

FIG. 1A

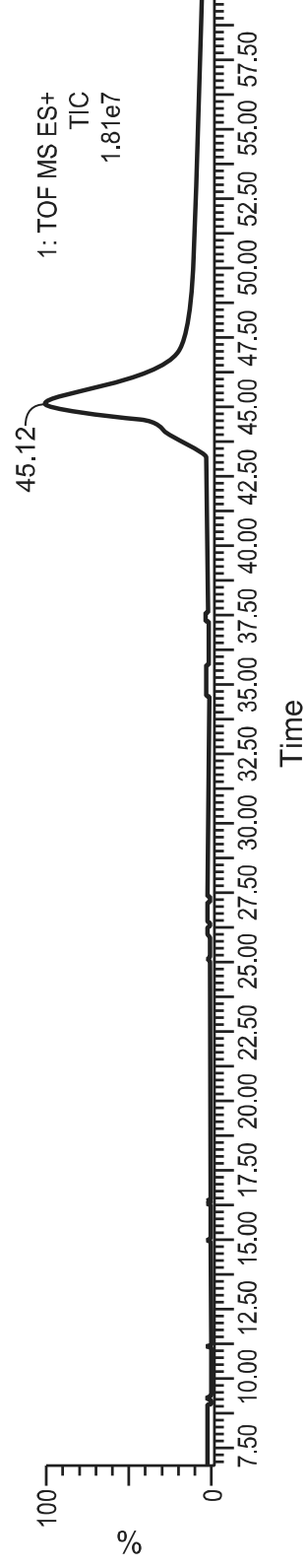


FIG. 1B

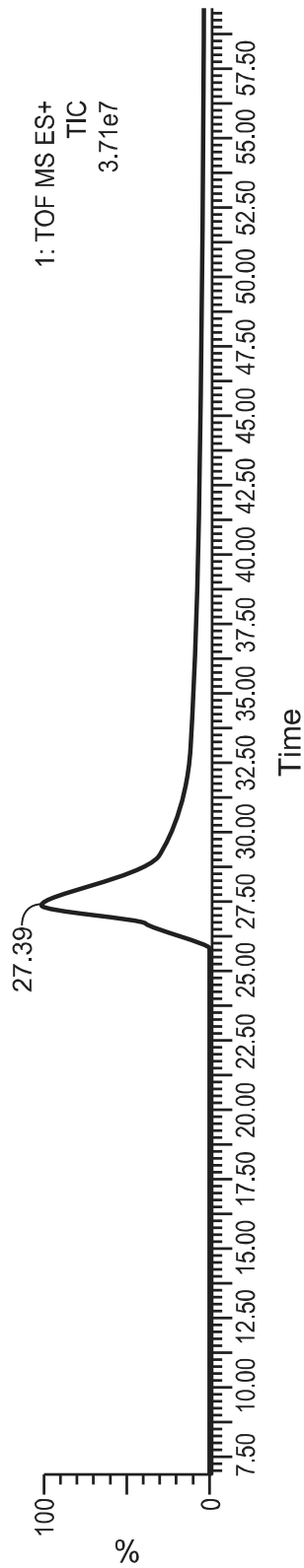


FIG. 1C

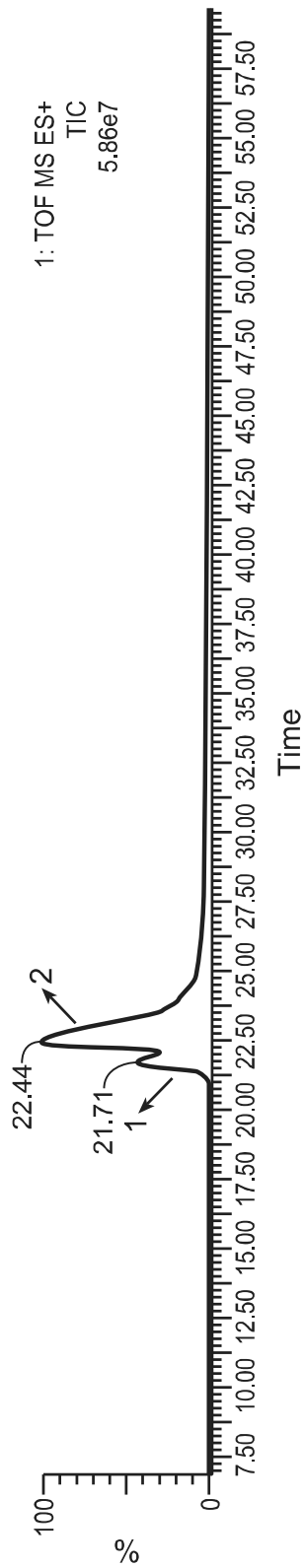


FIG. 1D

FIG. 2A

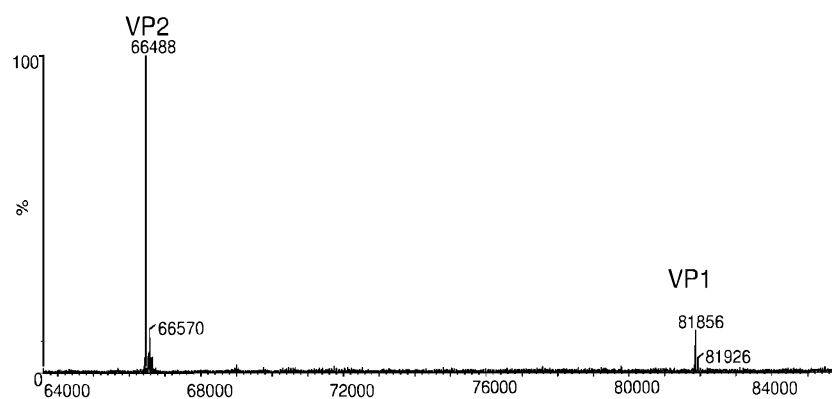
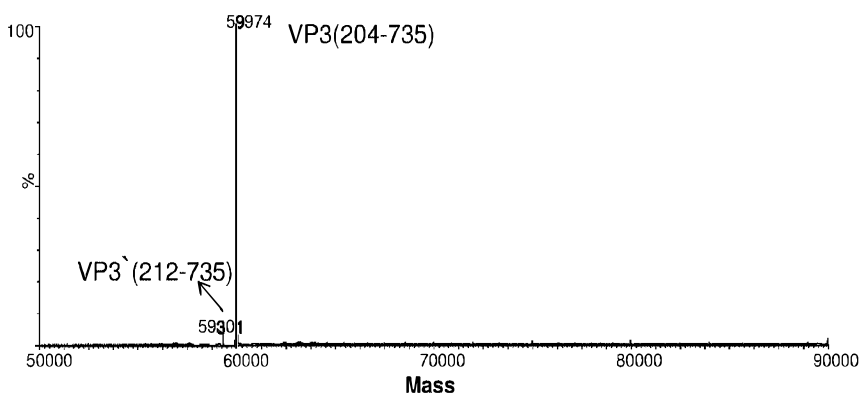


FIG. 2B



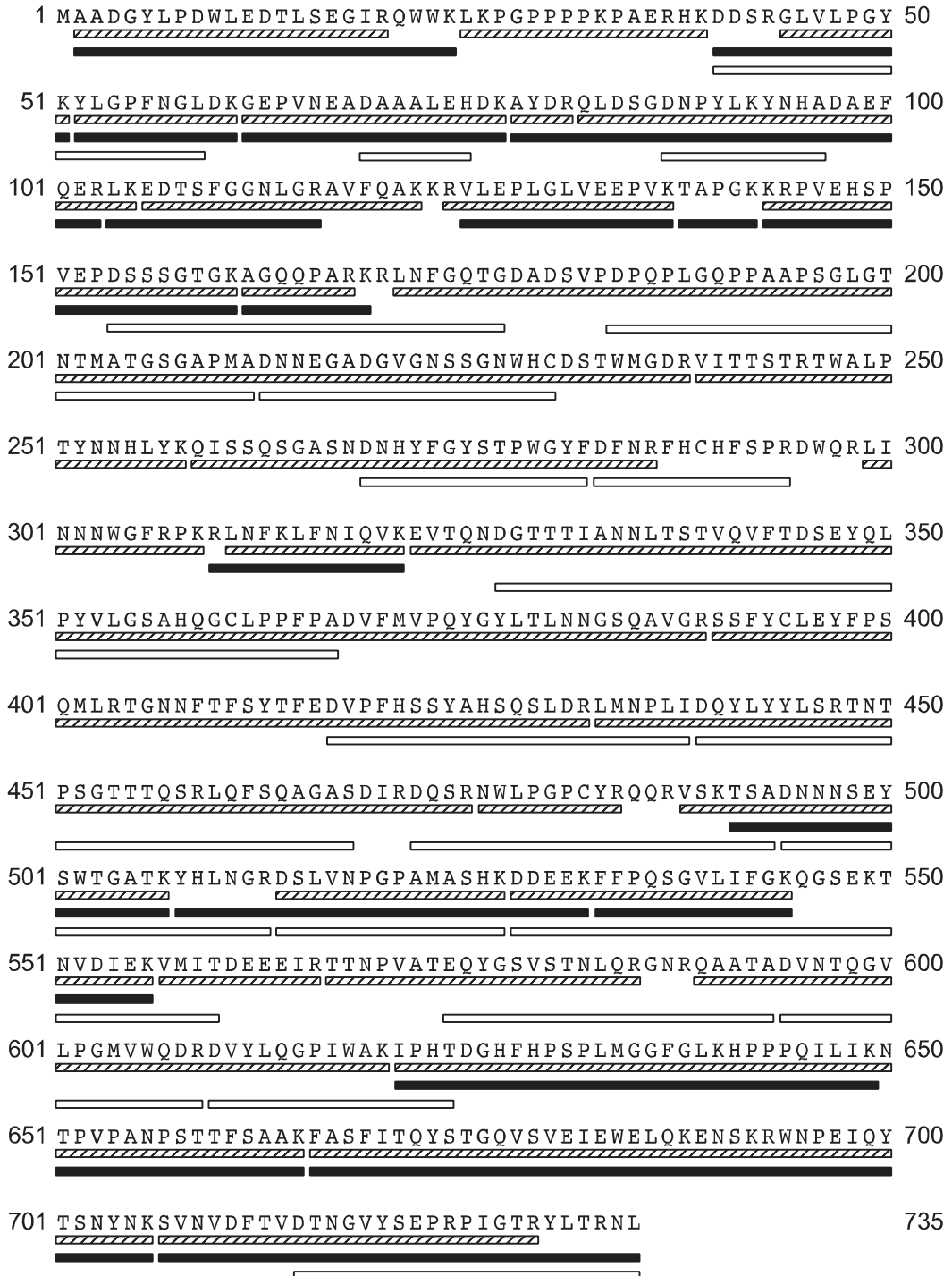


FIG. 3

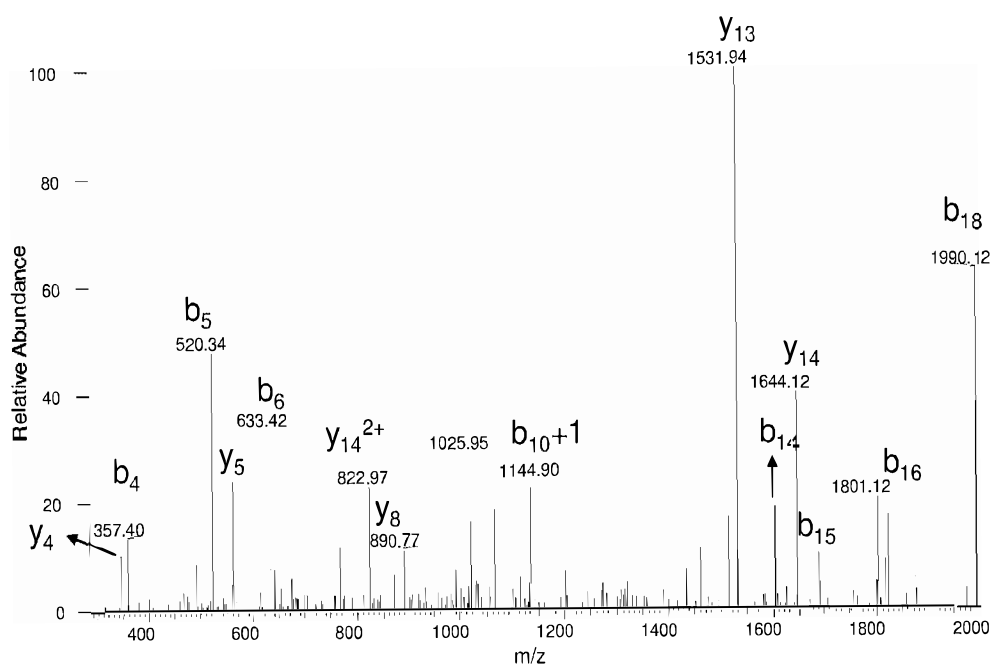


FIG. 4A

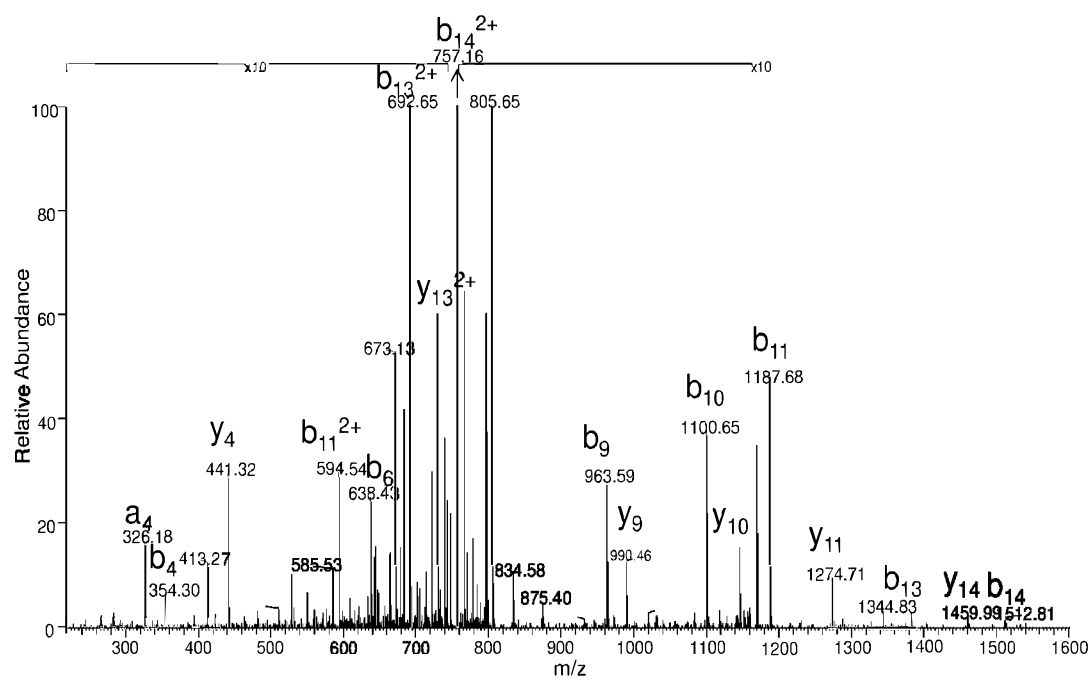


FIG. 4B

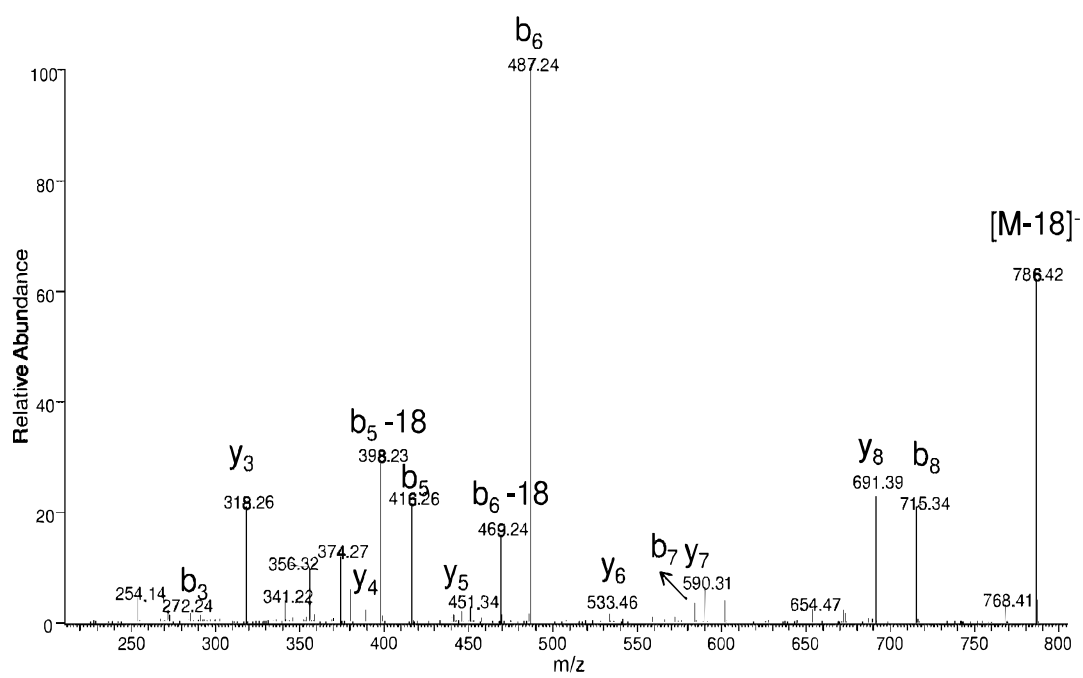


FIG. 4C

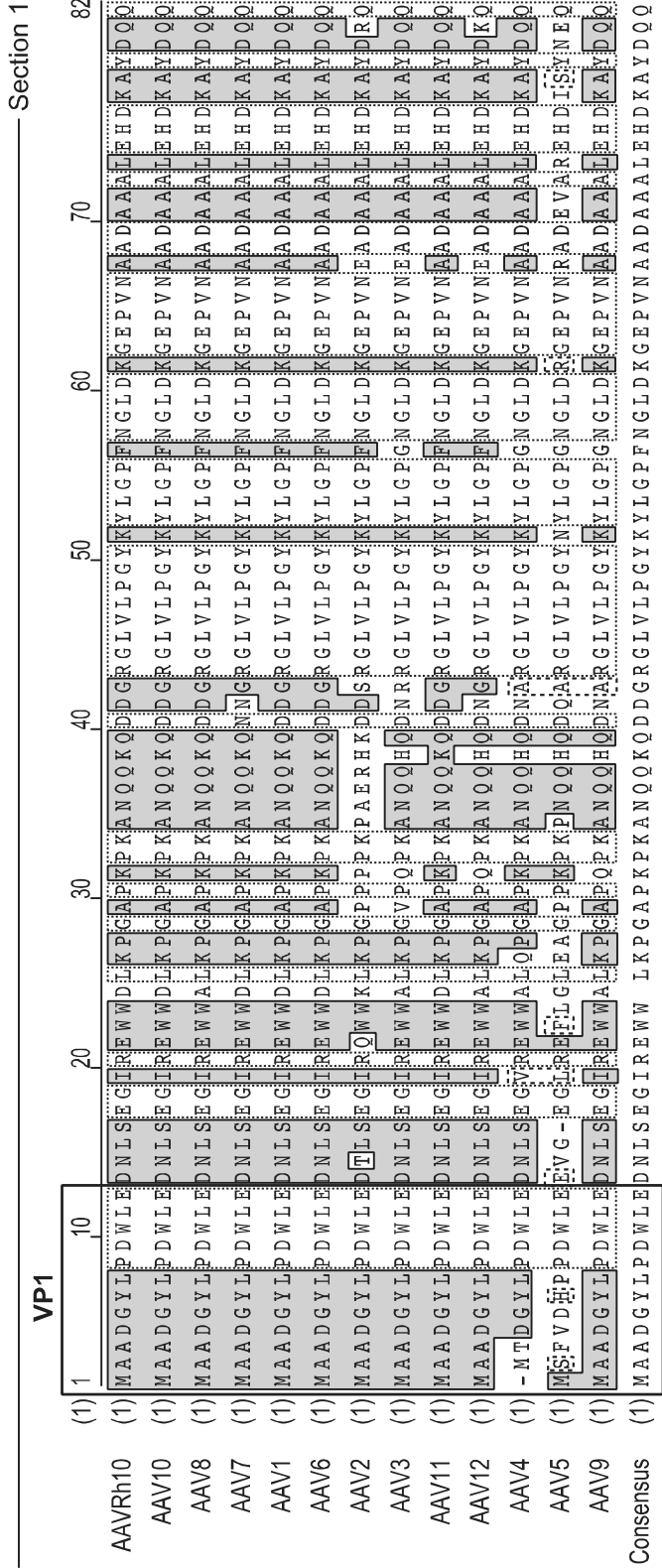


FIG. 5A

Section 2

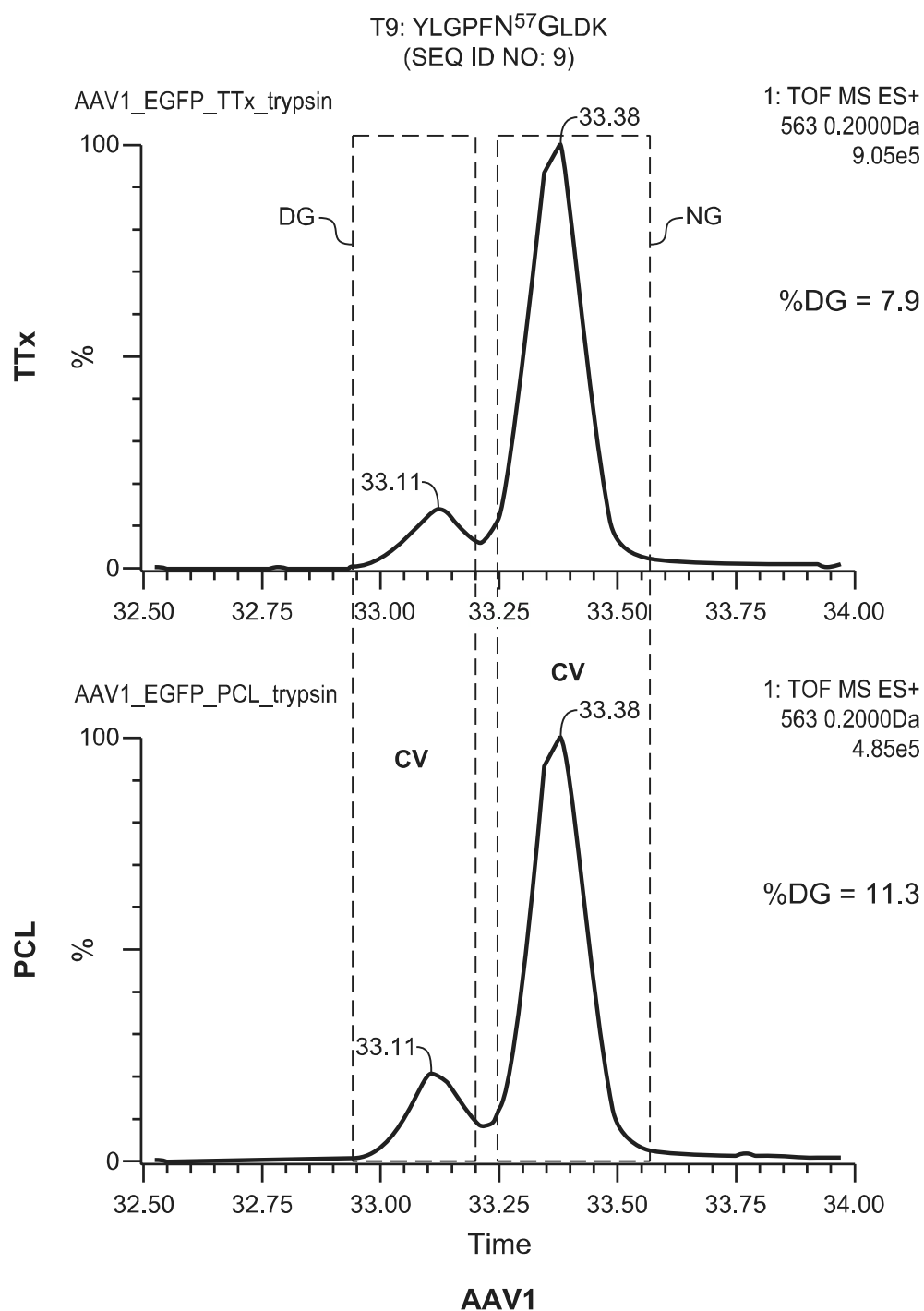
	VP2										
	83	90	100	110	120	130	140	150	164		
AAVRh10	(83)	LKAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESP--QRSPDSSSTGIGK								
AAV10	(83)	LKAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESP--QRSPDSSSTGIGK								
AAV8	(83)	LQAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESP--QRSPDSSSTGIGK								
AAV7	(83)	LKAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESP--QRSPDSSSTGIGK								
AAV1	(83)	LKAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESP--QE-PDSSSGIGK								
AAV6	(83)	LKAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESP--QE-PDSSSGIGK								
AAV2	(83)	LDSGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESHSP--VE-PDSSSGTGIGK								
AAV3	(83)	LKAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESP--QE-PDSSSGVIGK								
AAV11	(83)	LKAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESHSP--PQEPDSSSGIGK								
AAV12	(83)	LEQGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESHSP--PQEPDSSSGIGK								
AAV4	(82)	LKAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESHSP--PQEPDSSSGIGK								
AAV5	(82)	LEAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESHSP--K--RKKARTEE								
AAV9	(83)	LKAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVESHSP--QE-PDSSSAGIGK								
Consensus	(83)	LKAGDNPYLRYNHADADEFQERLQEDTSFGGNLGRAVFQA	KKRRLLEPLGLVEEGAKTAPGKKRPVE SP Q PDSSSGIGK								

FIG. 5B

Section 3

		VP3																						
		165	170	180	190	200	210	220	230	246														
AAVRh10	(163)	KGQ	---	QPAKKRLNFGQ	TGDS	SVDP	QPIIGEP	PAAGPSGL	SGTMAAGGGAP	MADNNEGADGVGS	SSGNWH	CDSTMLGDR												
AAV10	(163)	KGQ	---	QPAKKRLNFGQ	TGDS	SVDP	QPIIGEP	PAAGPSGL	SGTMAAGGGAP	MADNNEGADGVGS	SSGNWH	CDSTMLGDR												
AAV8	(163)	KGQ	---	QPAKKRLNFGQ	TGDS	SVDP	QPIIGEP	PAAGPSGL	GNPTMAAGGGAP	MADNNEGADGVGS	SSGNWH	CDSTMLGDR												
AAV7	(163)	KGQ	---	QPAKKRLNFGQ	TGDS	SVDP	QPIIGEP	PAAGPSGL	SGTMAAGGGAP	MADNNEGADGVNA	SGNWH	CDSTMLGDR												
AAV1	(162)	TGQ	---	QPAKKRLNFGQ	TGDS	SVDP	QPIIGEP	PAAGPTTMAAGGGAP	MADNNEGADGVNA	SGNWH	CDSTMLGDR													
AAV6	(162)	TGQ	---	QPAKKRLNFGQ	TGDS	SVDP	QPIIGEP	PAAGPTTMAAGGGAP	MADNNEGADGVNA	SGNWH	CDSTMLGDR													
AAV2	(162)	AGQ	---	QPAKKRLNFGQ	TGDA	SDSVDP	QPIQLQPPAA	PSGLTNTMATSGGAP	MADNNEGADGVGN	SSGNWH	CDSTMLGDR													
AAV3	(162)	SGK	---	QPAKKRLNFGQ	TGDS	SVDP	QPIIGEP	PAAPTSL	GSNTMAAGGGAP	MADNNEGADGVGN	SSGNWH	CDSTMLGDR												
AAV11	(161)	KGK	---	QPAKKRLNFEED	TGAG	---	DGPPEGS	DTSAMSSDIEMRAAPGGNA	VDAAG--QGSSD	GVGNASGD	WH	CDSTMLSEGR												
AAV12	(165)	KKQ	---	QPAKKDGEPA	DSAR	TLDFED	SGAG	---	DGPPEGS	SGSEMSHDAEMRAAPGGNA	VEAG--QGAD	GVGNASGD	WH	CDSTMLSEGR										
AAV4	(161)	KGK	---	QPAKKKLVE	DET	TGAG	---	DGPPEGS	TSGAMSDDEMRALAAAGAA	VEAG--QGAD	GVGNASGD	WH	CDSTMLSEGH											
AAV5	(159)	DSK	---	---	PTSSDA	EAGPSG	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AAV9	(162)	SGA	---	QPAKKRLNFGQ	TGDT	TESVDP	QPIIGEP	PAAGPSGL	GADTMSAGGIC	PLTGDN	QGA	DGVGNASGD	WH	CDSTMLGDR										
Consensus	(165)	KGQ	---	QPAKKRLNFGQ	TGDS	SVDP	QPIIGEP	PAAGPSGL	TMAAGGGAP	MADNNEGADGVNA	SGNWH	CDSTMLGDR												

FIG. 5C

**FIG. 6A**

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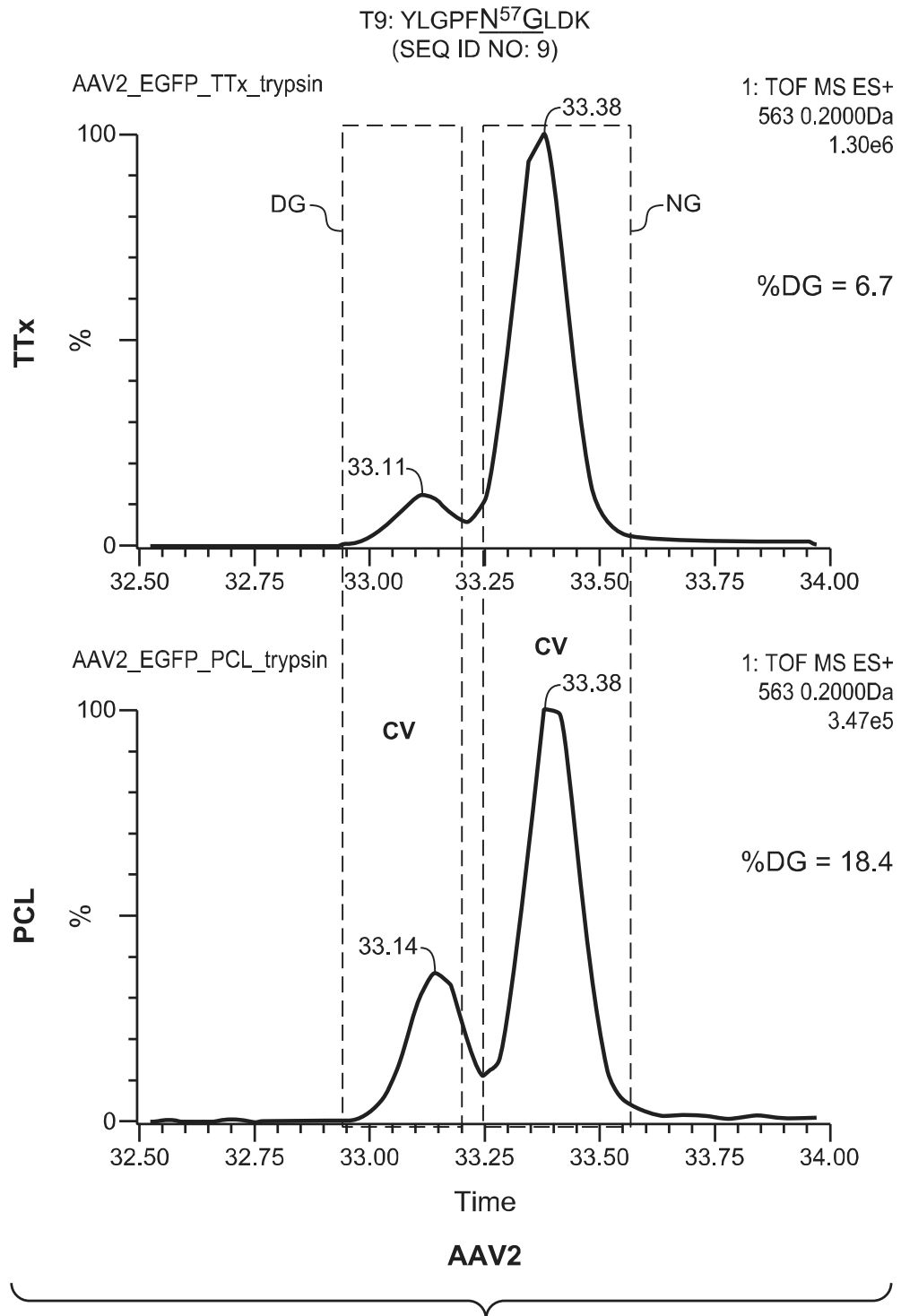


FIG. 6B

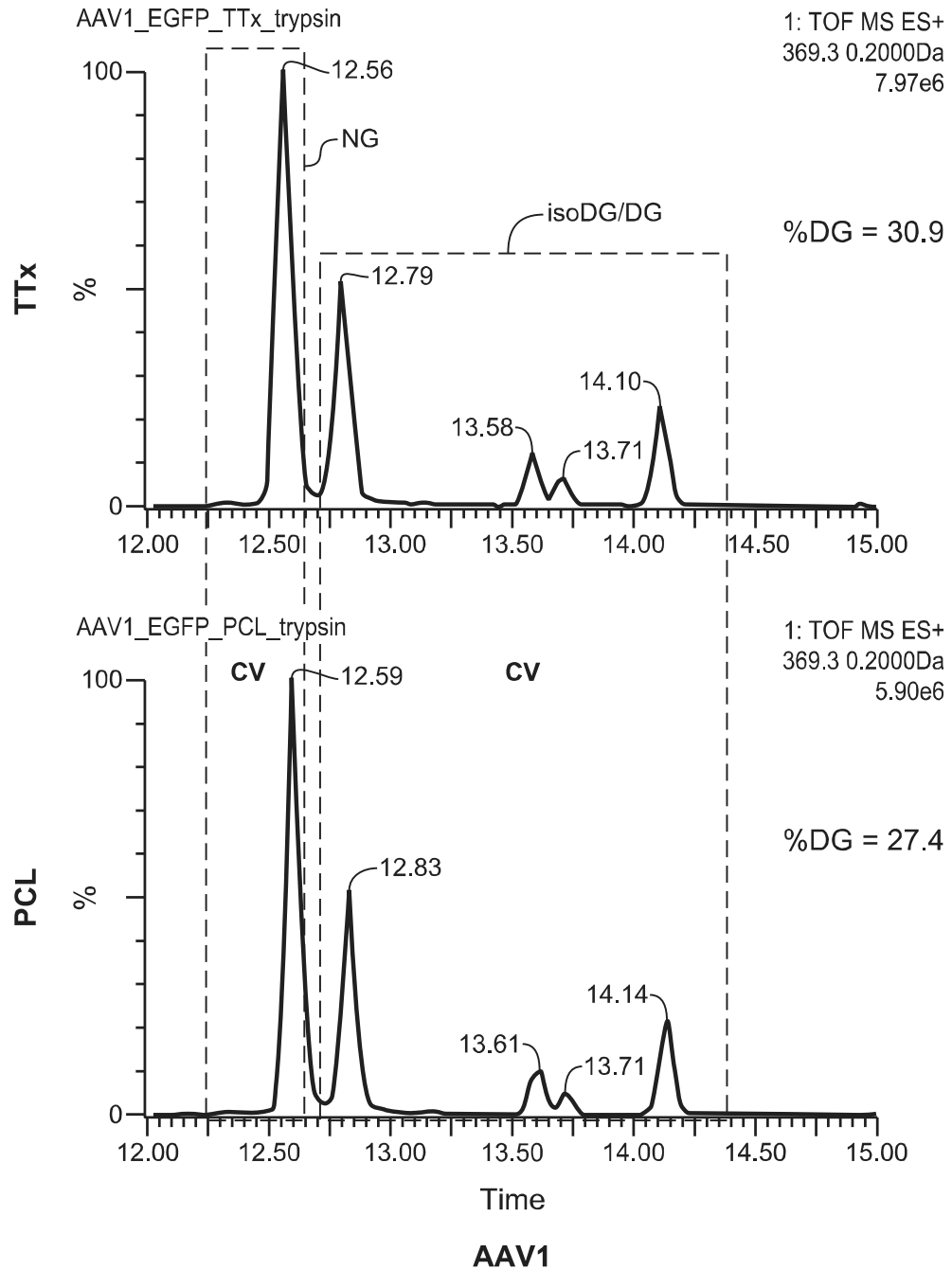
AAV1_T49: YNLN⁵¹¹GR

FIG. 7A

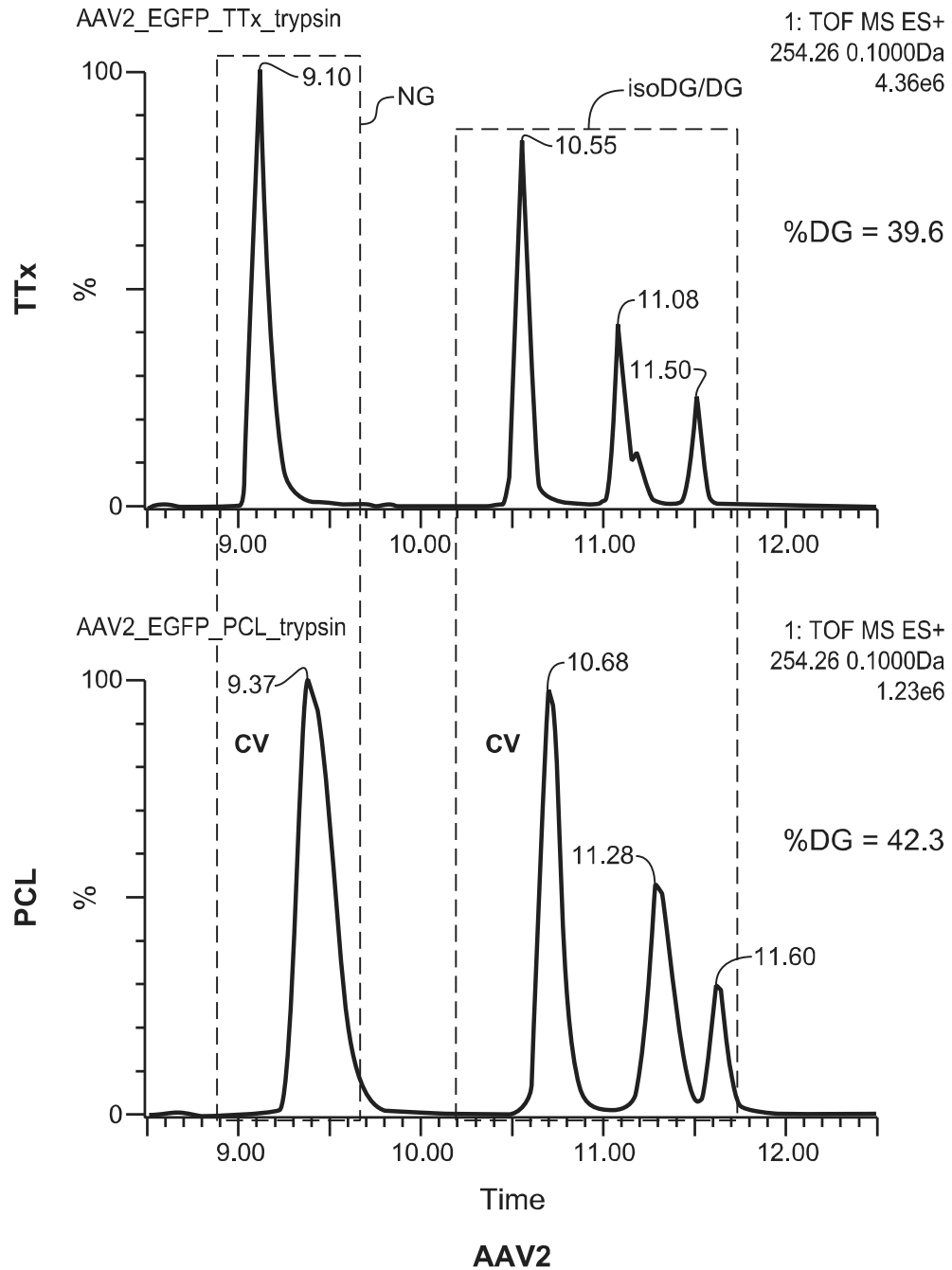
AAV2_T49: YHLN⁵¹¹GR

FIG. 7B

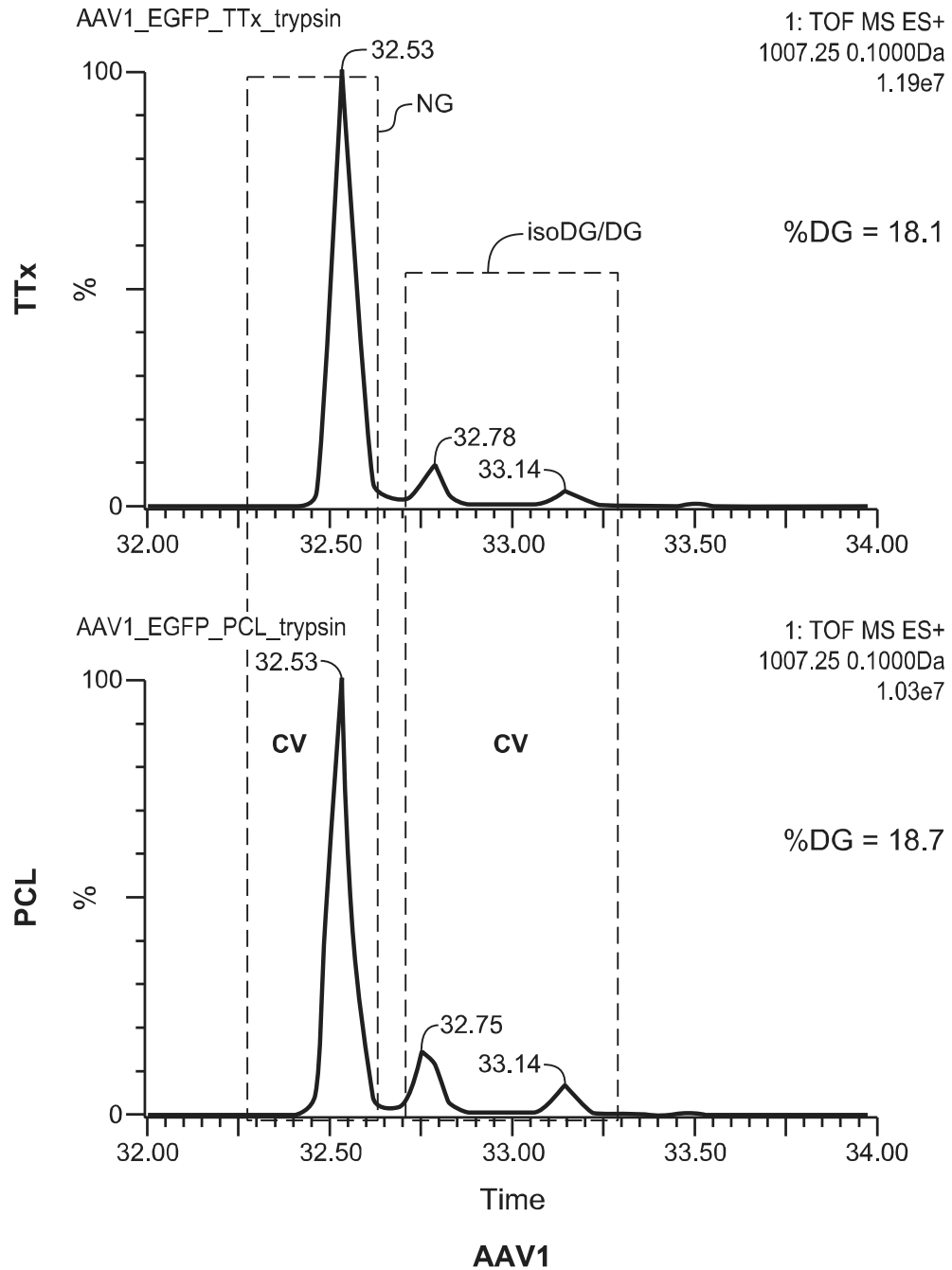
AAV1_T67: SANVDFTVDNN⁷¹⁵GLYTEPR

FIG. 8A

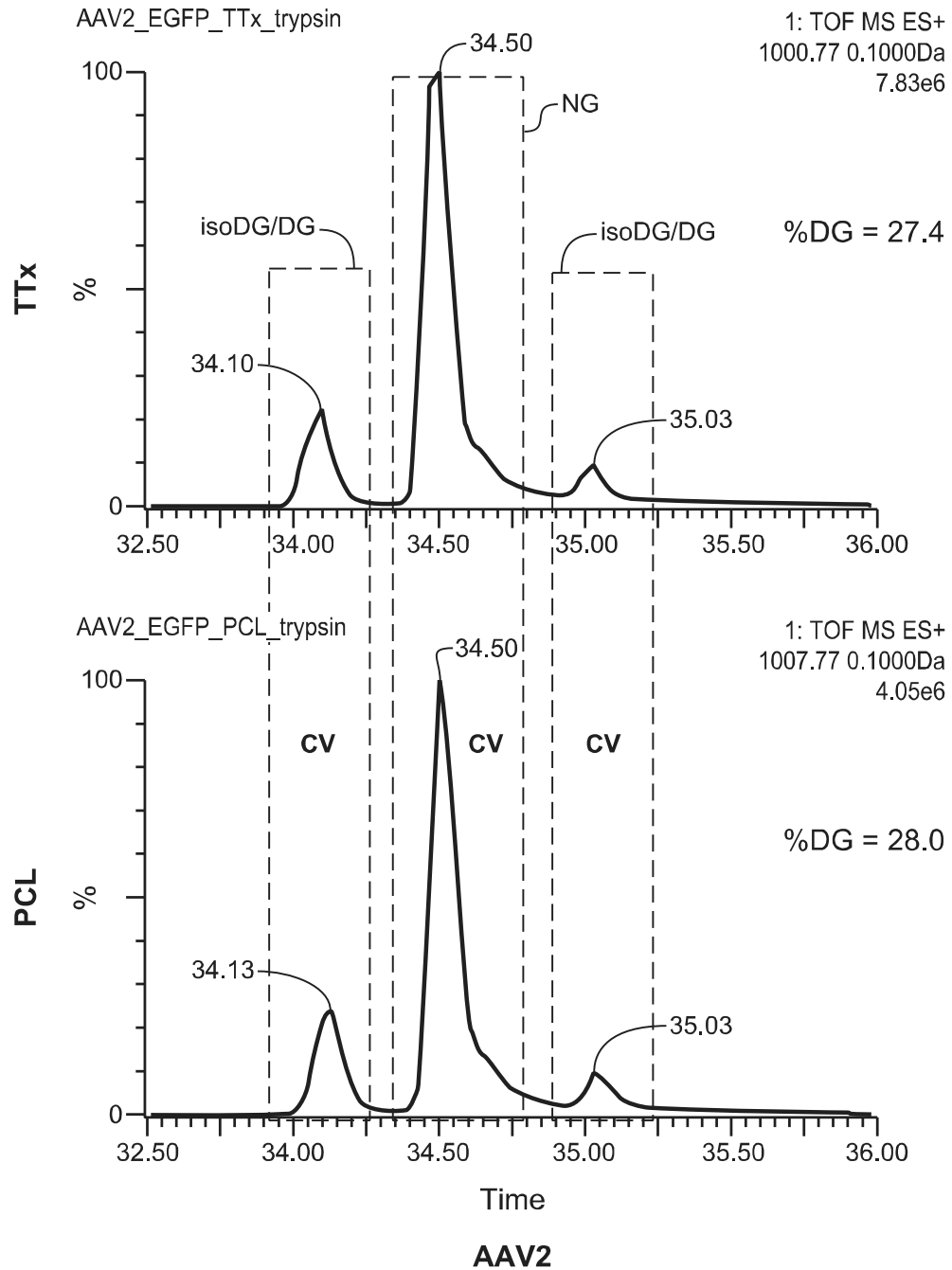
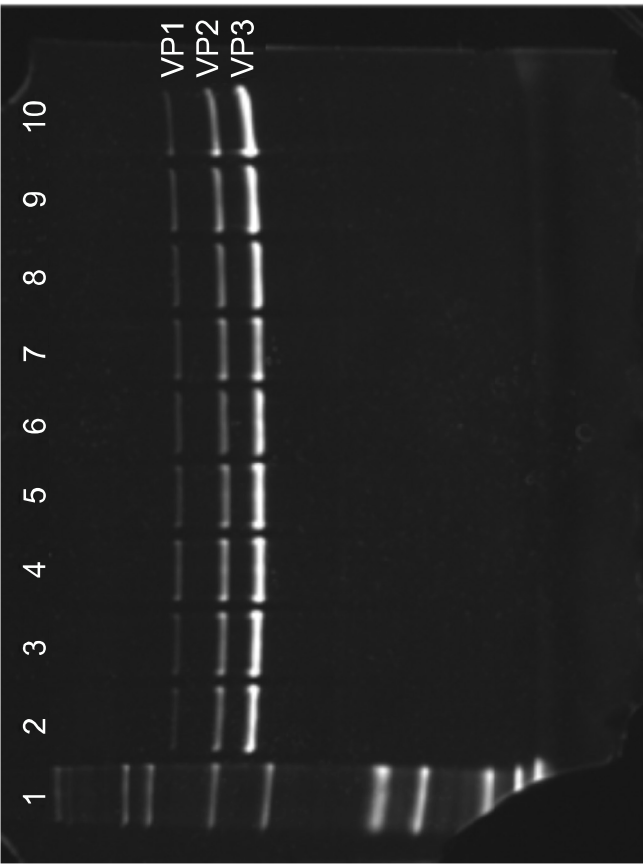
AAV2_T67: SVNVDFTVDTN⁷¹⁵GVYSEPR

FIG. 8B



Deacetylation AAV5 Mutant Vectors

Lane	Sample
1	Mark12 Marker
2	deAC-AAV5 (S2G)/CBA-eGFP X17052C
3	deAC-AAV5 (S2L)/CBA-eGFP X17052D
4	deAC-AAV5 (S2GVP3)/CBA-eGFP X17058D
5	deAC-AAV5 (S2LVP3)/CBA-eGFP X17065A
6	deAC-AAV5 (S2PVP1VP3)/CBA-eGFP X17065B
7	deAC-AAV5 (S2GVP1VP3)/CBA-eGFP X17065C
8	deAC-AAV5 (S2PVP3)/CBA-eGFP X17065D
9	deAC-AAV5 (S2P)/CBA-eGFP X17065E
10	deAC-AAV5 (S2LVP1VP3)/CBA-eGFP X17072B

(~1E10 VGs/Lane)

FIG. 9

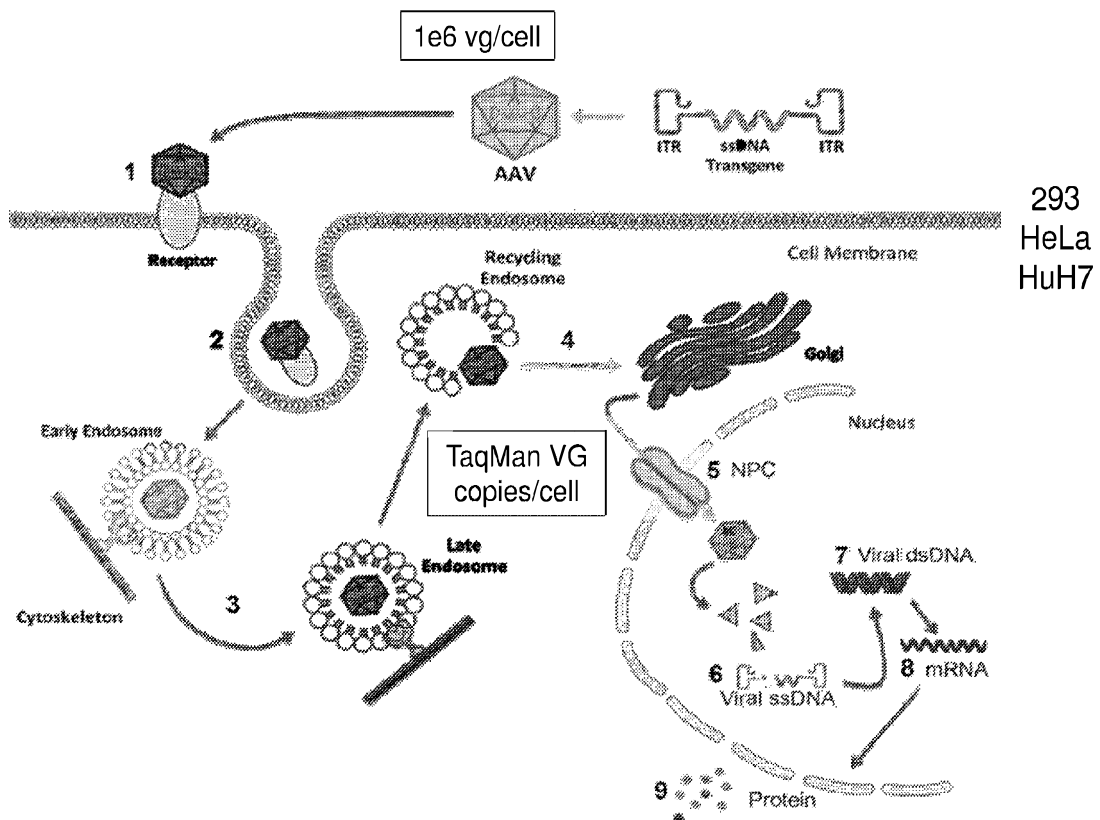


FIG. 10

eGFP ELISA

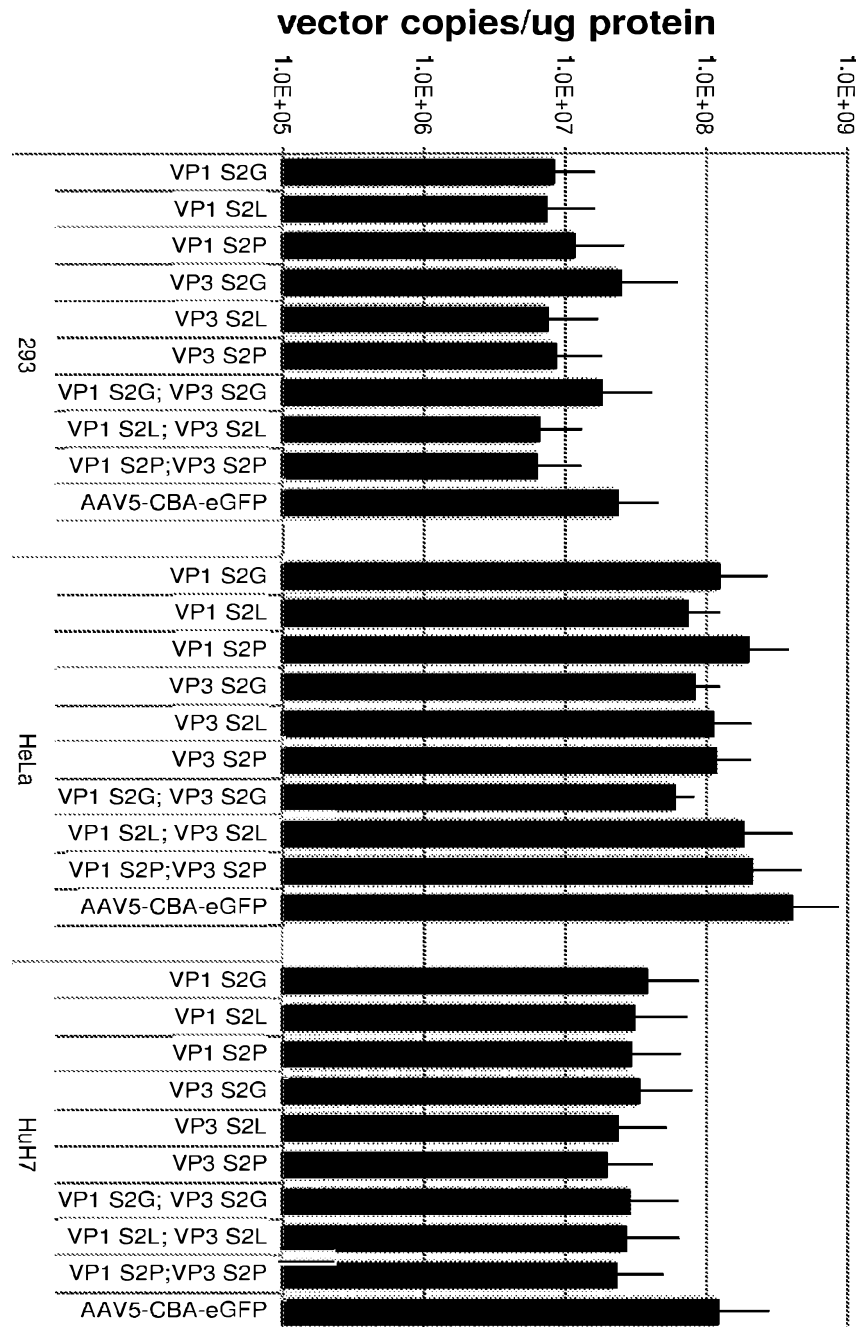
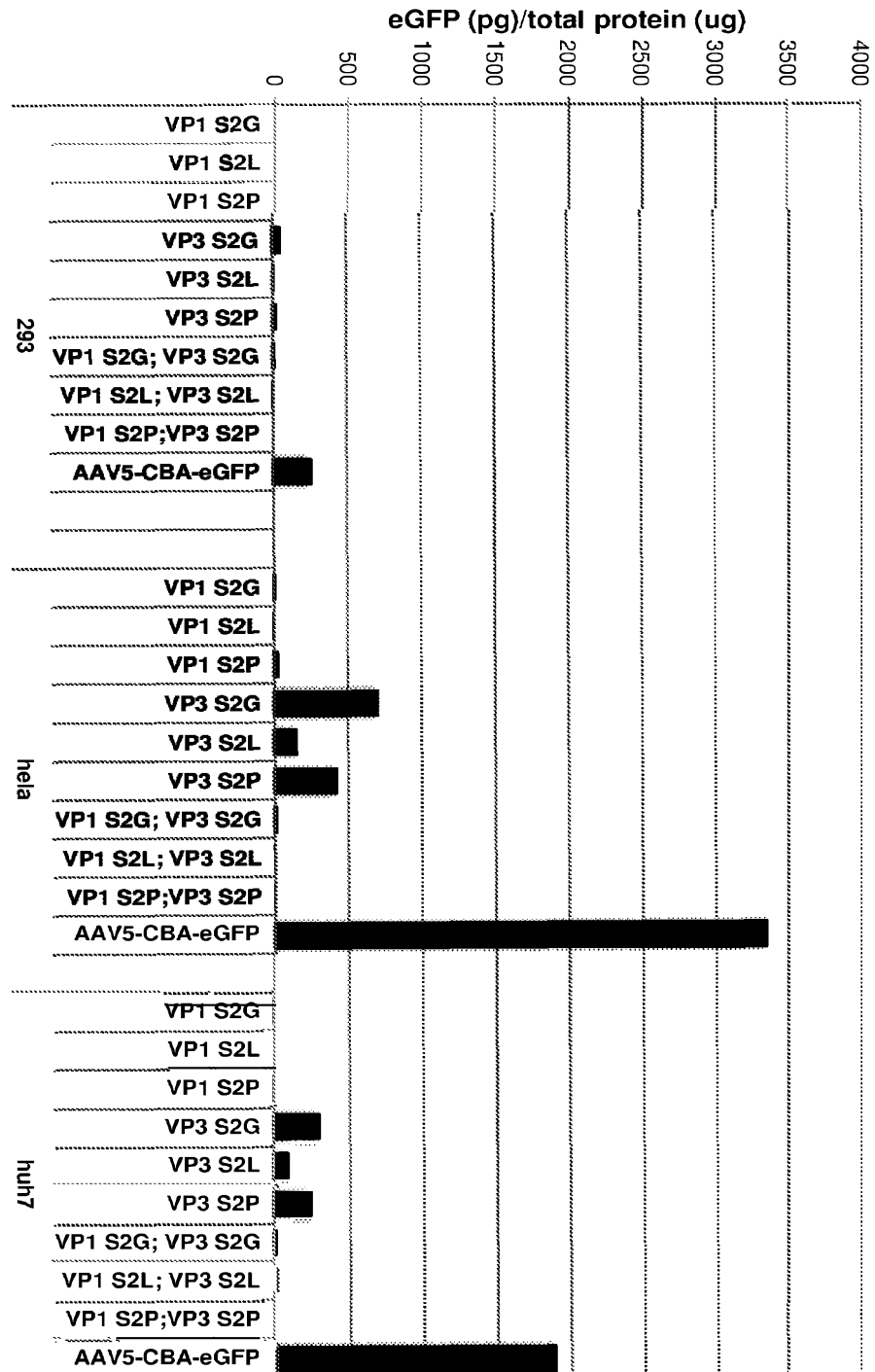
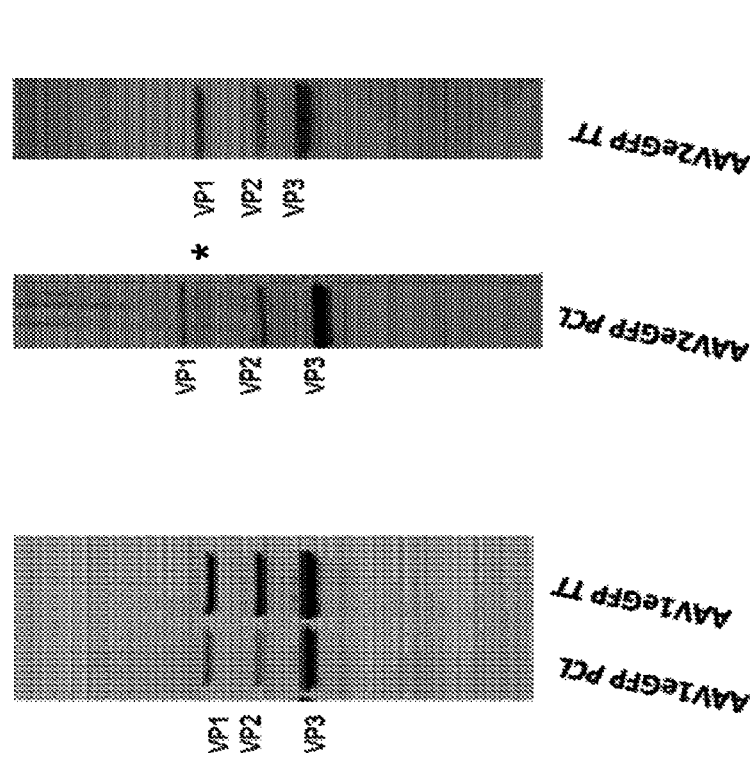
FIG. 11

FIG. 12



	(1)	1	10	20	30	40	50	60																										
AAVRh10	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV10	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV8	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV7	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV1	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV6	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV2	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV3	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV11	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV12	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV4	(1)	-MTDGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
AAV5	(1)	MSFVDDHPP	DWLE	EEVG	-E	GL	RE	FF	L	G	L	E	A	G	P	P	K	P	N	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K
AAV9	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	DL	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									
Consensus	(1)	MAADGYLP	DWLE	DNLSE	GIRE	EW	L	KPGAP	KPK	KAN	Q	Q	KQ	D	D	GRGLV	LP	GY	KY	LG	PF	N	GL	D	K									

FIG. 13

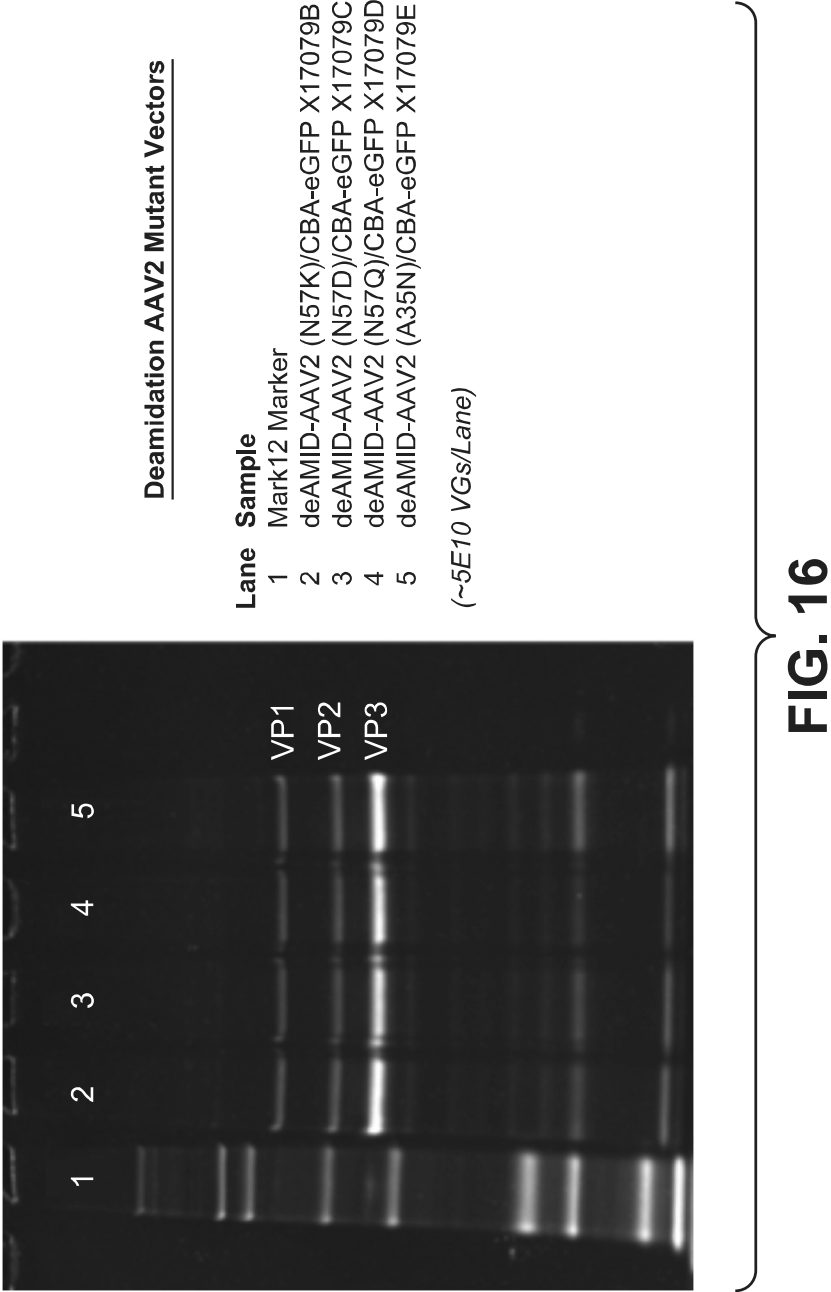
**FIG. 14**

Deamidation of N57(G)

	% Deamidation on N57	replicate
AAV2(A35N)	37.8	1
AAV2(G58D)	1.1	1
AAV2 control	5.7	2

AAV2(A35N) has been stored at 4C for 1 months

FIG. 15



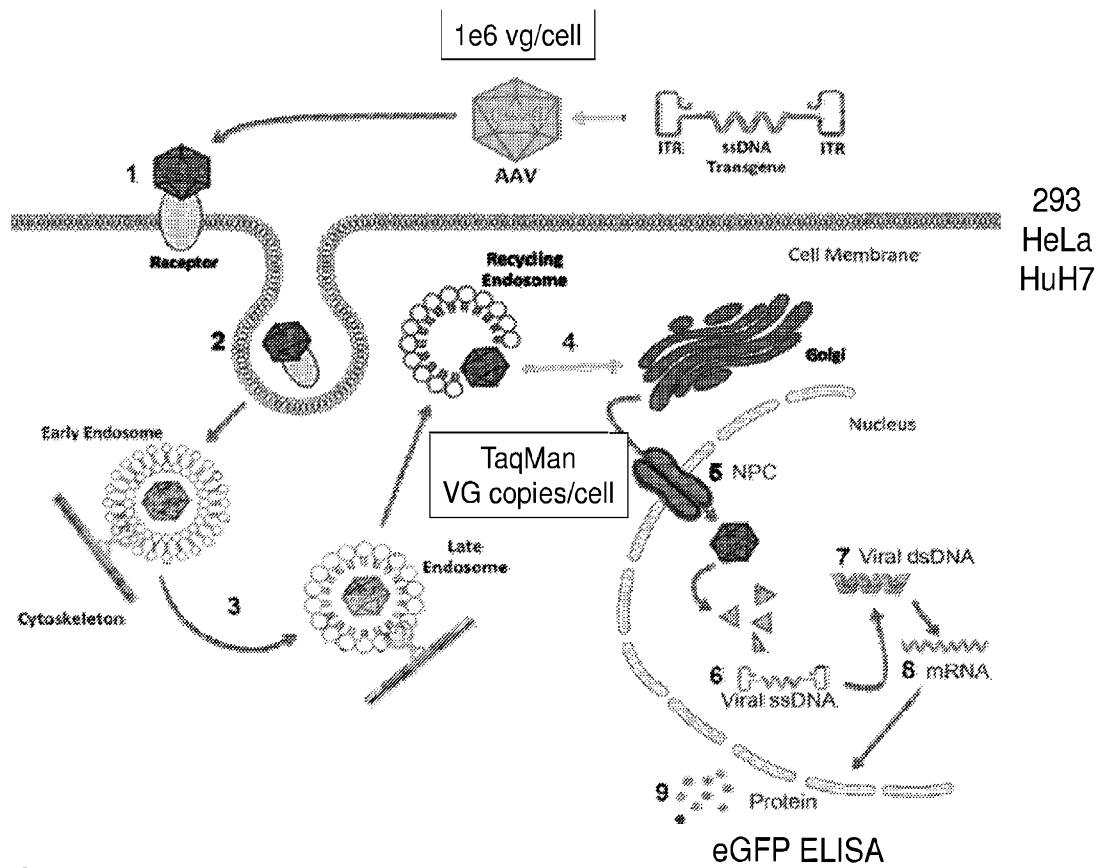
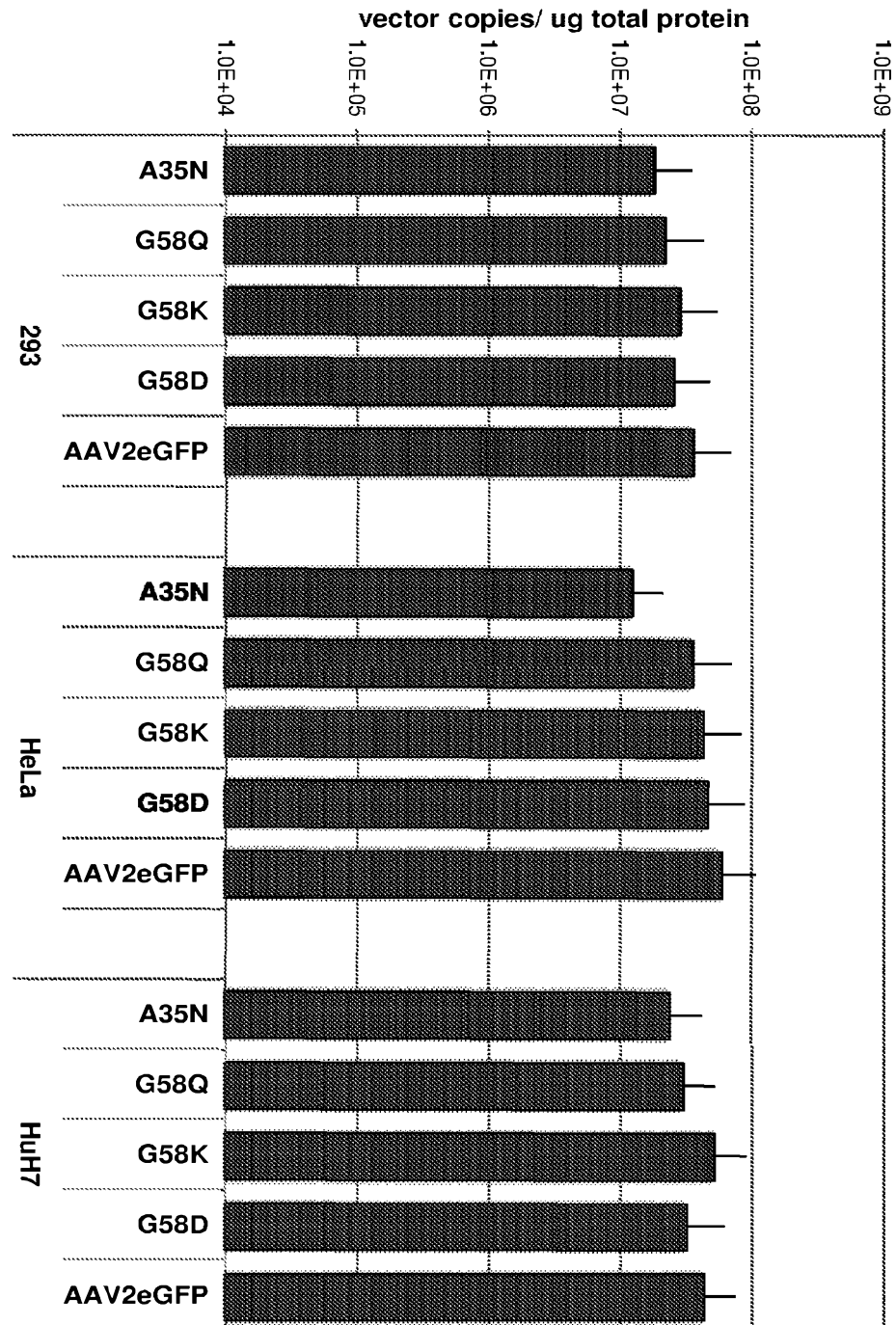


FIG. 17

FIG. 18

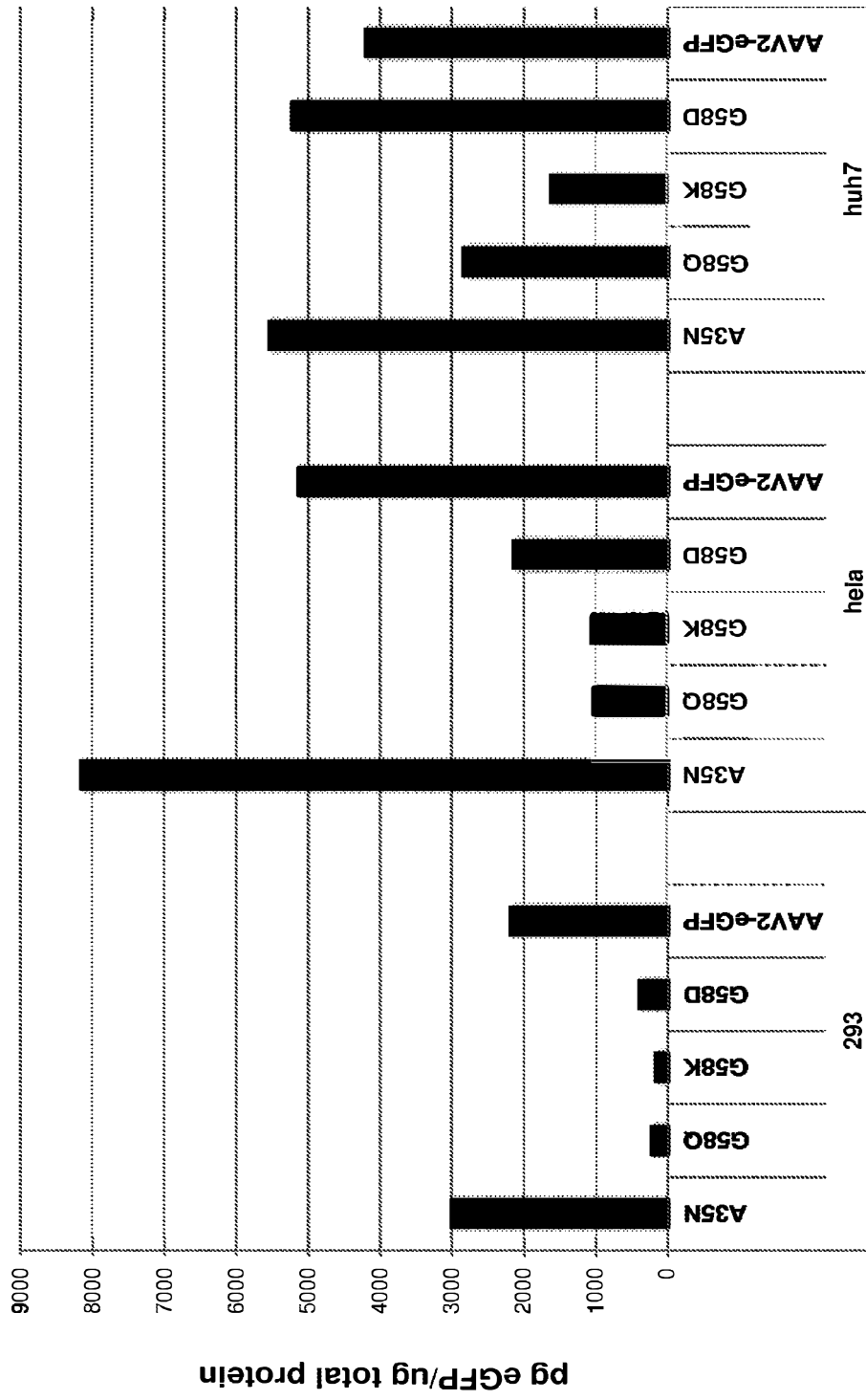


FIG. 19