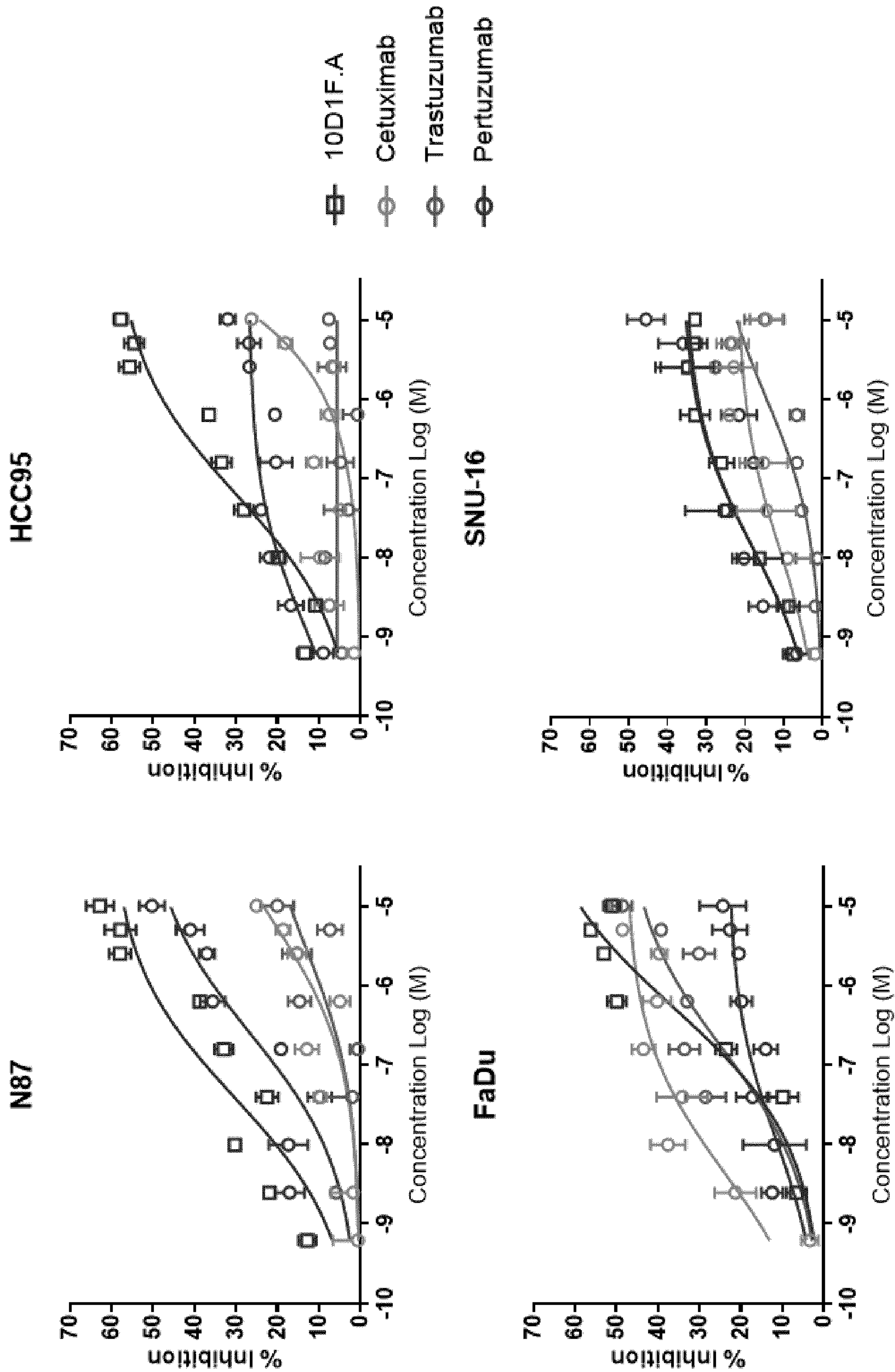


Figure 59C

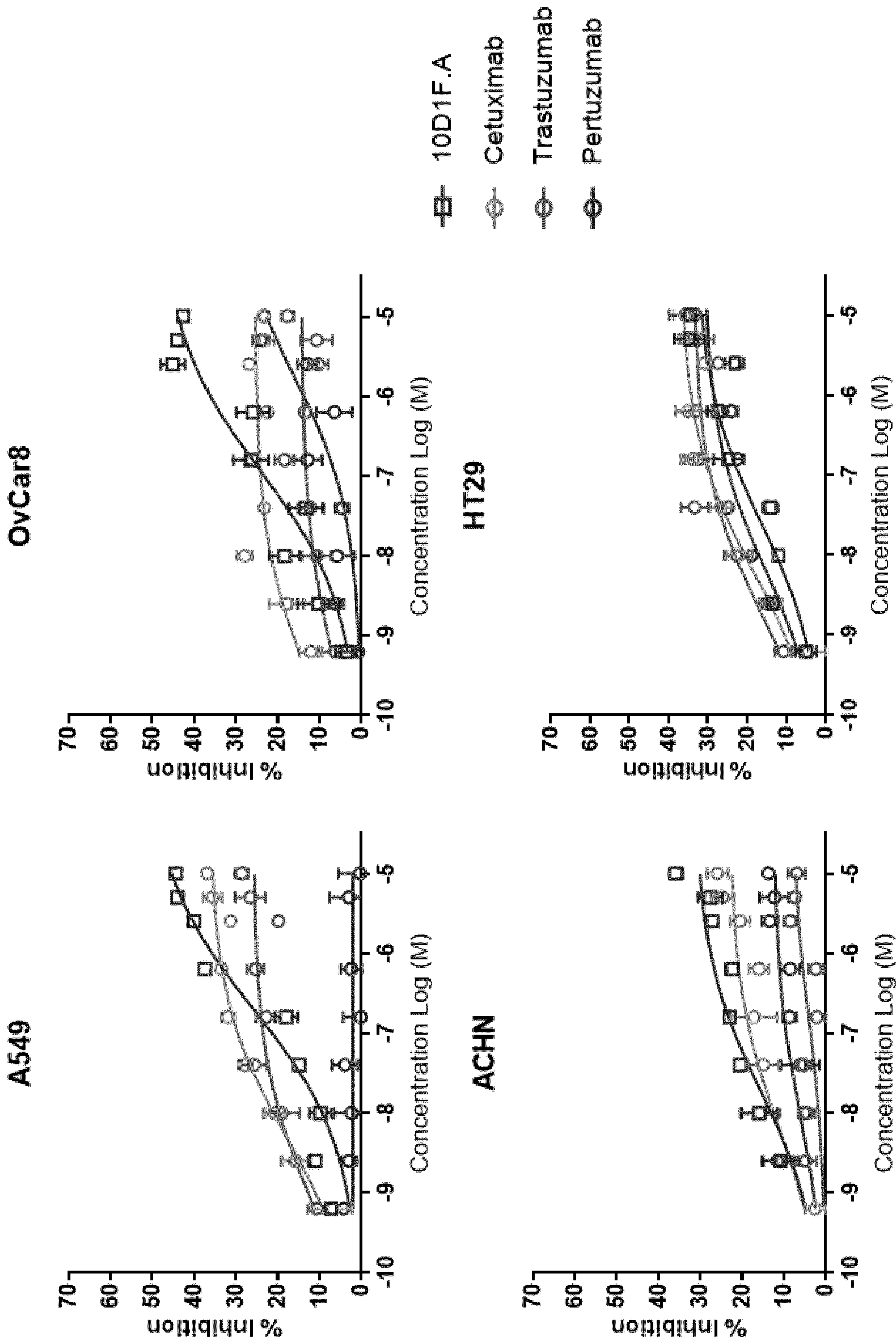


Figure 59D

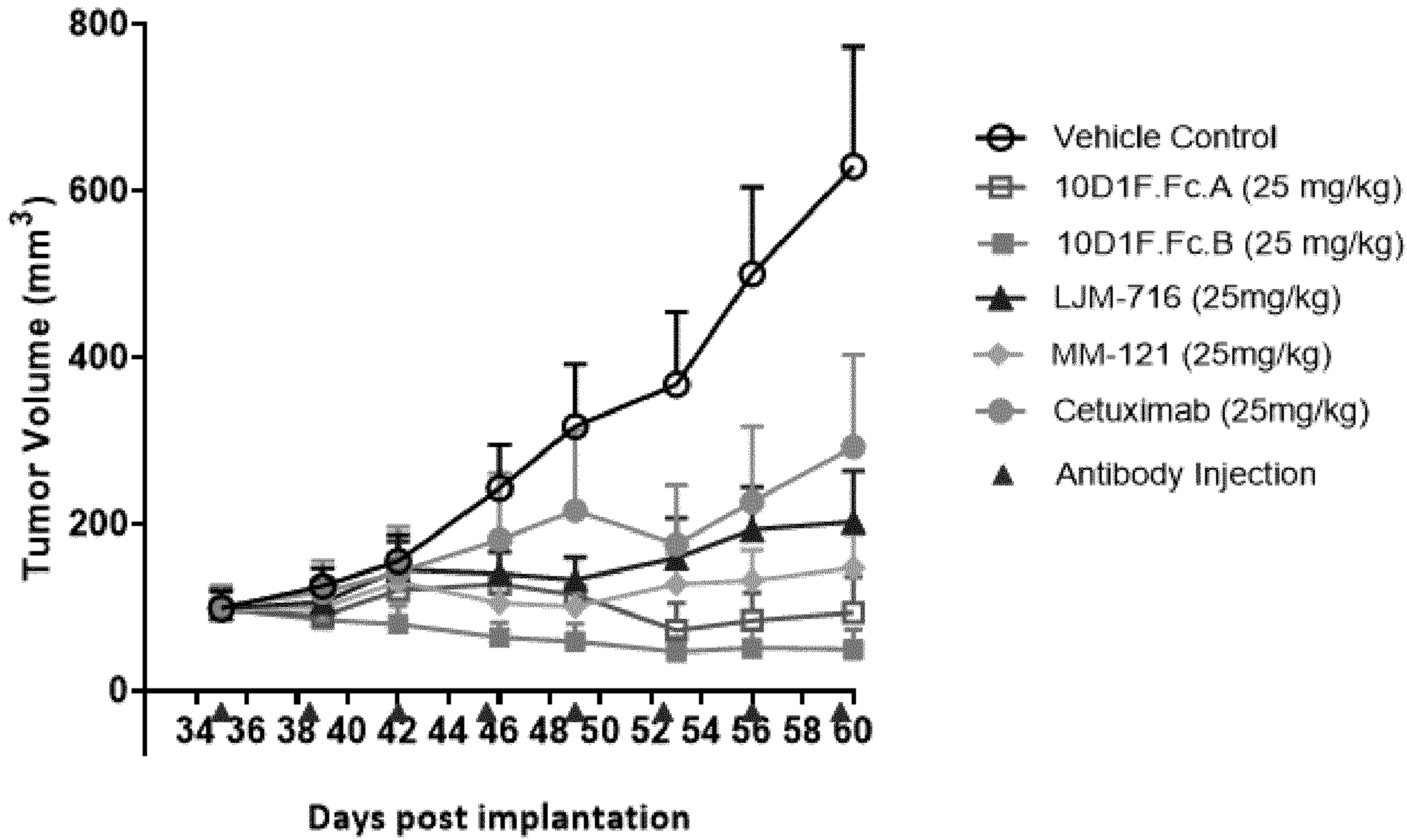


Figure 60

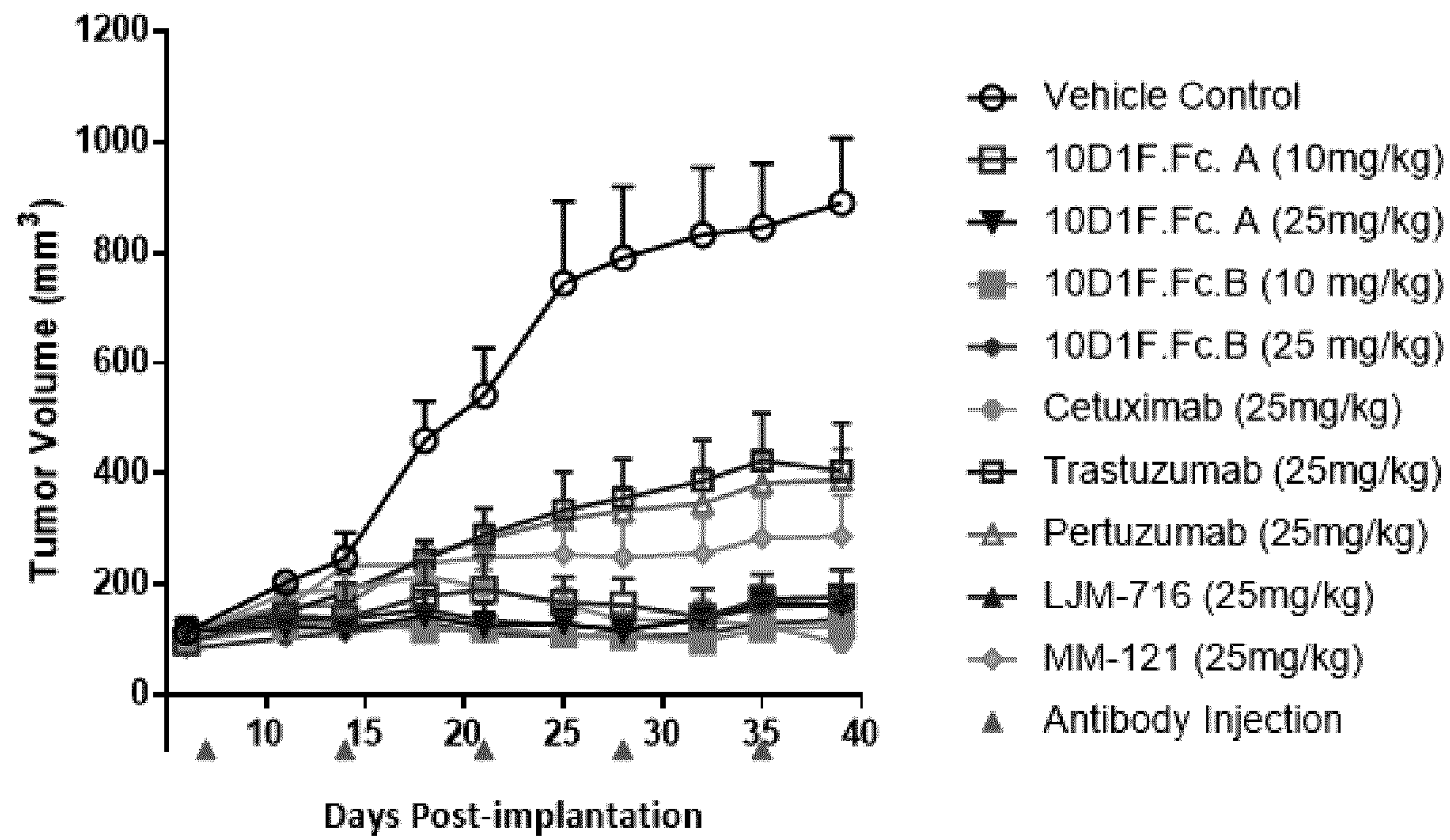


Figure 61

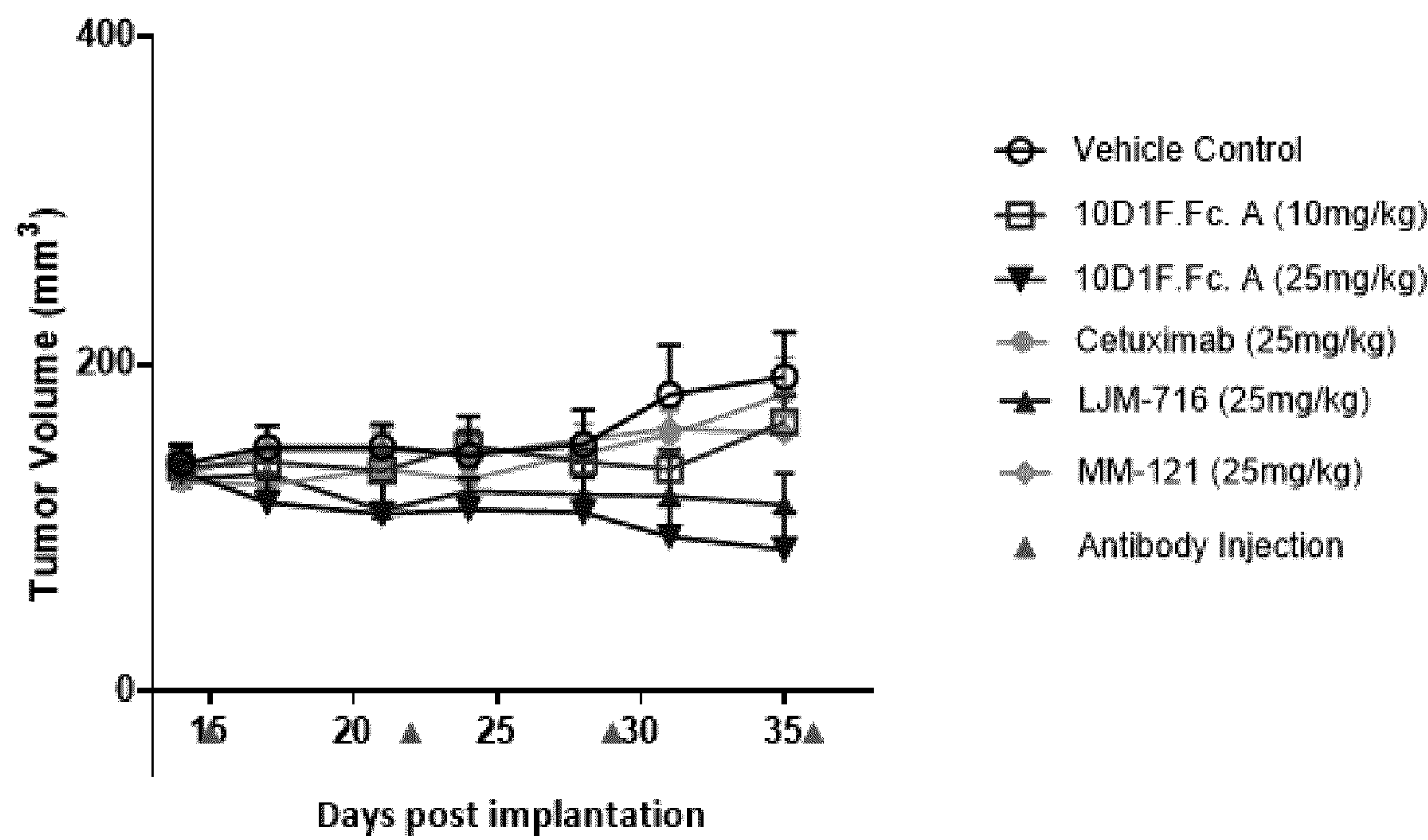


Figure 62

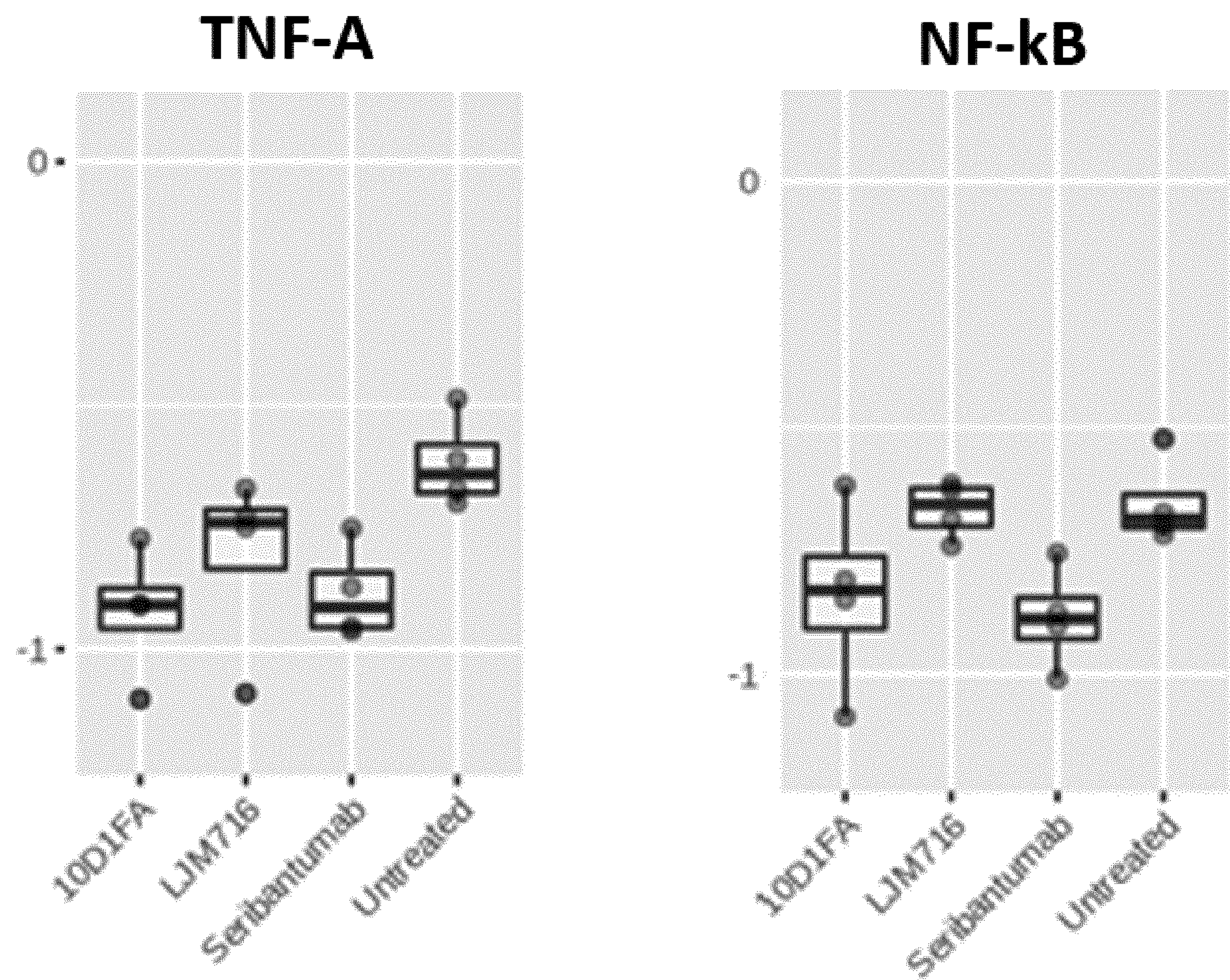


Figure 63A

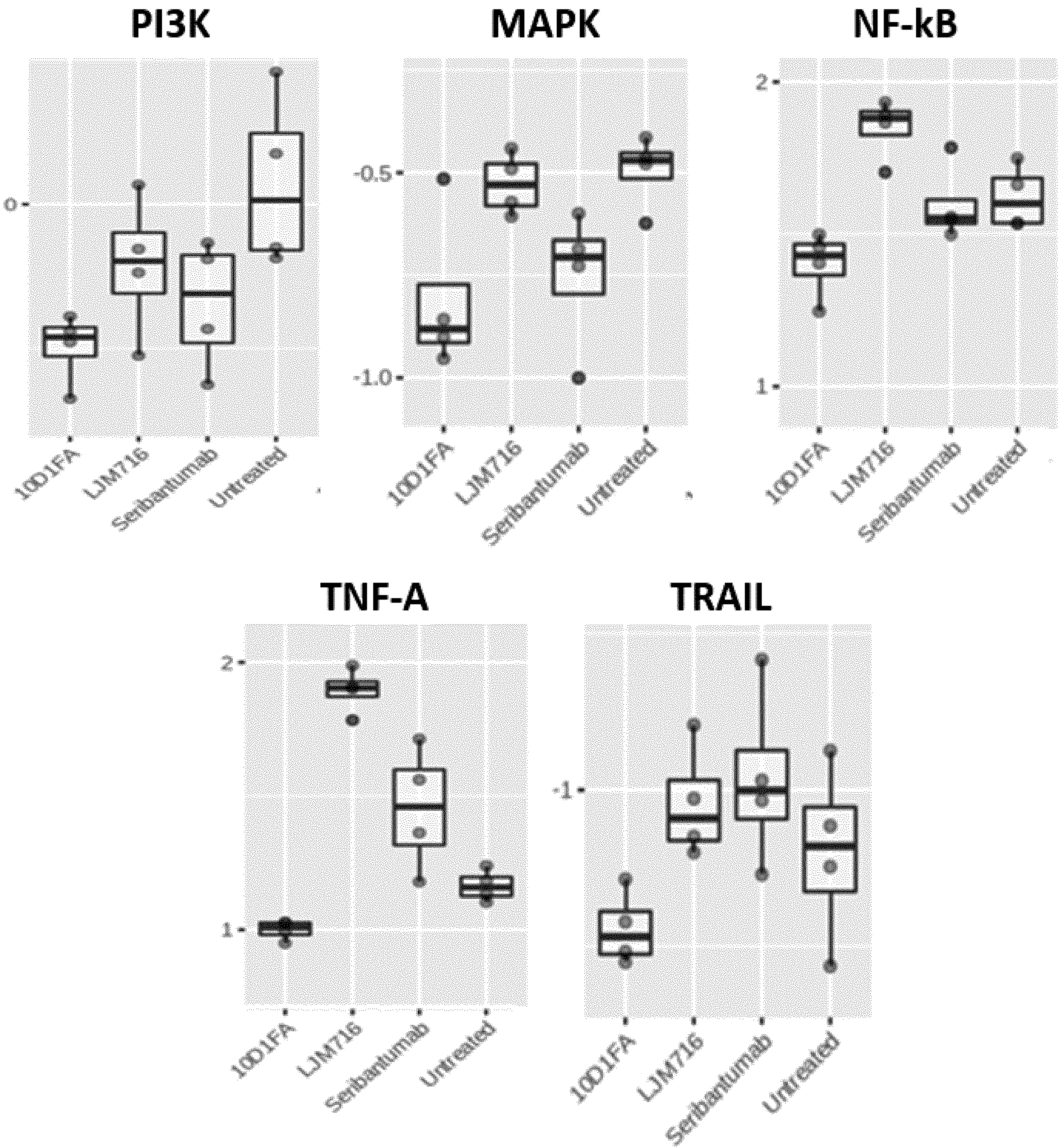


Figure 63B

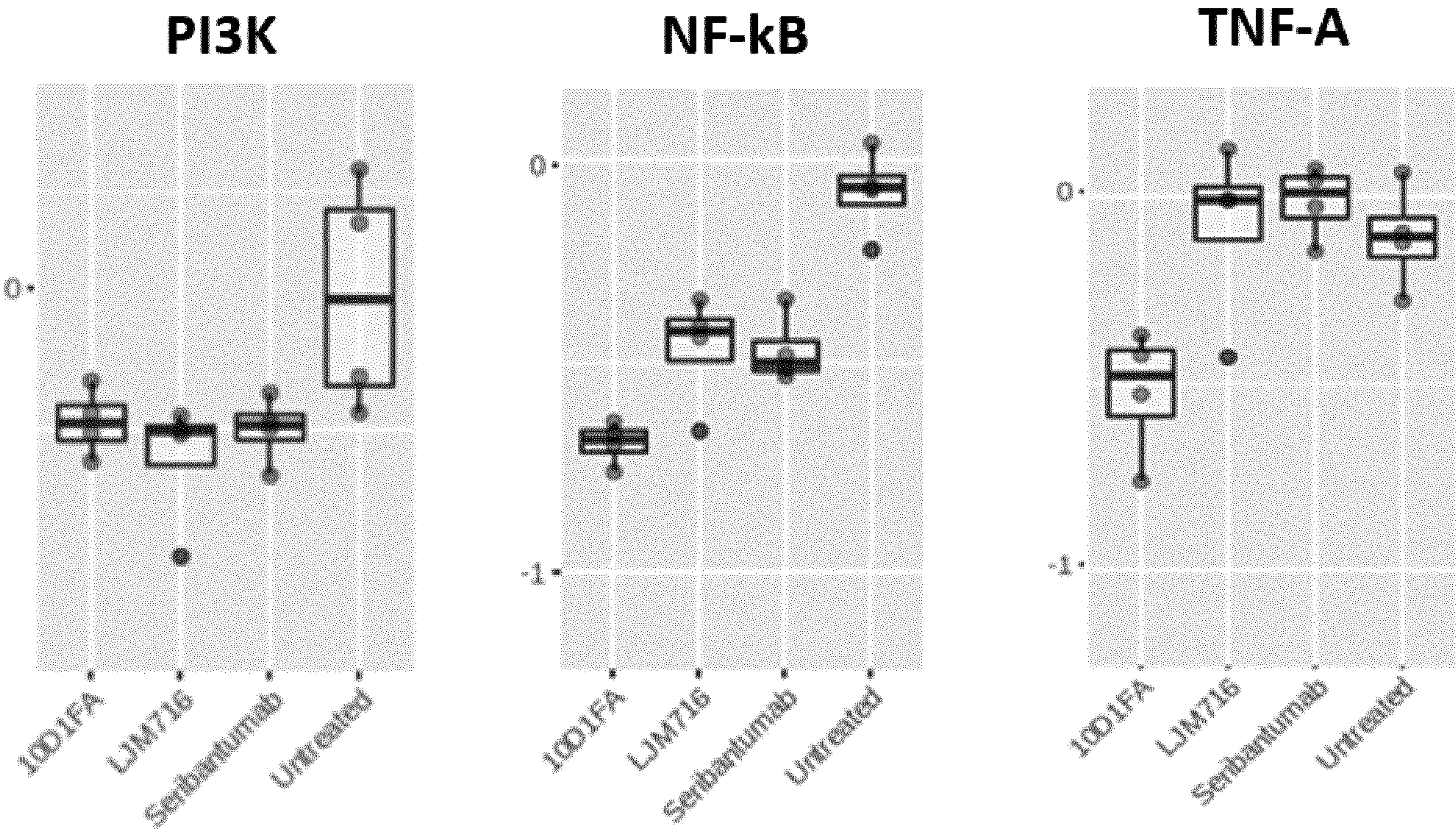


Figure 63C

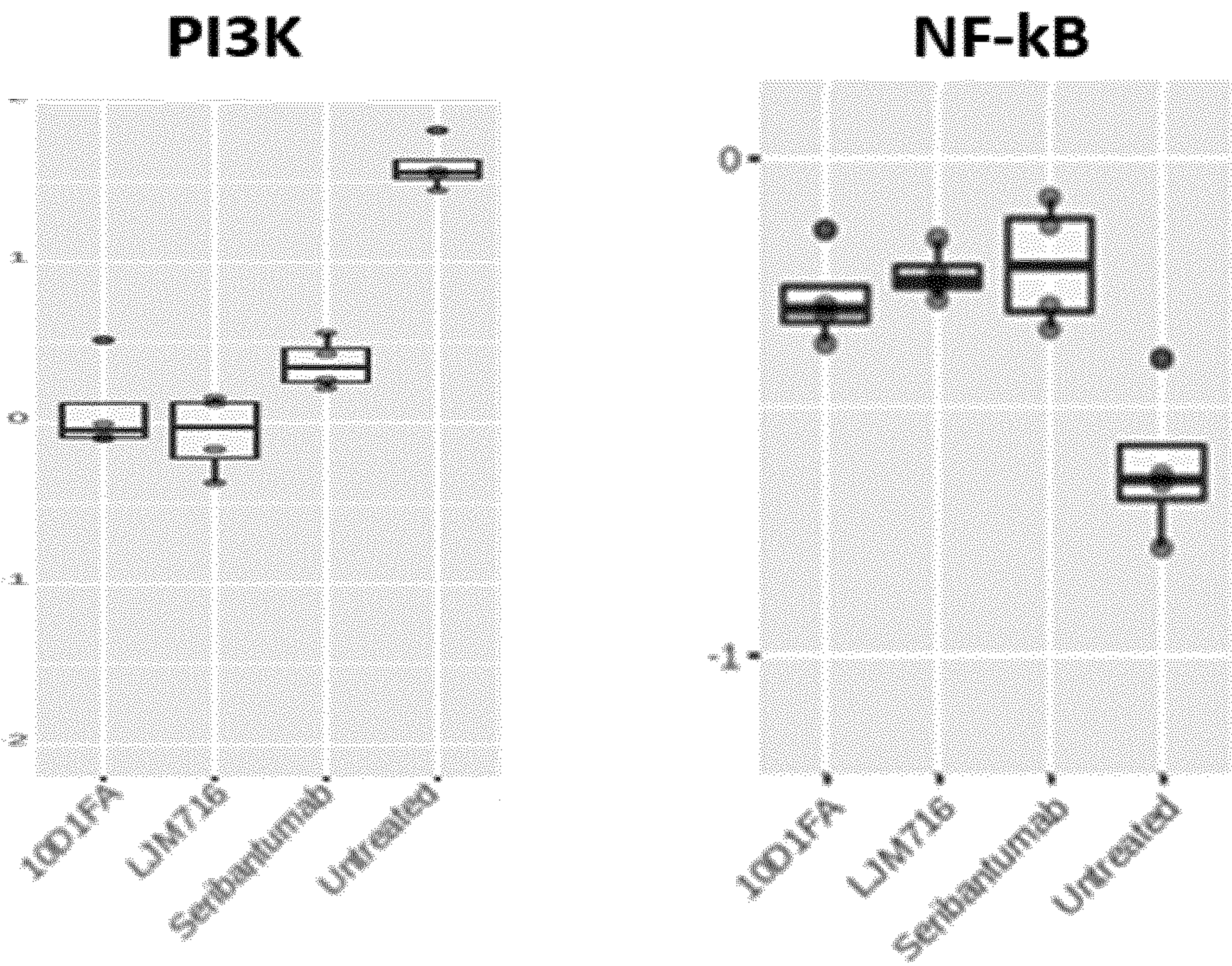
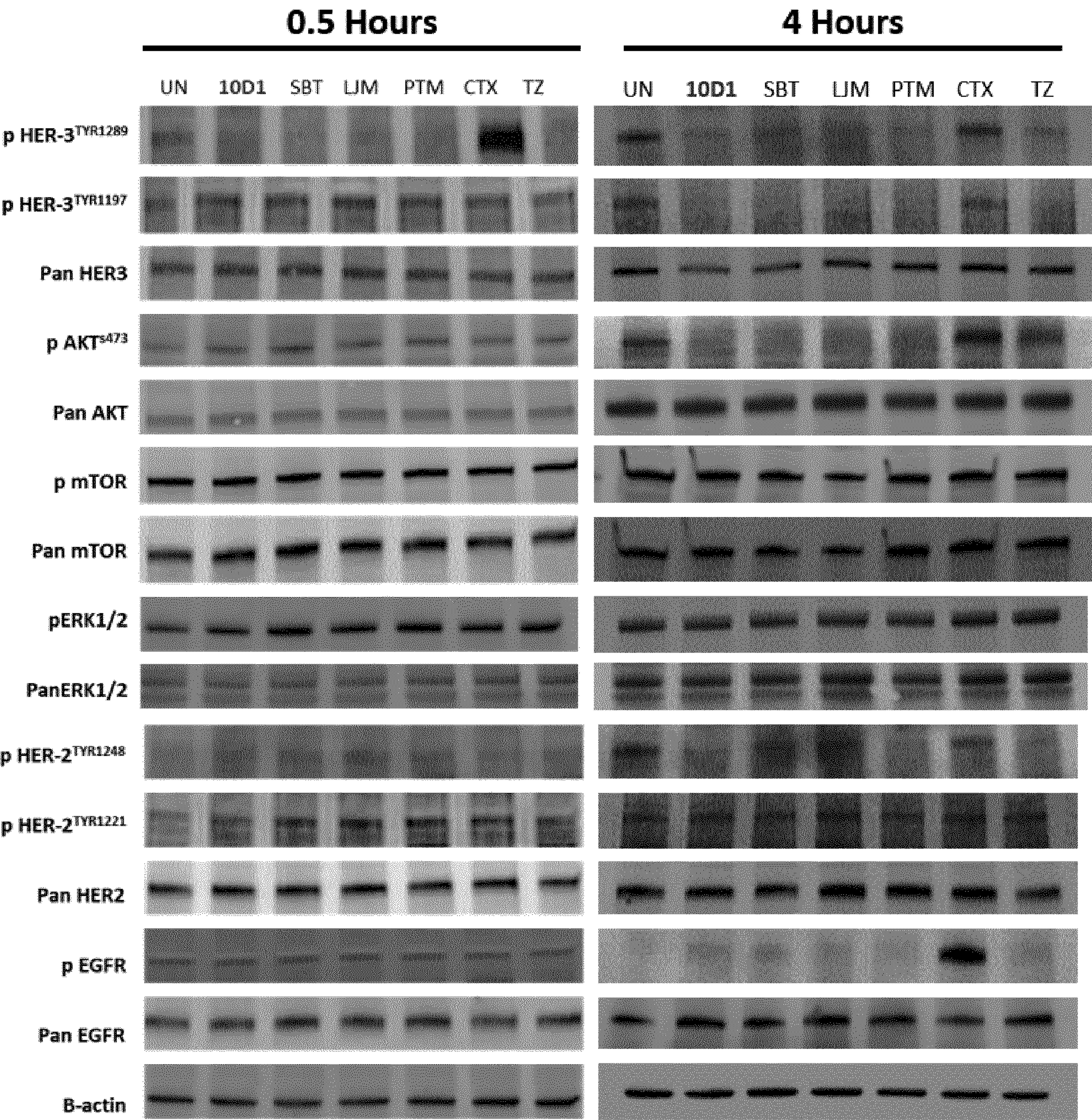
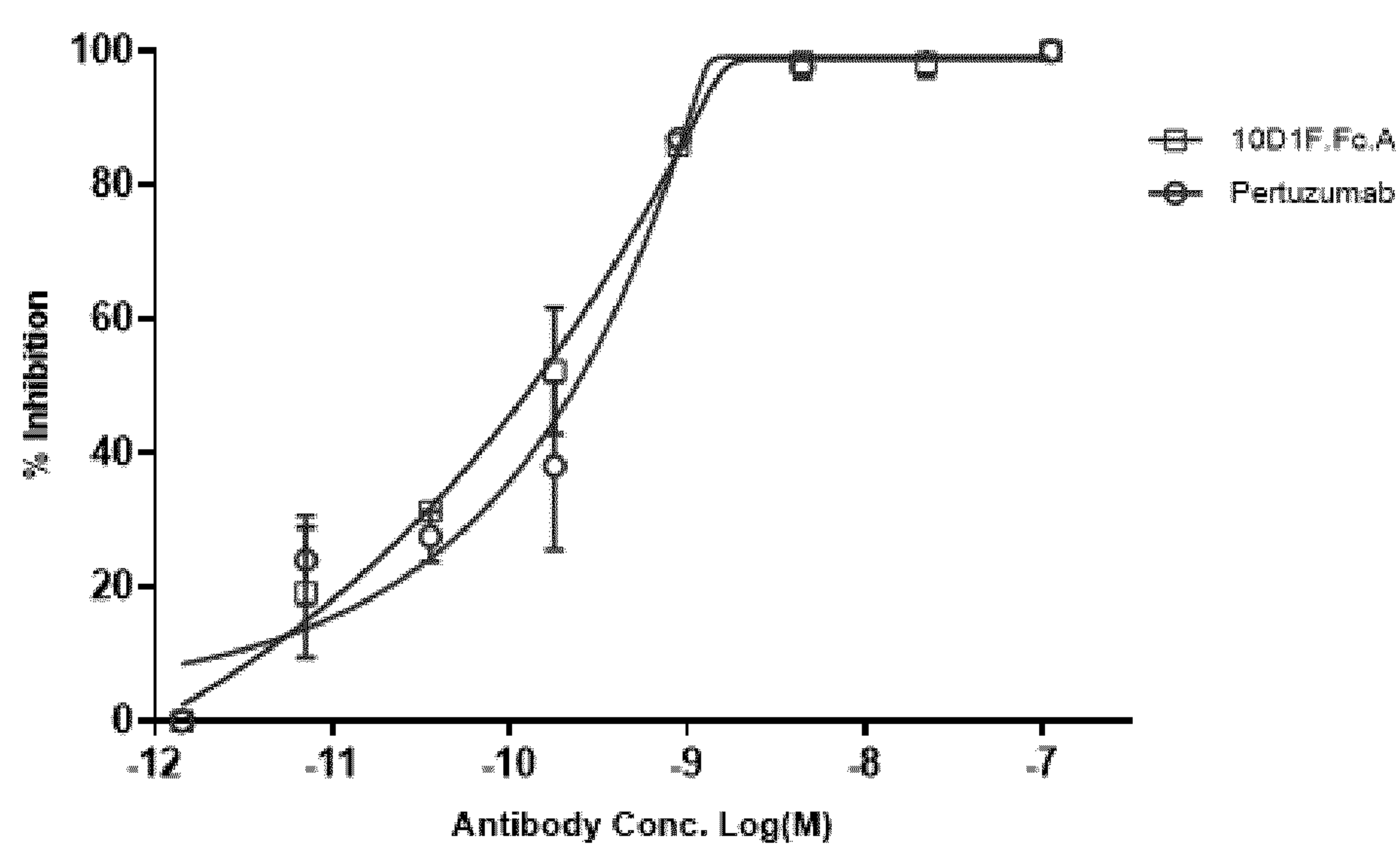


Figure 63D



Legend:
UN = Untreated
10D1 = 10D1F.A
SBT = Seribantumab (MM-121)
LJM = Elgemtumab (LJM-716)
PTM = Pertuzumab
CTX = Cetuximab

Figure 64



	10D1F.FcA	Pertuzumab	Isotype
IC ₅₀ (M)	3.715e-011	2.481e-010	NA

Figure 65

BCPAP

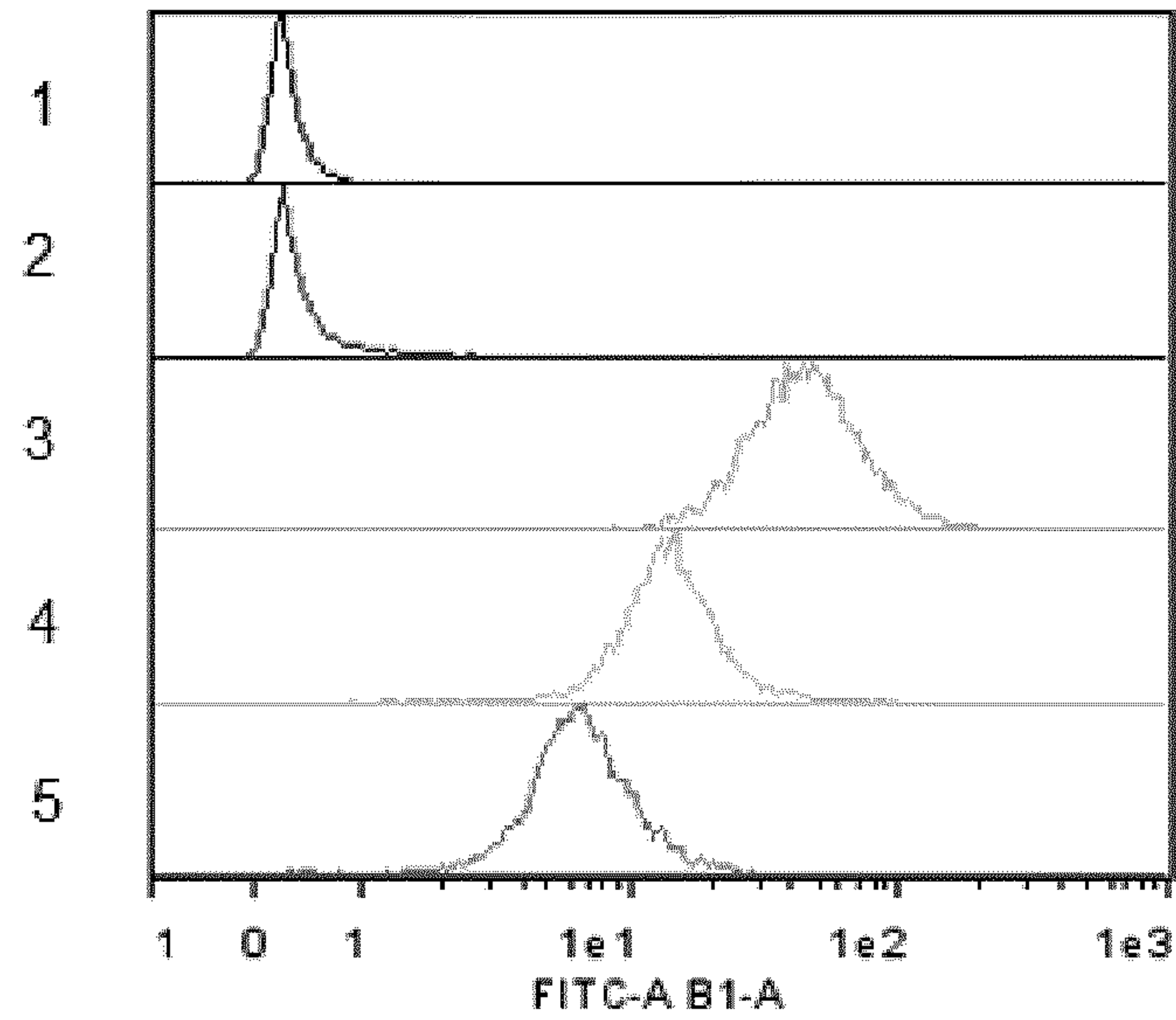


Figure 66A

BHT101

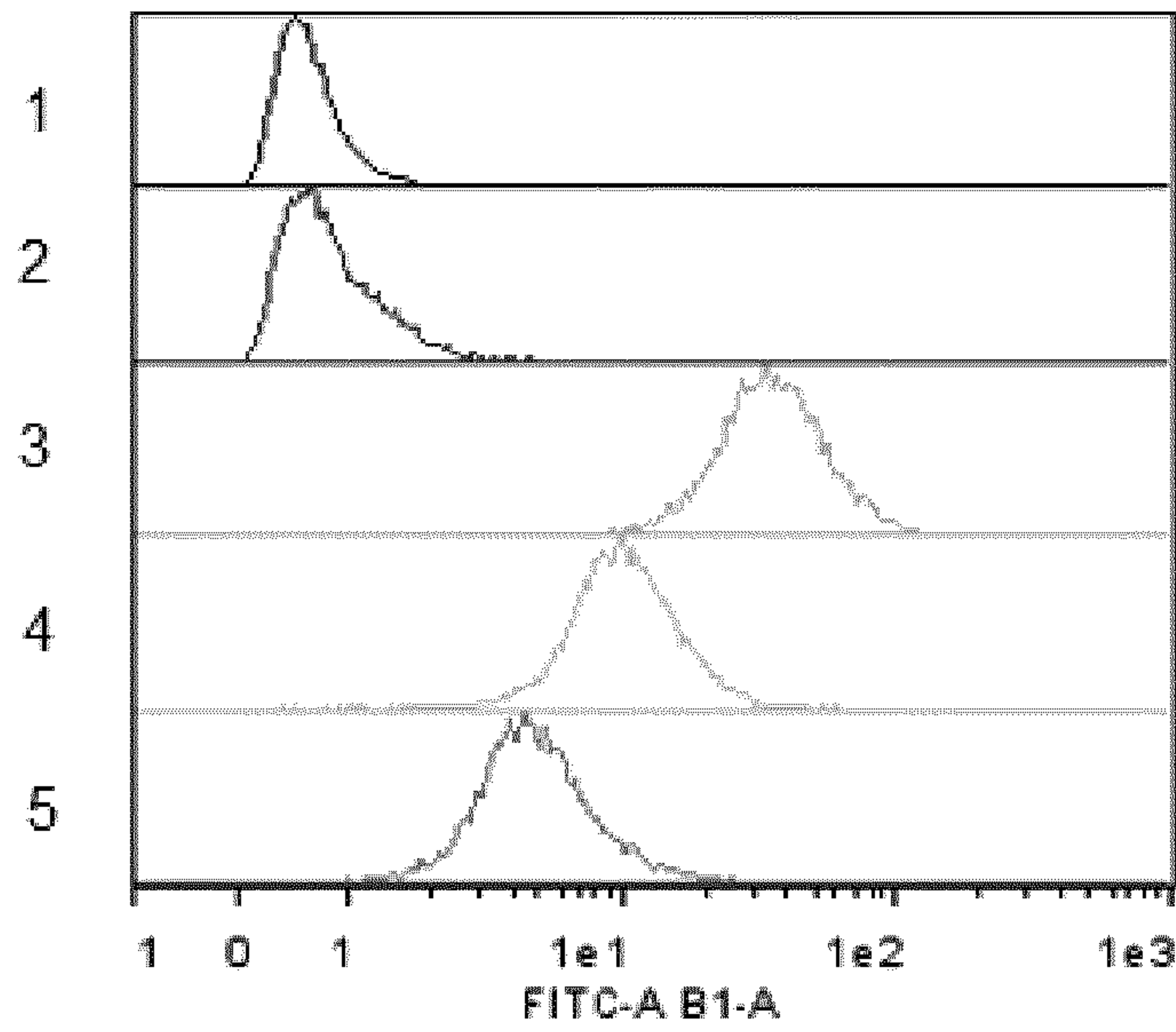


Figure 66B

SW1736

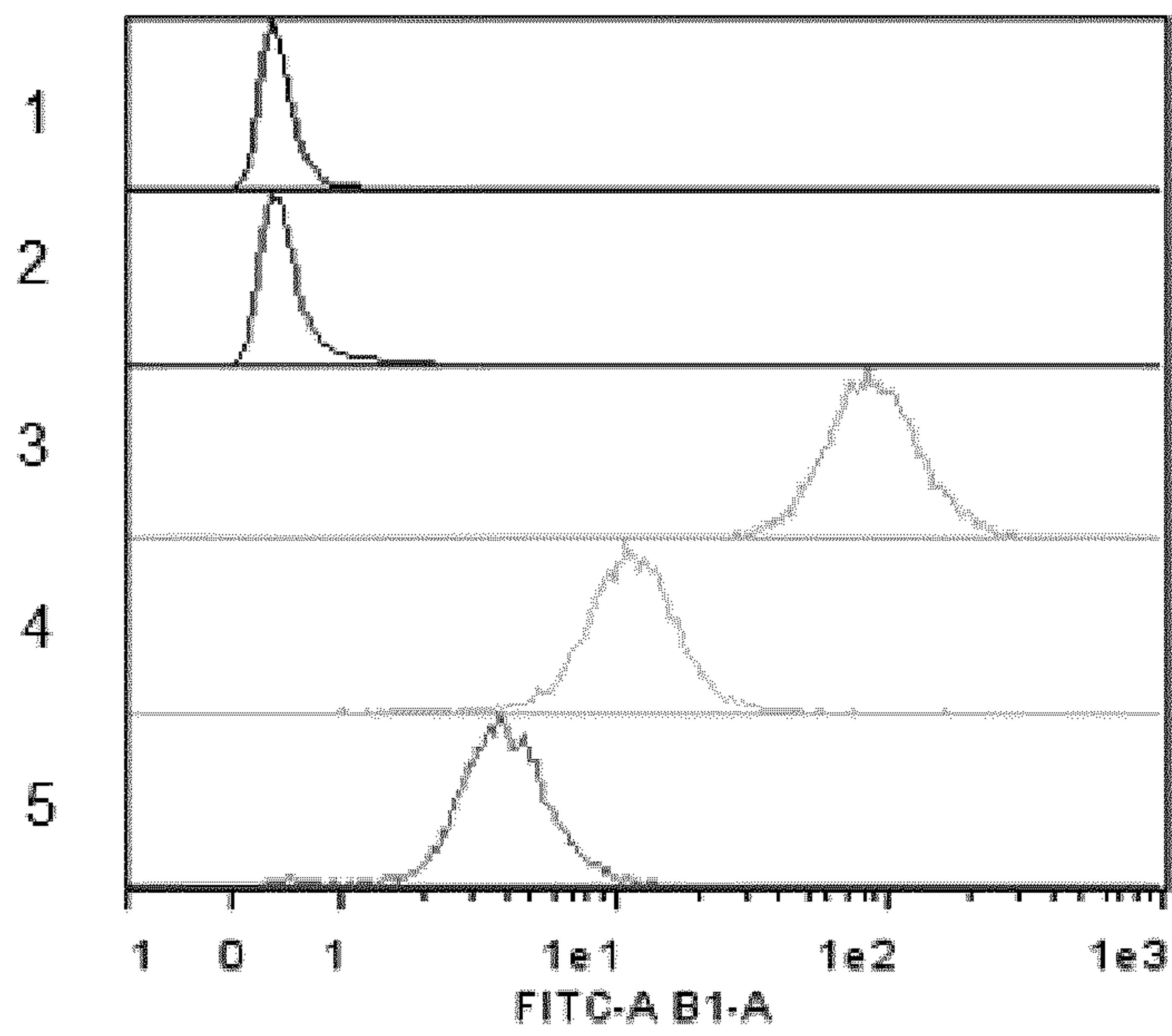


Figure 66C

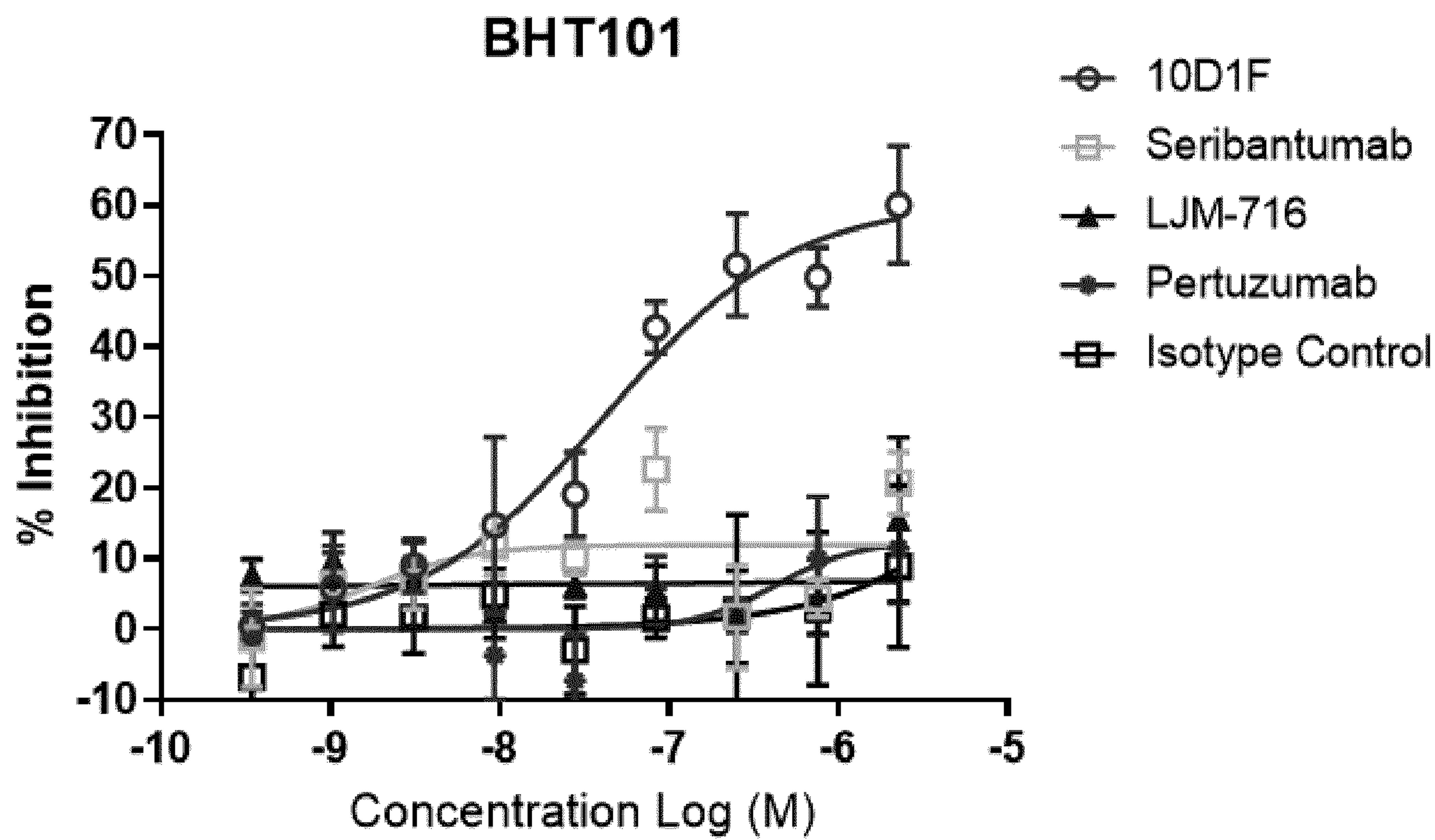


Figure 67A

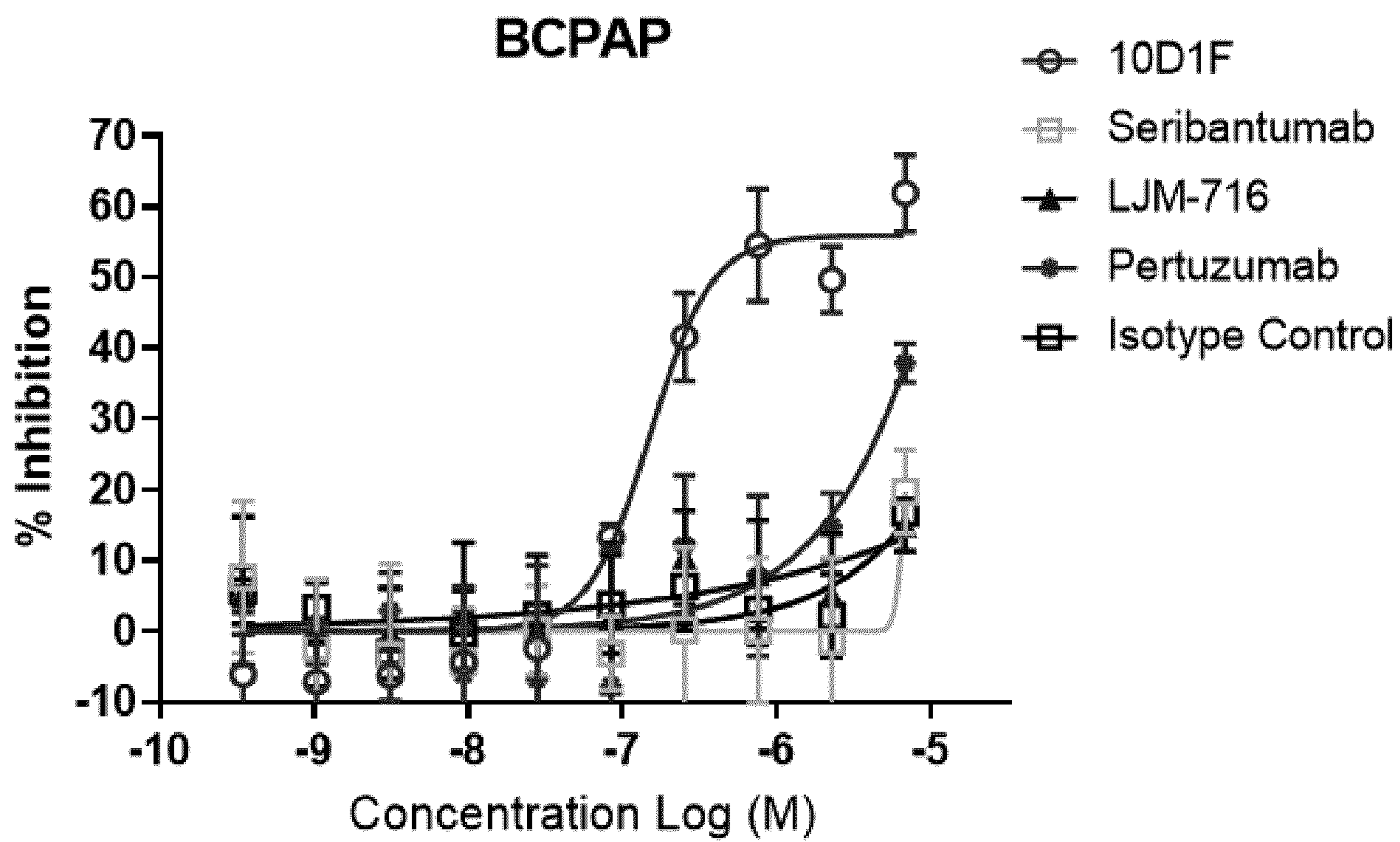


Figure 67B

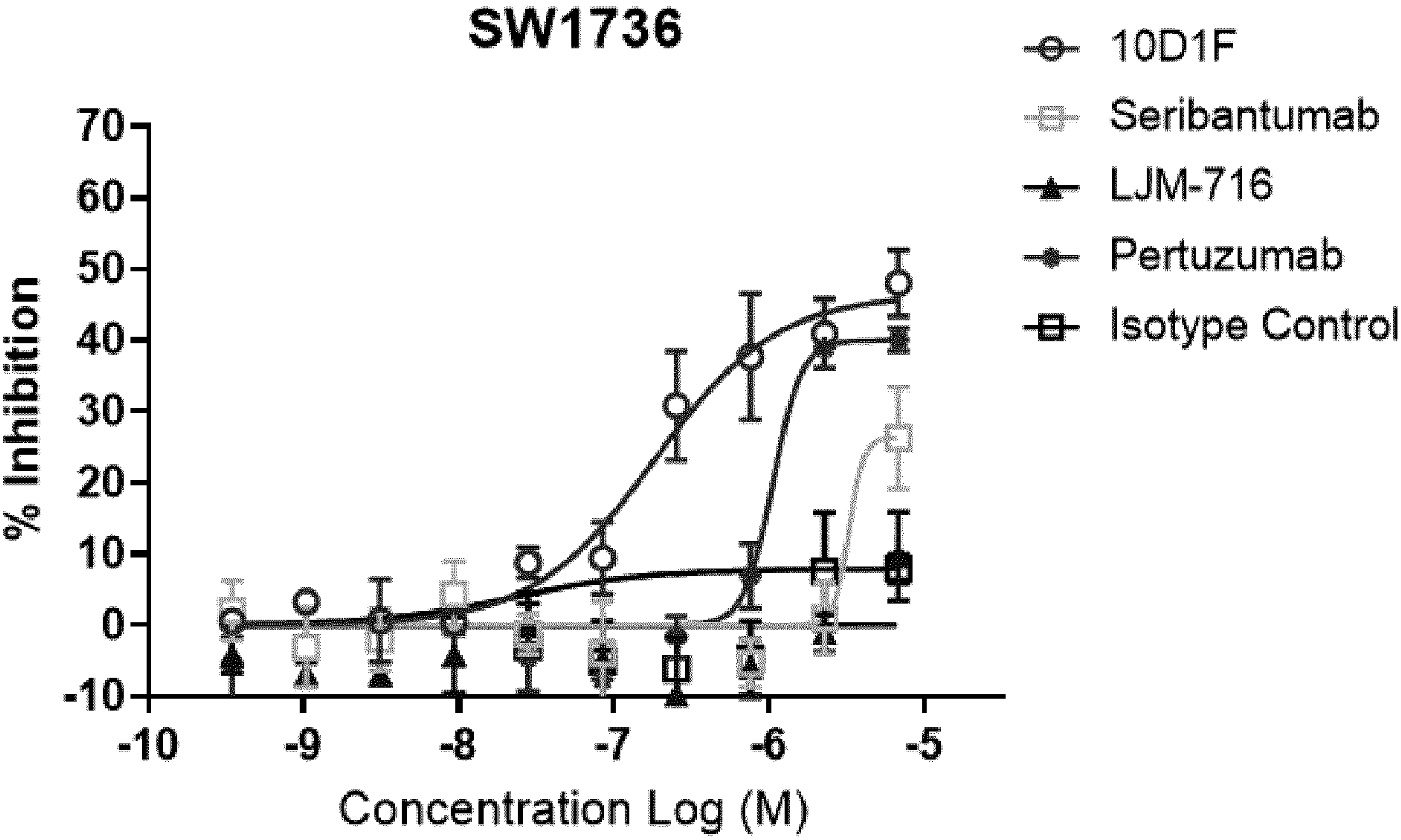


Figure 67C

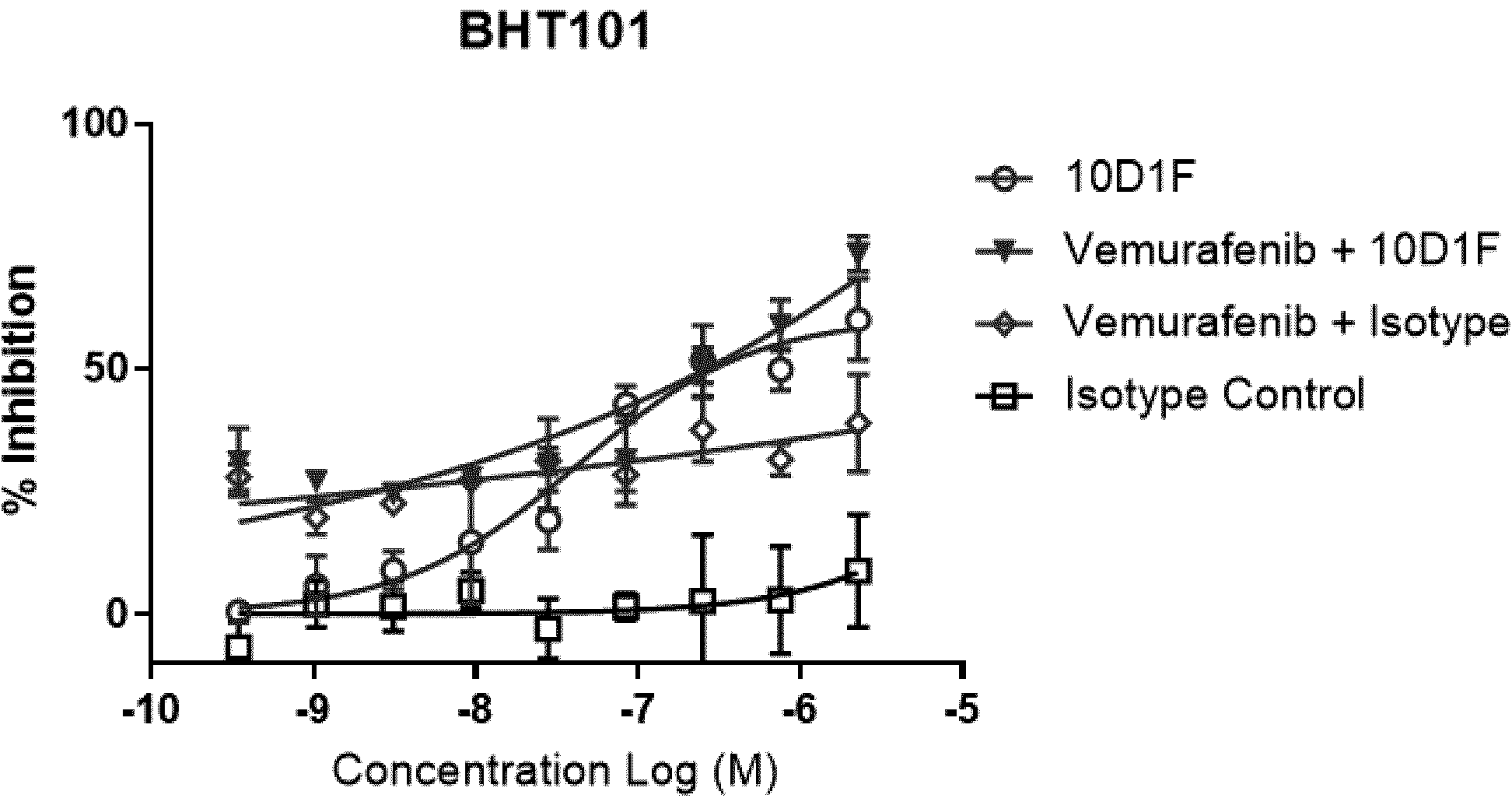


Figure 68A

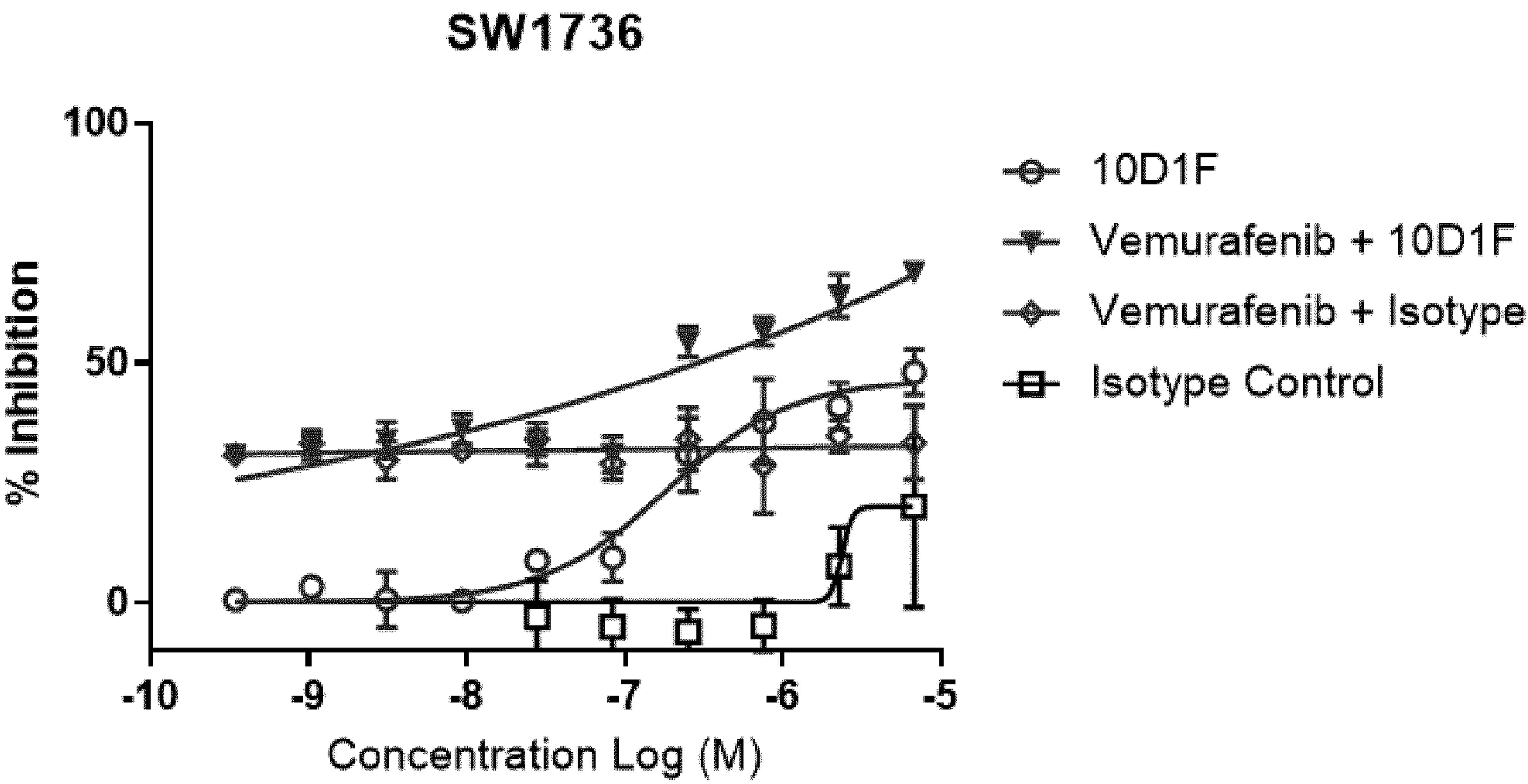


Figure 68B

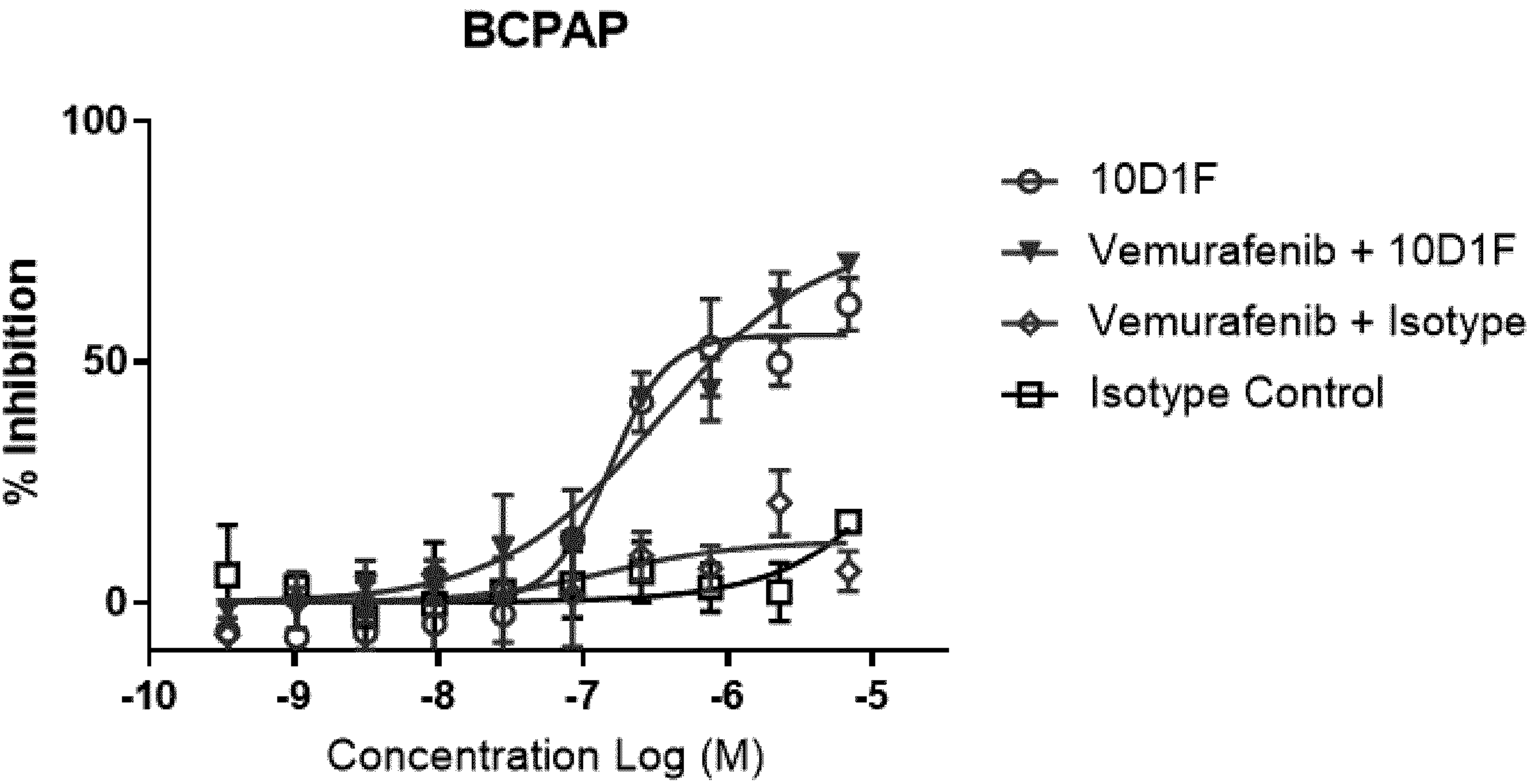


Figure 68C

Treatment Arm	Dose	Red Blood Cell						
		RBC Count (10 ⁹ /L)	Hemoglobin (g/dl)	Hematocrit (%)	Anemia Parameters			Platelet count (10 ⁹ /L)
					MCV (fml)	MCH (pg)	MCHC (g/dl)	
Vehicle	0	10.59	17.075	52.9275	50	16.125	32.25	490.5
10D1F	10 mg/kg	10.74	17.23	55.97	52.00	16.07	30.87	574.00
	25 mg/kg	10.55	16.97	53.37	50.33	16.10	31.87	555.00
	100 mg/kg	10.16	15.90	51.20	50.33	15.63	31.10	378.00
	250 mg/kg	10.32	16.97	52.13	50.33	16.43	32.53	501.67

Figure 69A

Treatment Arm	Dose	White Blood Cell			
		WBC Count (10 ⁹ / L)	Lymphocyte Count (10 ⁹ / L)	Monocyte Count (10 ⁹ / L)	Neutrophil Count (10 ⁹ / L)
Vehicle	0	7.43	5.58	0.30	1.55
10D1F	10 mg/kg	9.30	7.06	0.14	2.10
	25 mg/kg	8.00	5.94	0.31	1.74
	100 mg/kg	6.92	5.19	0.41	1.31
	250 mg/kg	3.92	2.88	0.29	0.75

Figure 69B

Treatment Arm	Dose	Biochemistry			
		Liver (U/L)		Kidney (mg/dL)	
		ALT	ALP	CREA	BUN
Vehicle	0	25.00	104.50	0.25	13.00
10D1F	10 mg/kg	22.67	109.33	0.30	11.33
	25 mg/kg	48.67	121.00	0.23	12.33
	100 mg/kg	27.00	101.33	0.23	11.00
	250 mg/kg	53.00	101.33	0.27	16.33

Treatment Arm	Dose	Biochemistry					
		Pancreas		Electrolytes			
		GLU (mg/dL)	AMY (U/L)	NA (meq/L)	K (meq/L)	P (mg/dL)	CA (mg/dL)
Vehicle	0	128.75	959.75	144.75	7.35	6.83	10.35
10D1F	10 mg/kg	91.00	904.67	143.00	8.07	6.67	10.30
	25 mg/kg	109.67	938.00	144.33	7.30	6.50	10.77
	100 mg/kg	119.00	862.00	148.33	7.47	5.53	10.57
	250 mg/kg	139.00	1407.67	146.67	7.83	5.33	10.30

Figure 69C

Treatment Arm	Time (hrs)	Red Blood Cell						
		RBC Count (10 ⁹ /L)	Hemoglobin (g/dl)	Hematocrit (%)	Anemia Parameters			Platelet count (10 ⁹ /L)
					MCV (fml)	MCH (pg)	MCHC (g/dl)	
Vehicle	0	5.30	13.21	54.84	59.33	17.20	28.63	398.0
	6	4.55	8.97	51.38	60.67	16.77	29.90	362.0
	24	5.84	13.59	39.51	56.67	18.03	30.77	411.3
	96	7.76	10.87	52.41	60.67	17.60	30.23	488.7
	168	5.81	11.49	42.31	59.67	17.27	29.90	573.7
	336	7.51	16.41	49.23	60.67	16.83	29.03	685.0
10D1F	0	12.13	13.05	66.59	55.50	17.10	26.20	339.5
	6	11.96	12.95	66.88	57.00	17.35	25.90	392.0
	24	8.05	15.20	49.68	62.00	18.90	30.60	248.5
	96	8.07	15.65	49.34	61.00	19.40	31.80	337.5
	168	6.25	12.40	40.99	65.50	19.80	30.20	577.0
	336	7.35	13.60	47.13	64.00	18.25	28.40	440.0

Figure 70A

Treatment Arm	Time (hrs)	White Blood Cell			
		WBC Count (10 ⁹ / L)	Lymphocyte Count (10 ⁹ / L)	Monocyte Count (10 ⁹ / L)	Neutrophil Count (10 ⁹ / L)
Vehicle	0	13.22	10.12	1.43	3.08
	6	8.09	9.01	1.20	2.57
	24	9.82	9.08	0.89	2.08
	96	7.61	7.59	0.97	1.97
	168	11.02	9.23	1.24	2.05
	336	9.67	6.14	0.64	2.06
10D1F	0	10.61	2.87	0.27	2.47
	6	13.40	5.57	0.99	1.84
	24	10.70	7.55	0.84	2.32
	96	10.24	8.04	0.71	1.49
	168	4.68	3.45	0.18	1.05
	336	11.04	9.02	0.62	1.40

Figure 70B

Treatment Arm	Time (hrs)	Biochemistry			
		Liver (U/L)		Kidney (mg/dL)	
		ALT	ALP	CREA	BUN
Vehicle	0	4.80	6.77	0.40	10.00
	6	5.03	6.37	0.37	12.00
	24	3.87	6.57	0.40	12.33
	96	3.93	6.63	0.40	12.00
	168	4.70	6.90	0.40	10.67
	336	4.97	6.53	0.33	13.33
10D1F	0	5.05	5.55	0.30	13.50
	6	4.40	5.95	0.35	12.50
	24	4.30	7.40	0.40	12.50
	96	4.70	7.00	0.40	12.00
	168	5.00	6.50	0.55	13.50
	336	4.45	6.15	0.30	7.00

Treatment Arm	Time (hrs)	Biochemistry					
		Pancreas		Electrolytes			
		GLU (mg/dL)	AMY (U/L)	NA (meq/L)	K (meq/L)	P (mg/dL)	CA (mg/dL)
Vehicle	0	119.3	514.3	138.3	6.87	6.87	11.50
	6	141.0	537.3	142.7	5.73	5.00	11.50
	24	130.3	594.3	139.7	5.37	7.43	11.53
	96	117.0	503.3	141.3	5.90	7.17	11.60
	168	122.7	562.7	144.0	7.10	6.93	11.30
	336	135.7	643.0	139.7	6.27	7.80	11.17
10D1F	0	125.0	465.5	141.0	6.30	6.70	10.75
	6	123.5	521.0	143.5	6.00	7.25	11.05
	24	131.0	646.5	140.5	7.05	7.85	11.75
	96	111.0	632.5	140.0	6.85	8.05	11.85
	168	146.0	574.0	137.0	5.30	7.05	11.20
	336	100.5	821.5	139.0	5.35	7.30	11.45

Figure 70C

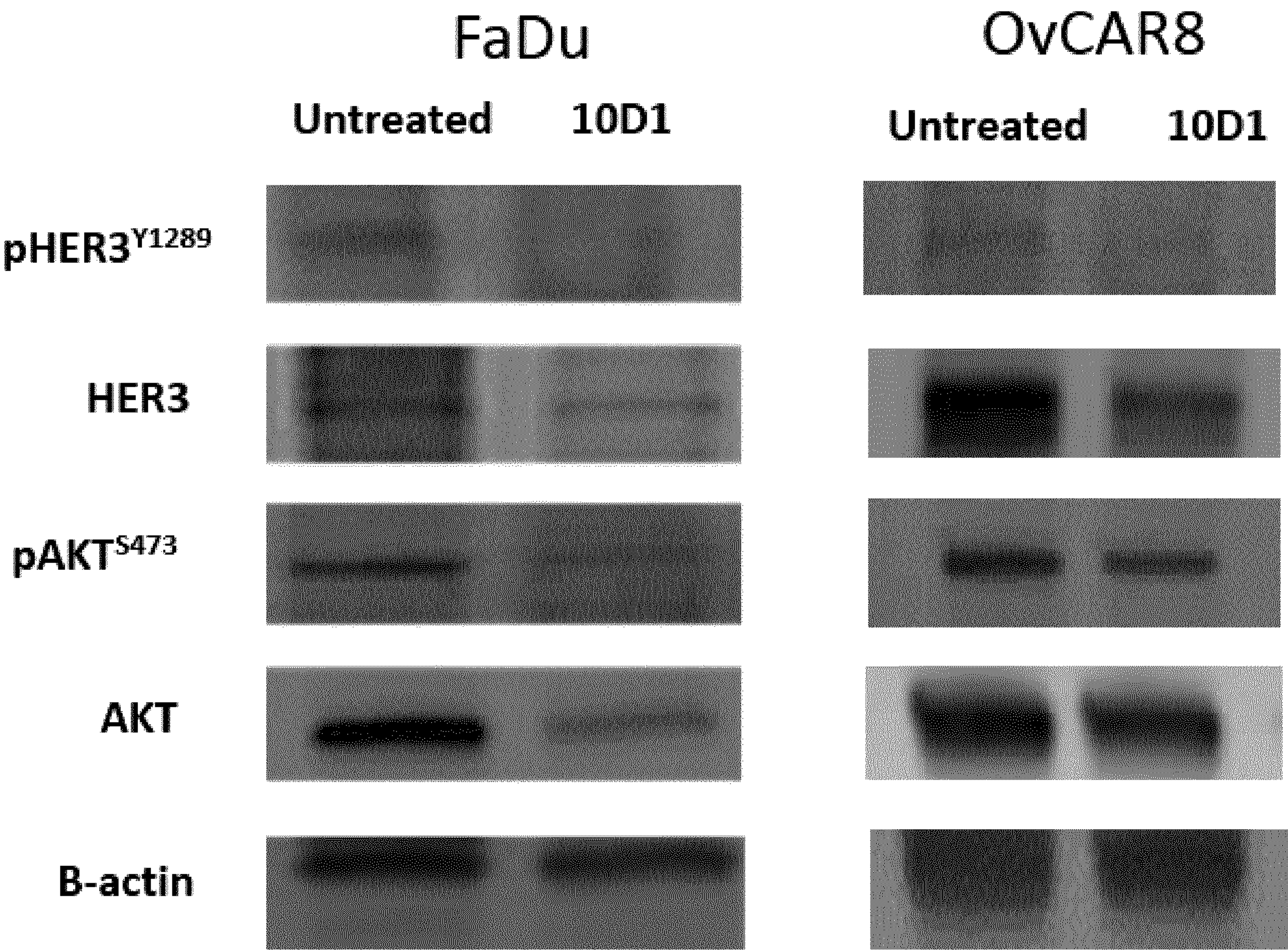


Figure 71

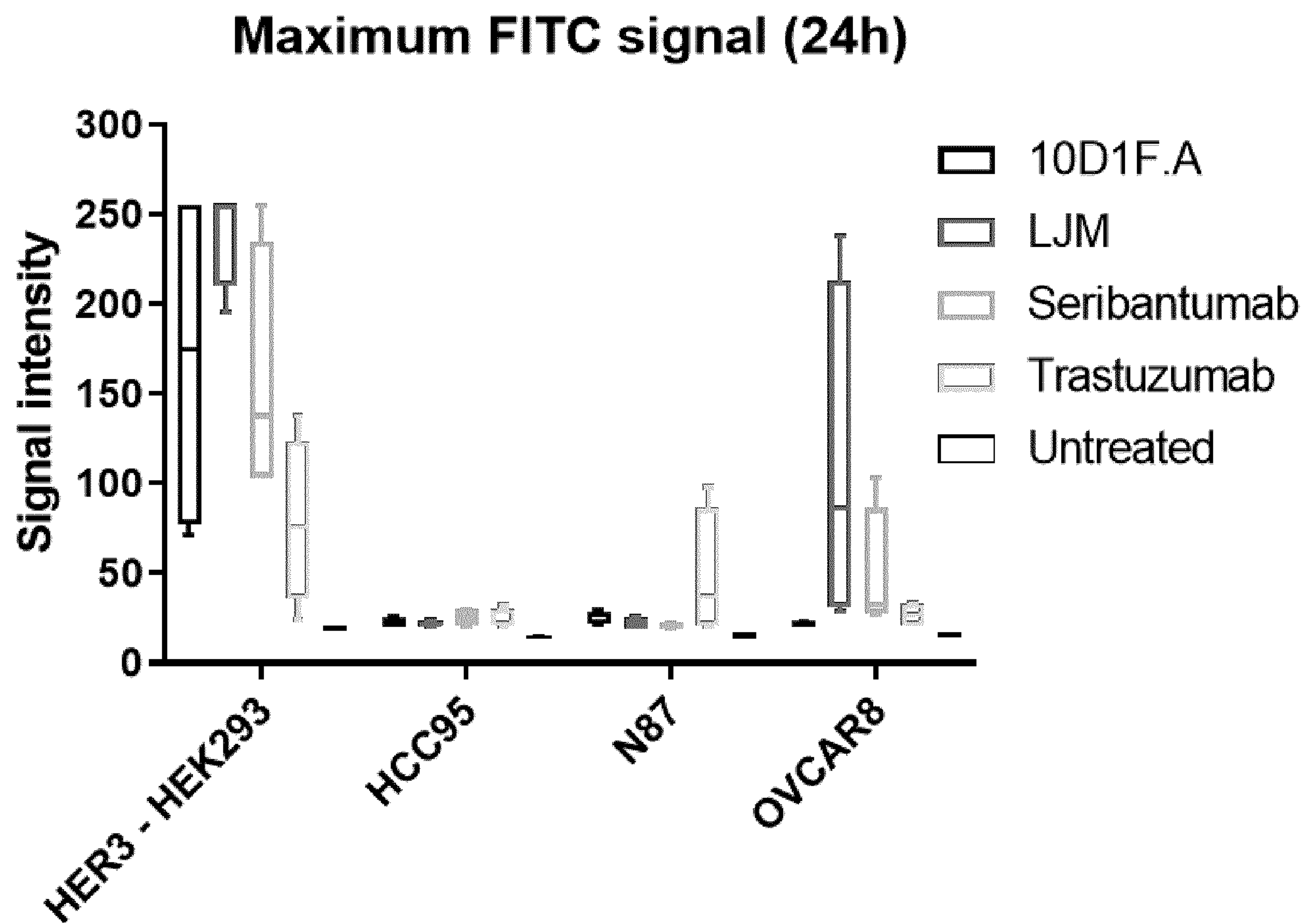


Figure 72

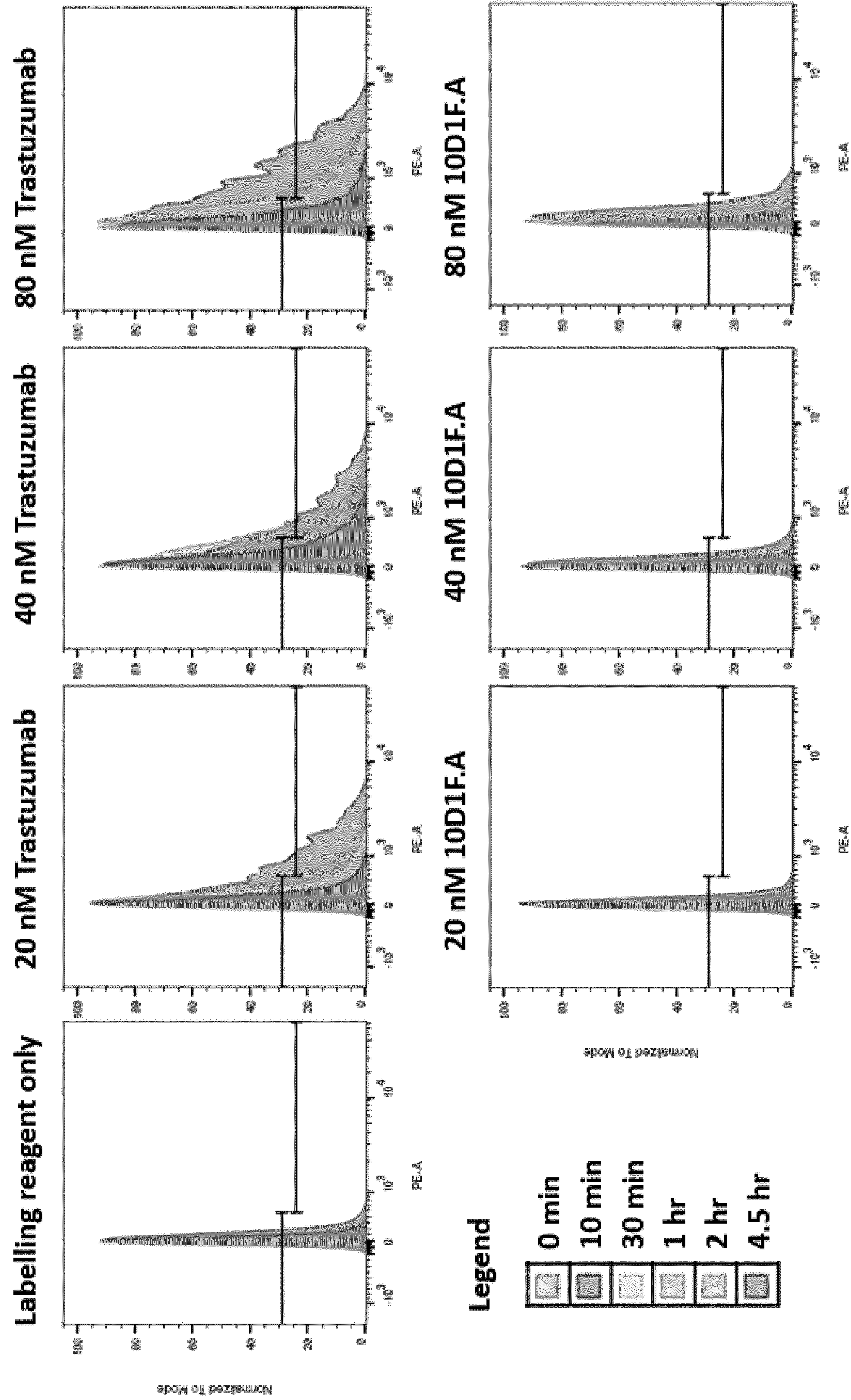


Figure 73A

MFI		0 min	10 min	30 min	1 hr	2 hrs	4.5 hrs
80 nM 10D1F.A		110	108	129	148	184	279
40 nM 10D1F.A		104	114	129	145	178	204
20 nM 10D1F.A		105	110	117	119	127	156
80 nM Trastuzumab		133	270	393	435	528	802
40 nM Trastuzumab		124	298	294	495	465	614
20 nM Trastuzumab		115	194	266	305	354	578
No Ab + 120 nM Zenon		102	116	117	128	143	182

Percent of PE+ cells		0 min	10 min	30 min	1 hr	2 hrs	4.5 hrs
80 nM 10D1F.A		0.13 %	0 %	0.26 %	0.50 %	0.97 %	6.43 %
40 nM 10D1F.A		0.14 %	0.21 %	0.37 %	0.38 %	1.01 %	1.72 %
20 nM 10D1F.A		0.093 %	0.094 %	0 %	0.18 %	0.22 %	0.43 %
80 nM Trastuzumab		0.90 %	9.64 %	21.7 %	26.9 %	35.6 %	56.0 %
40 nM Trastuzumab		0.49 %	14.4 %	13.2 %	34.3 %	31.4 %	42.5 %
20 nM Trastuzumab		0.14 %	3.73 %	11.1 %	15.2 %	20.3 %	41.8 %
No Ab + 120 nM Zenon		0.039 %	0.086 %	0.35 %	0.18 %	0.26 %	1.06 %

Figure 73B

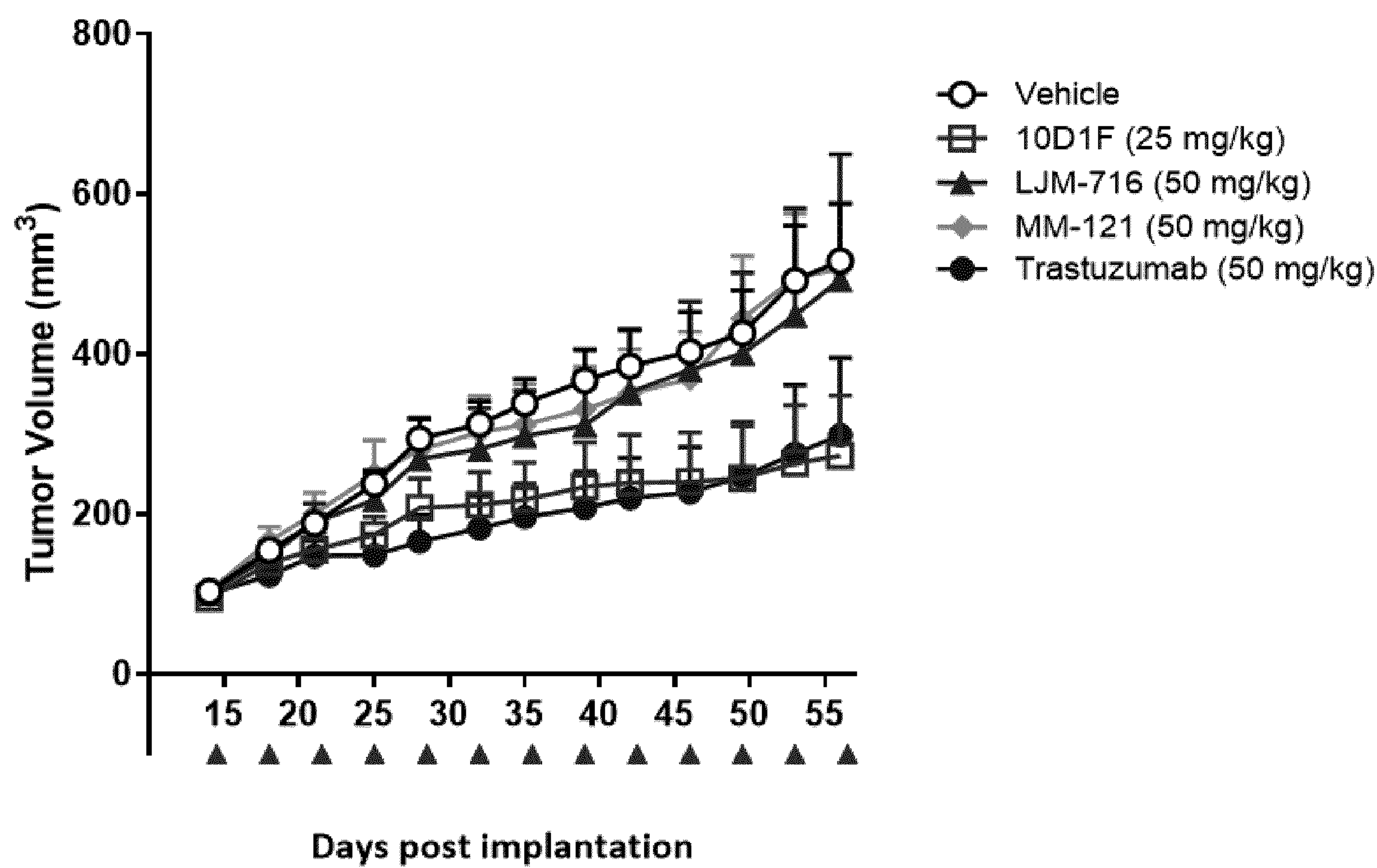


Figure 74

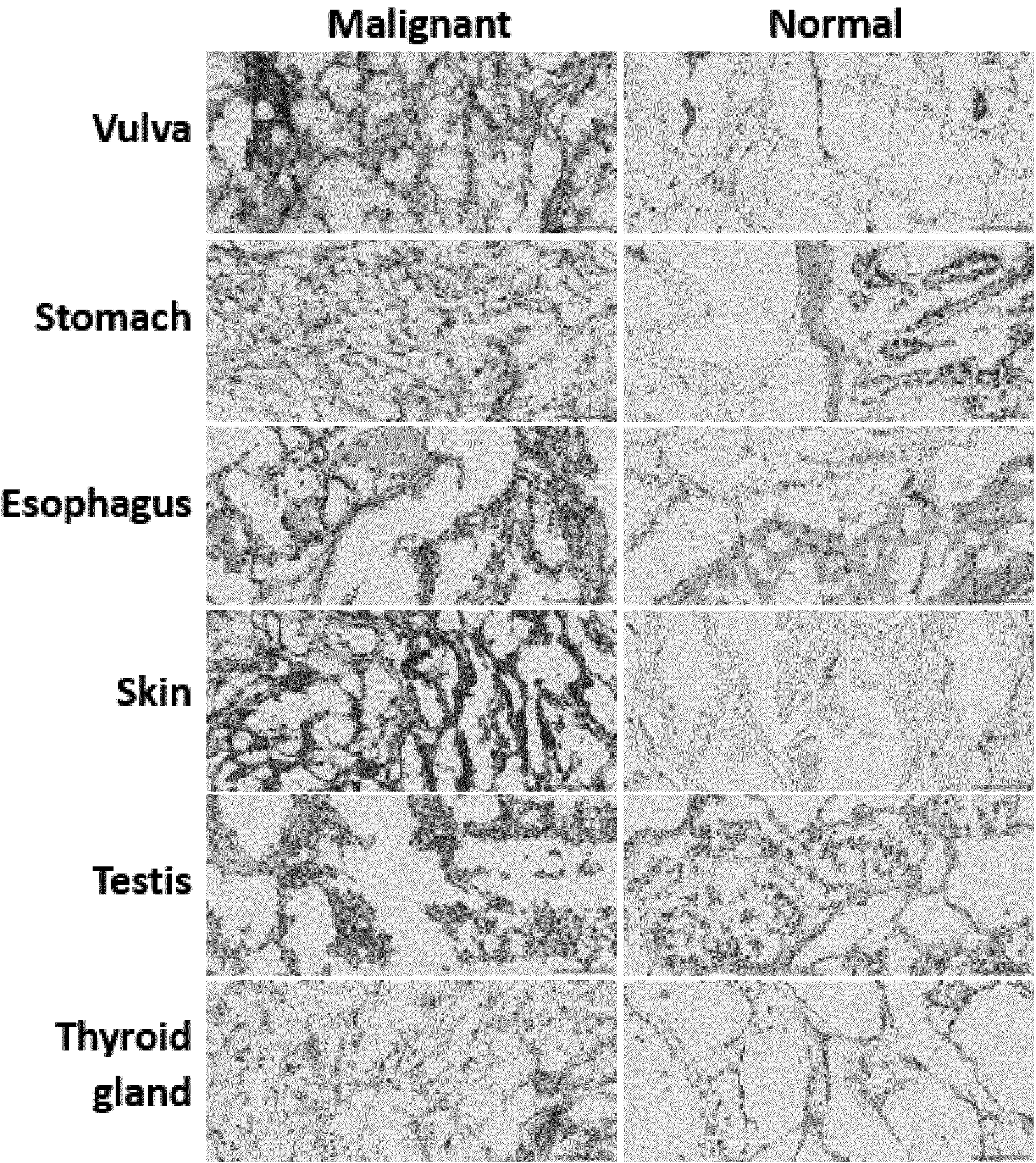


Figure 75A

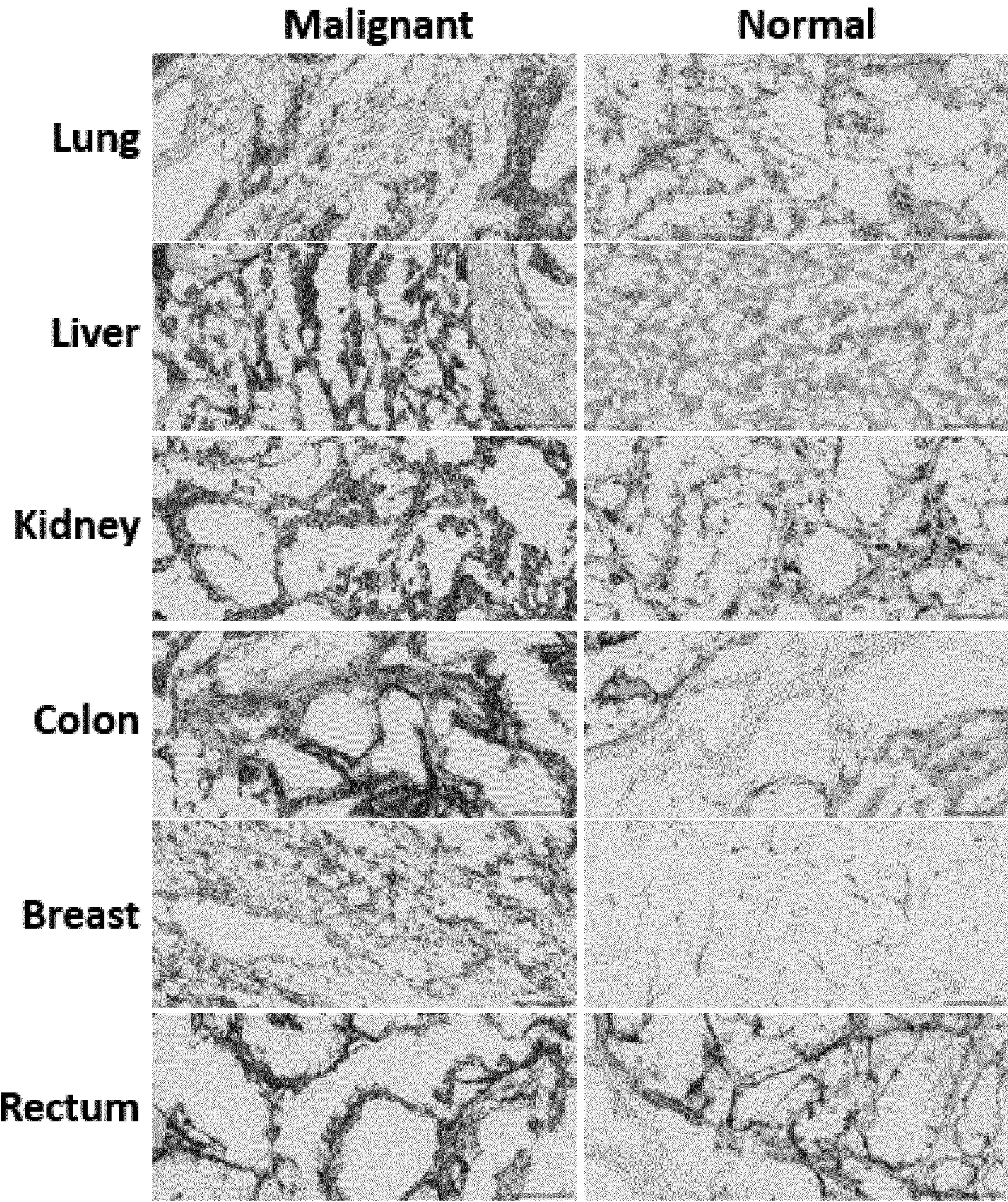


Figure 75B

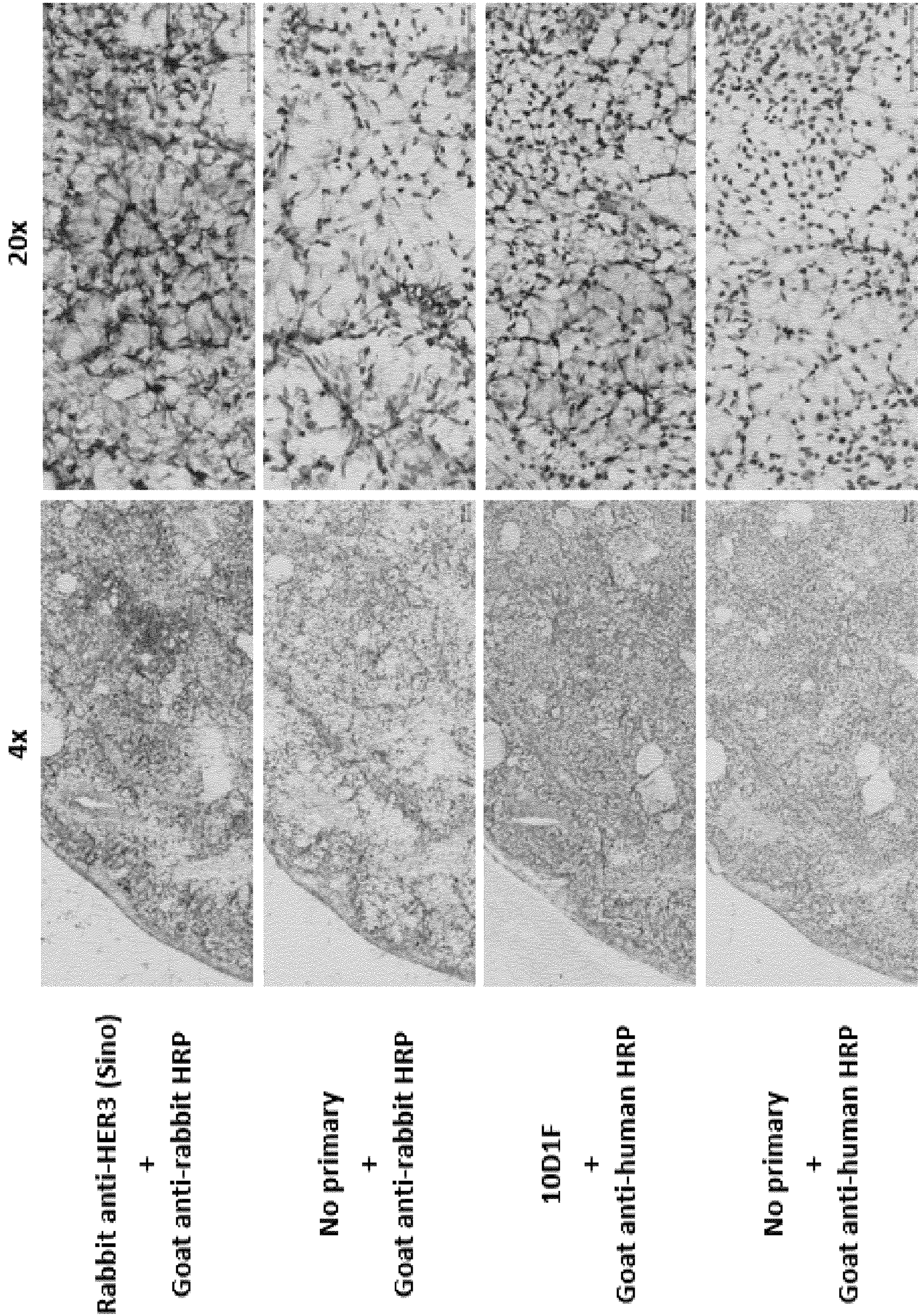


Figure 76

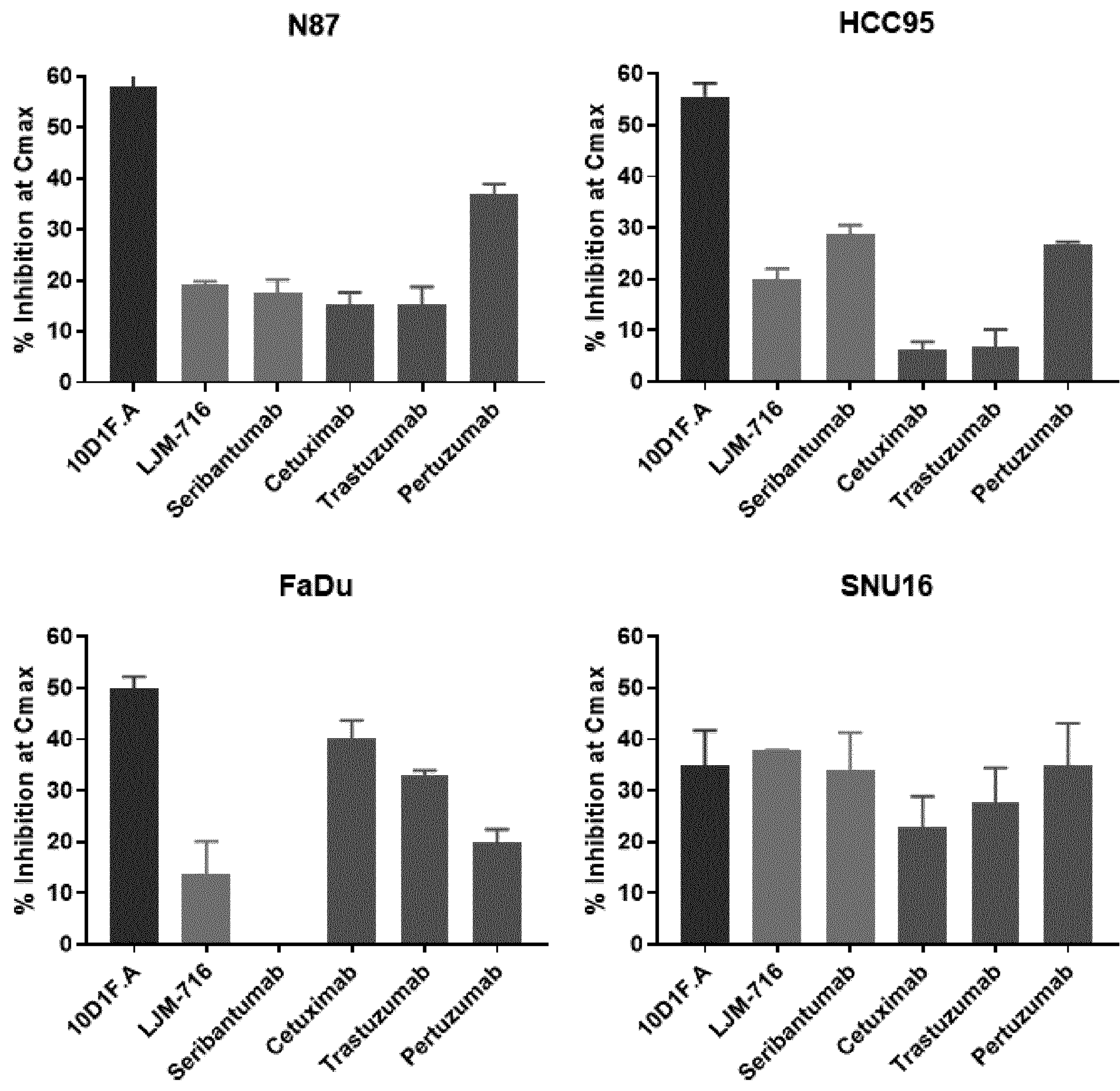


Figure 77A

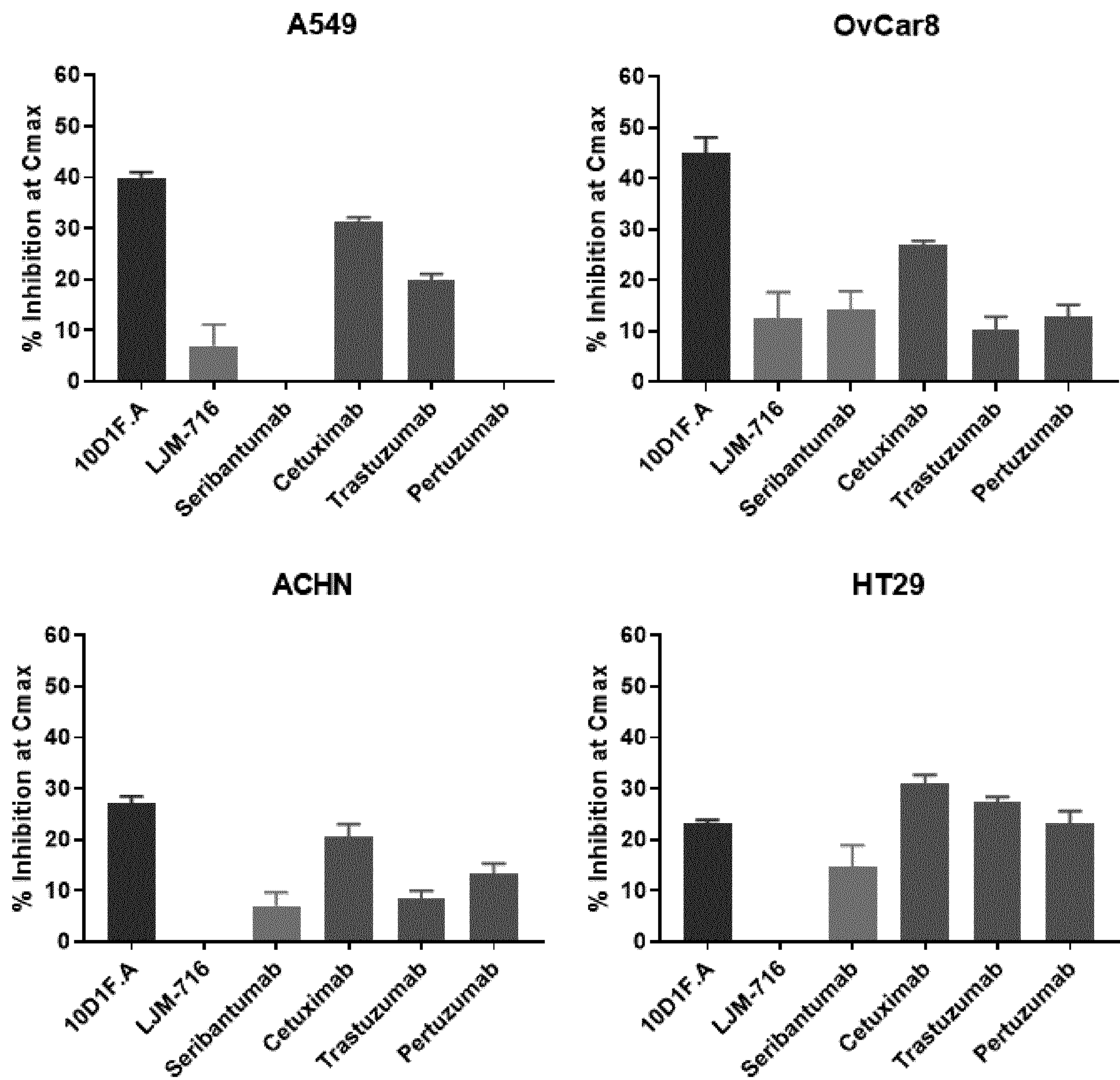


Figure 77B