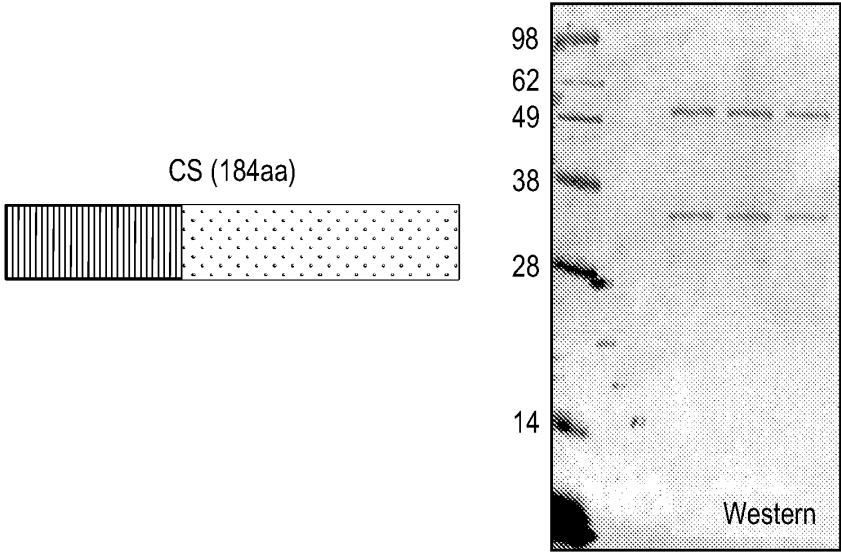
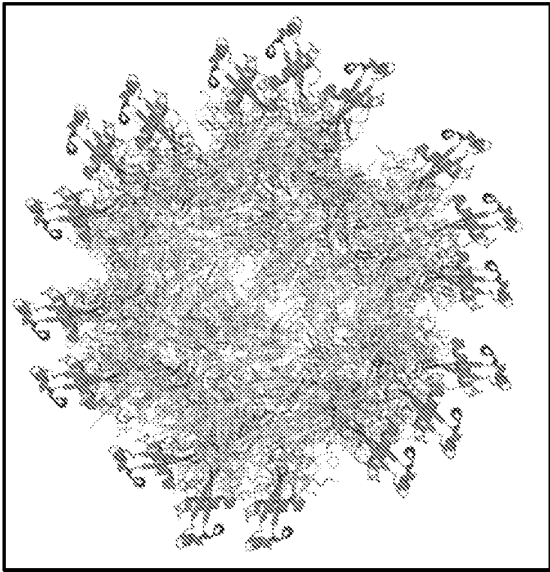




Construct Name	Description
pRTx - 7062 CS - Cterm	184 C-Terminal residues of CS protein for 293 expression
pRTx - 7063 CS - CTerm - CTC	184 C-Terminal residues of CS protein with additional C-Terminal Cysteine for conjugation

FIG. 1



Construct Name	Description
CS - Ring10-ORF1 Fusion	184 C-Terminal residues of CS protein fused into ORF1 replacing HVRs (251-383)

FIG. 2

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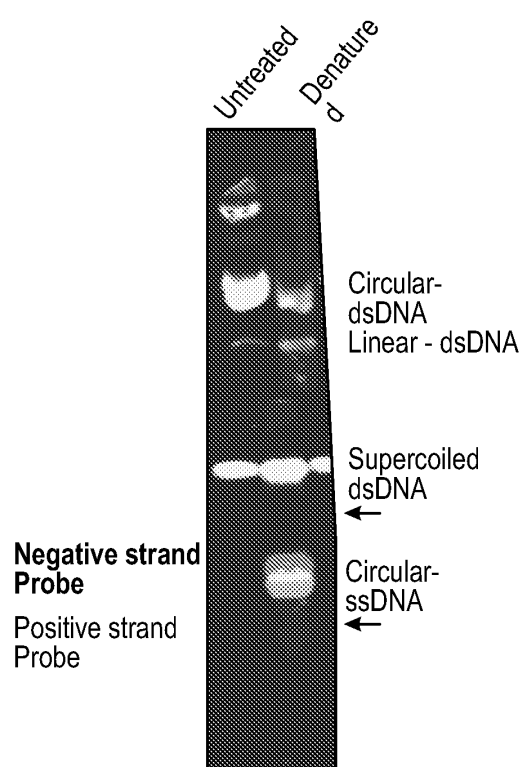


FIG. 3

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Strain	Genus	Tissue of origin	Sf9 Expression	ORF1(Da)	ORF1 (# residues)	Genome Size (bp)
Ring1	α	spleen	-	87961	743	3753
Ring2	β	lung	+++	78696	666	2975
Ring3	γ	CD8	+	80593	677	3264
Ring4	γ	CD8	++	78835	662	3174
Ring5	α	pan	+	87304	728	3696
Ring6	α	pan	+	90194	767	3828
Ring7	α	pan	—	90605	766	3815
Ring9	β	blood	+++	79700	673	2845
Ring10	β	lung	+++	81700	689	2912
Ring20	α	serum	-	90022	769	3853

FIG. 4A

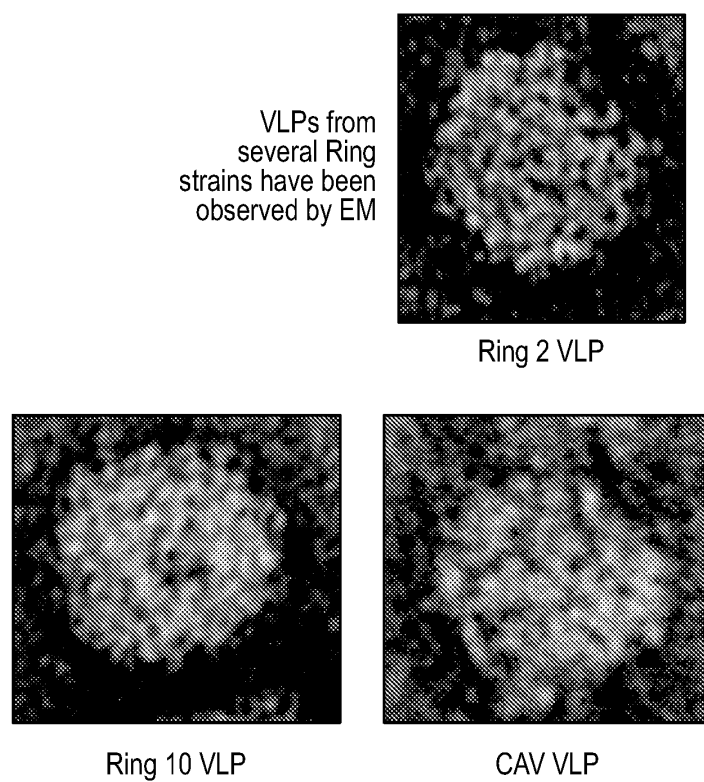


FIG. 4B

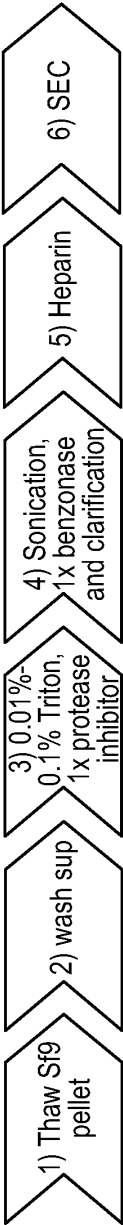
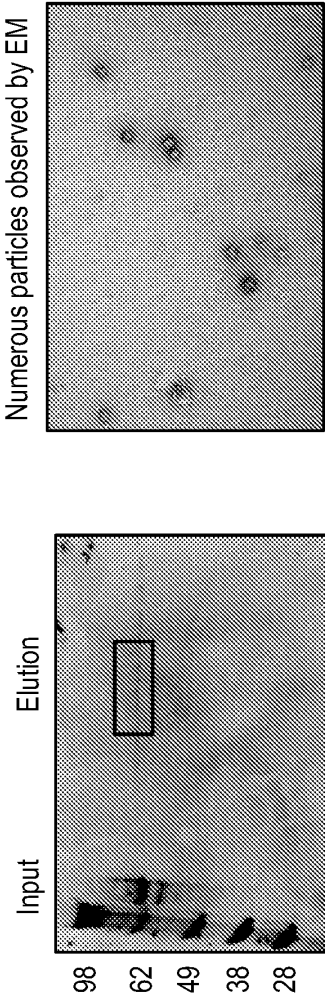


FIG. 5A



Anti-ORF1 western blot

FIG. 5B

FIG. 5C

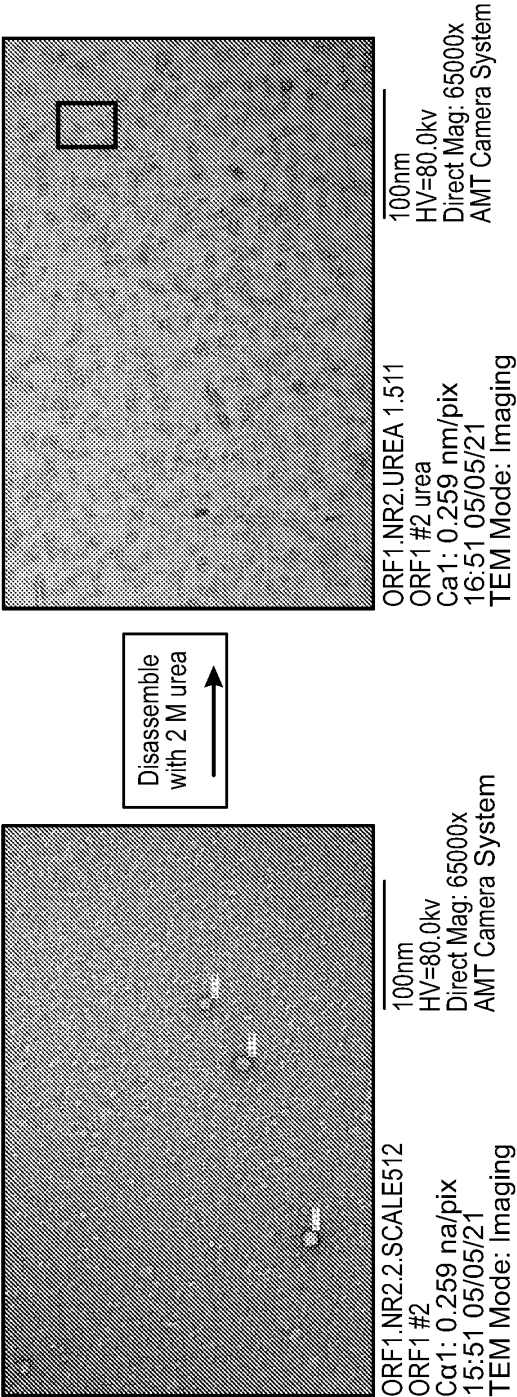


FIG. 6A

FIG. 6B

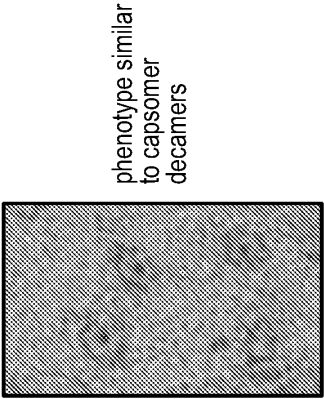


FIG. 6C

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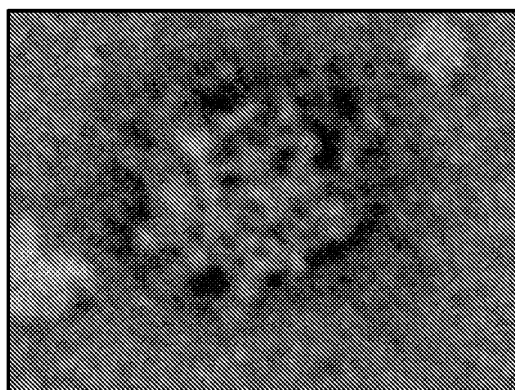


FIG. 7A

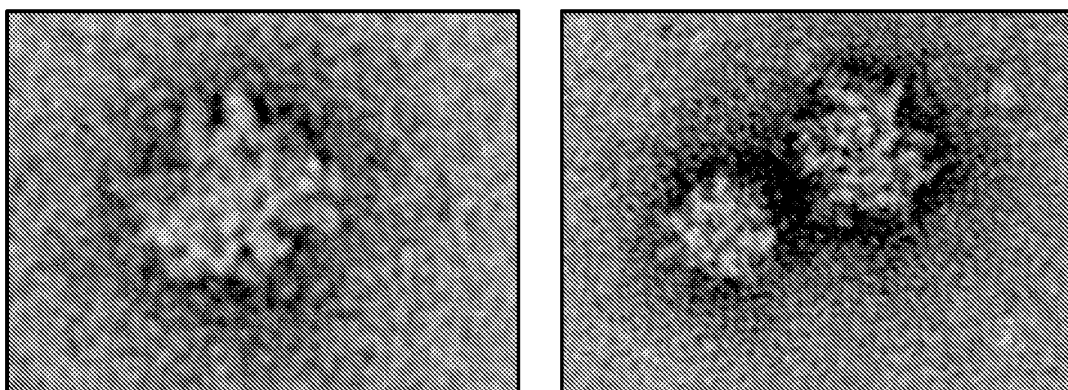


FIG. 7B

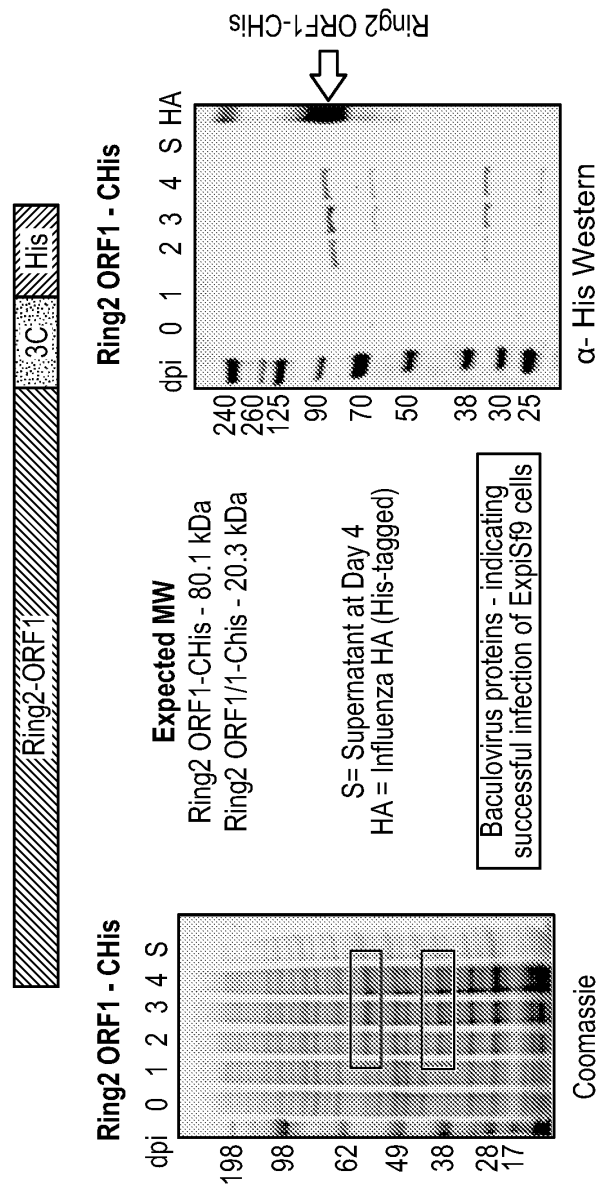


FIG. 8

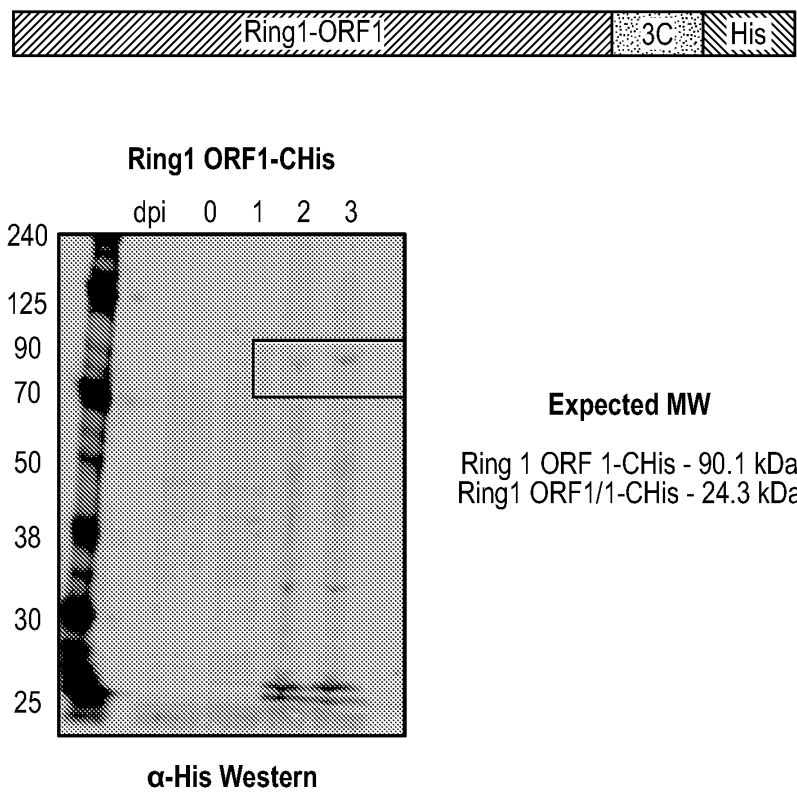


FIG. 9

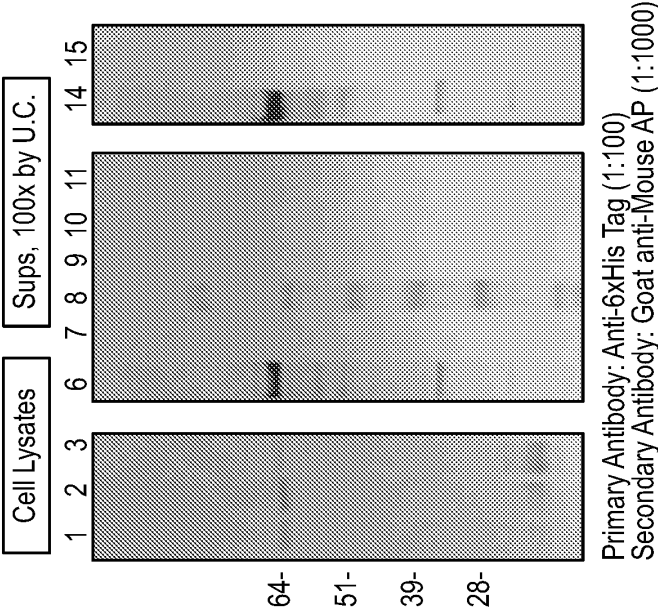


FIG. 10

1	SmSc Ring 2 N-HIS #2-1-1 cells
2	SmSc Ring 2 N-HIS #2-2-1 cells
3	SmSc Ring 2 N-HIS (PS) #4-1-1 cells
6	10L Ring2-6xHIS P2 #4-1- cells
7	SmSc EmptyBV #3 cells
8	See Blue Plus2 Marker 3ul
9	SmSc Ring 2 N-HIS #2-1-1 UC
10	SmSc Ring 2 N-HIs #2-2-1 UC
11	SmSc Ring 2 N-HIs (PS) #4-1-1 UC
14	10L Ring2-6xHIS P2 #4-1 cells
15	SmSc EmptyBV #3 UC

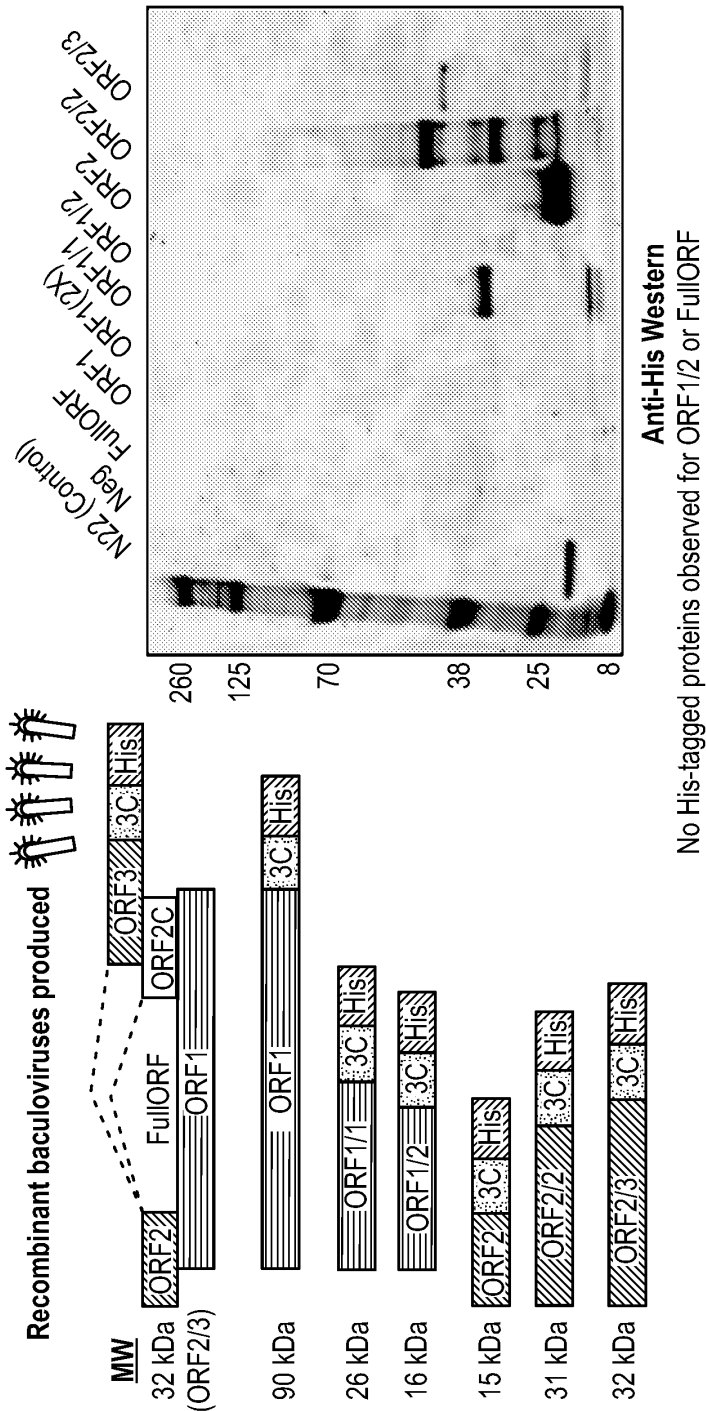


FIG. 11

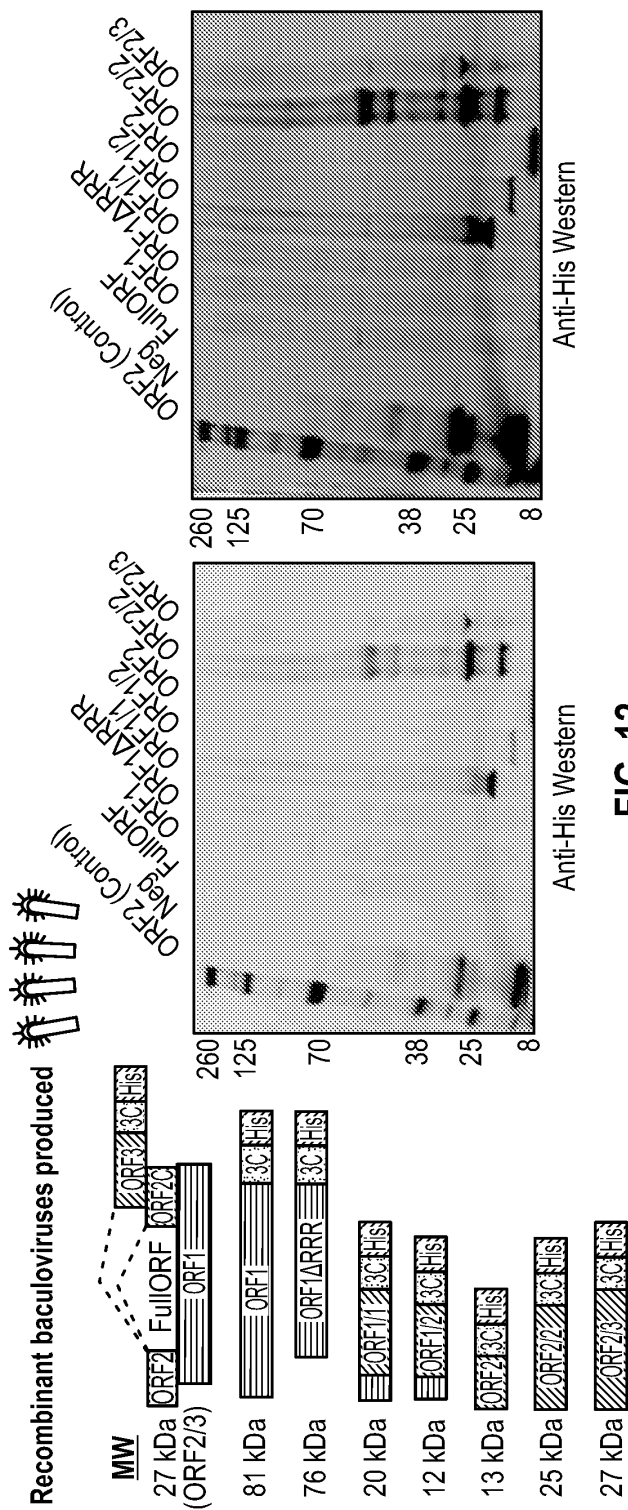


FIG. 12

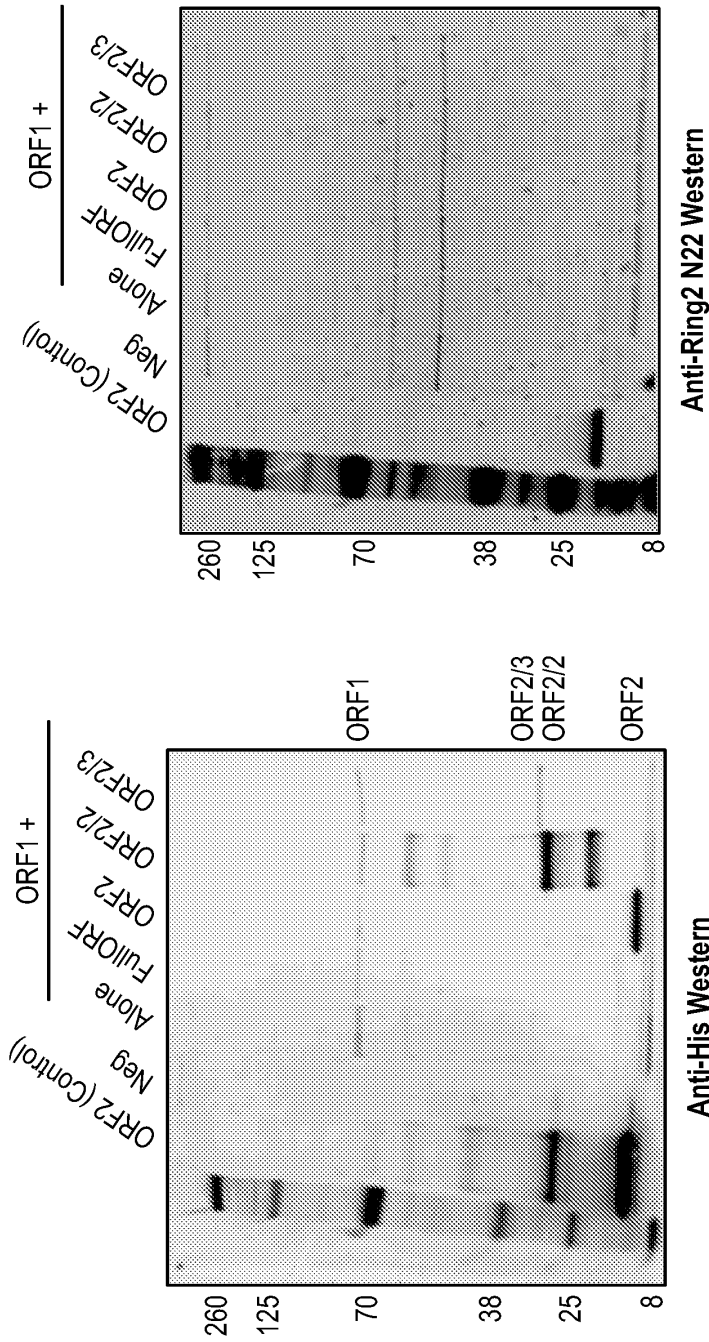


FIG. 13

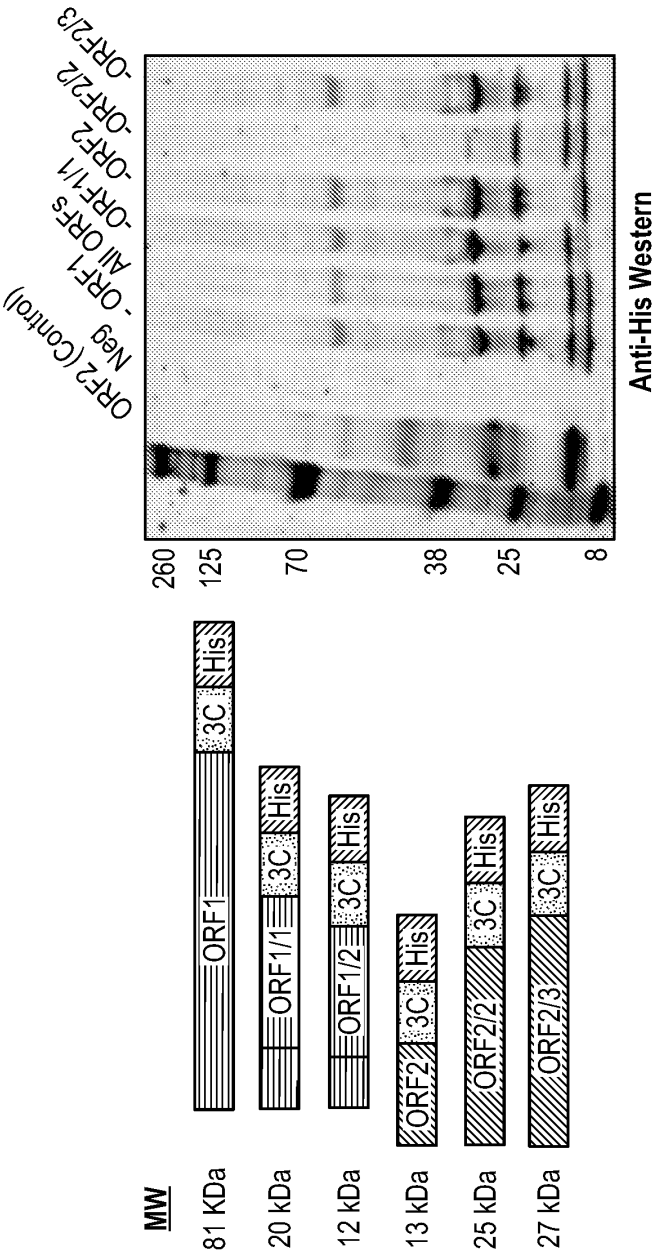


FIG. 14

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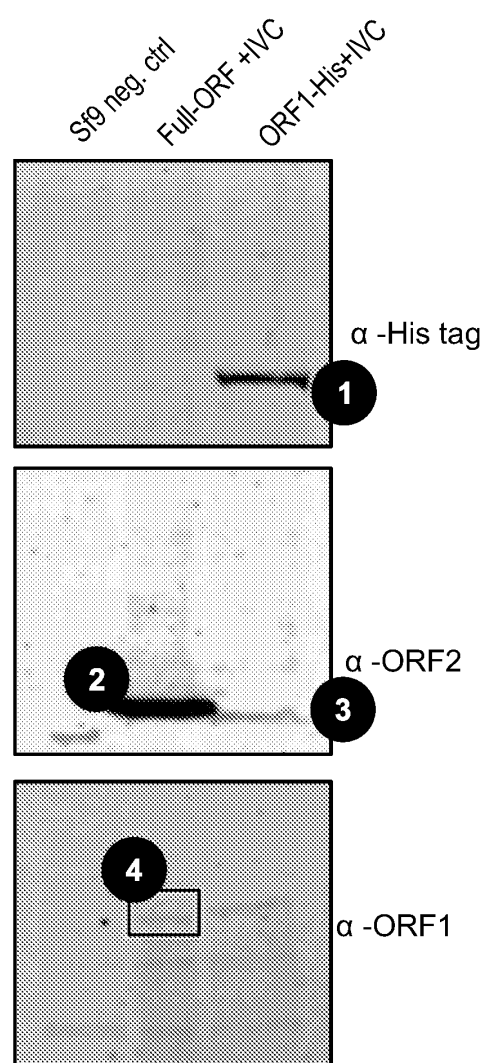


FIG. 15

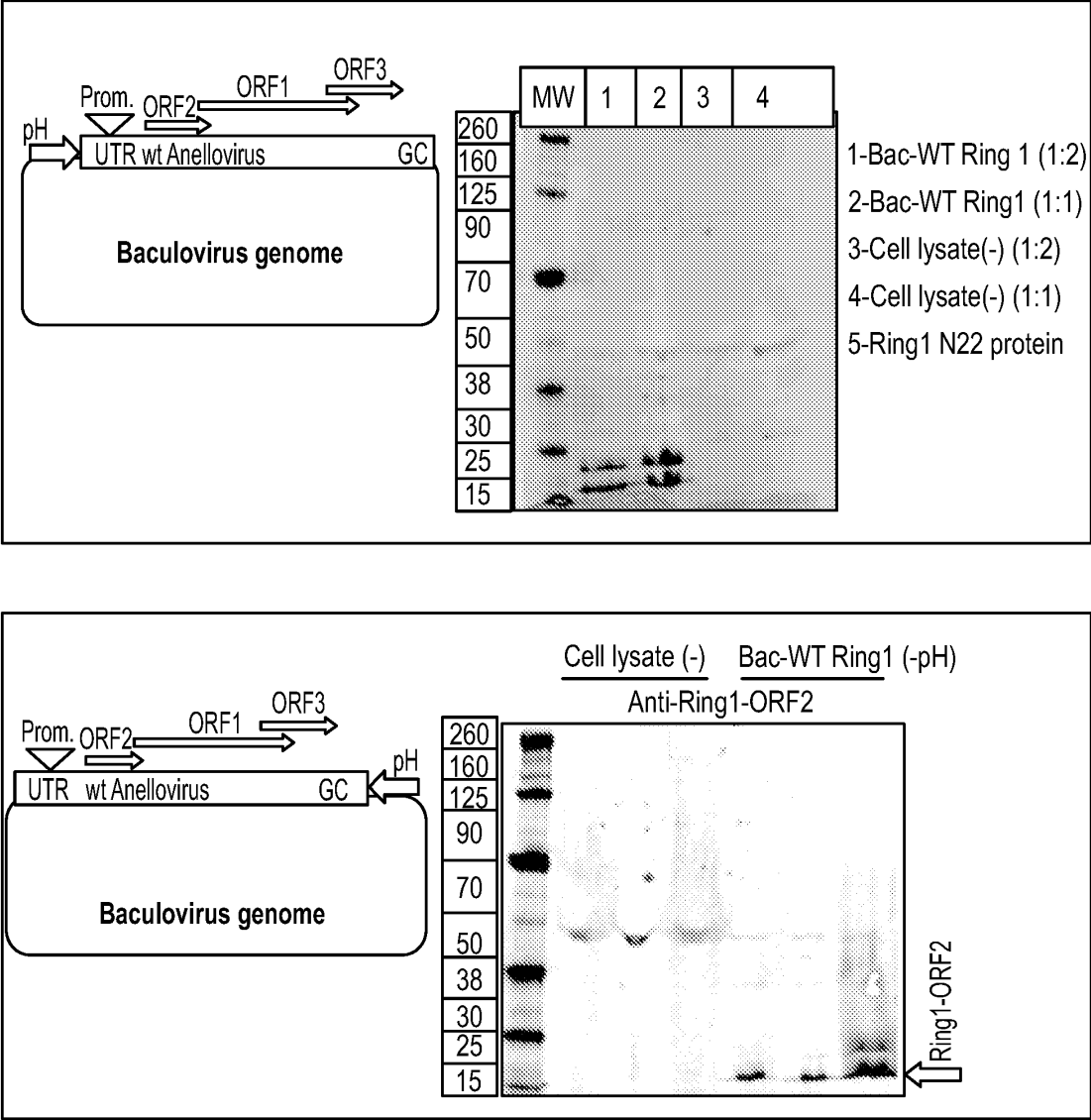


FIG. 16

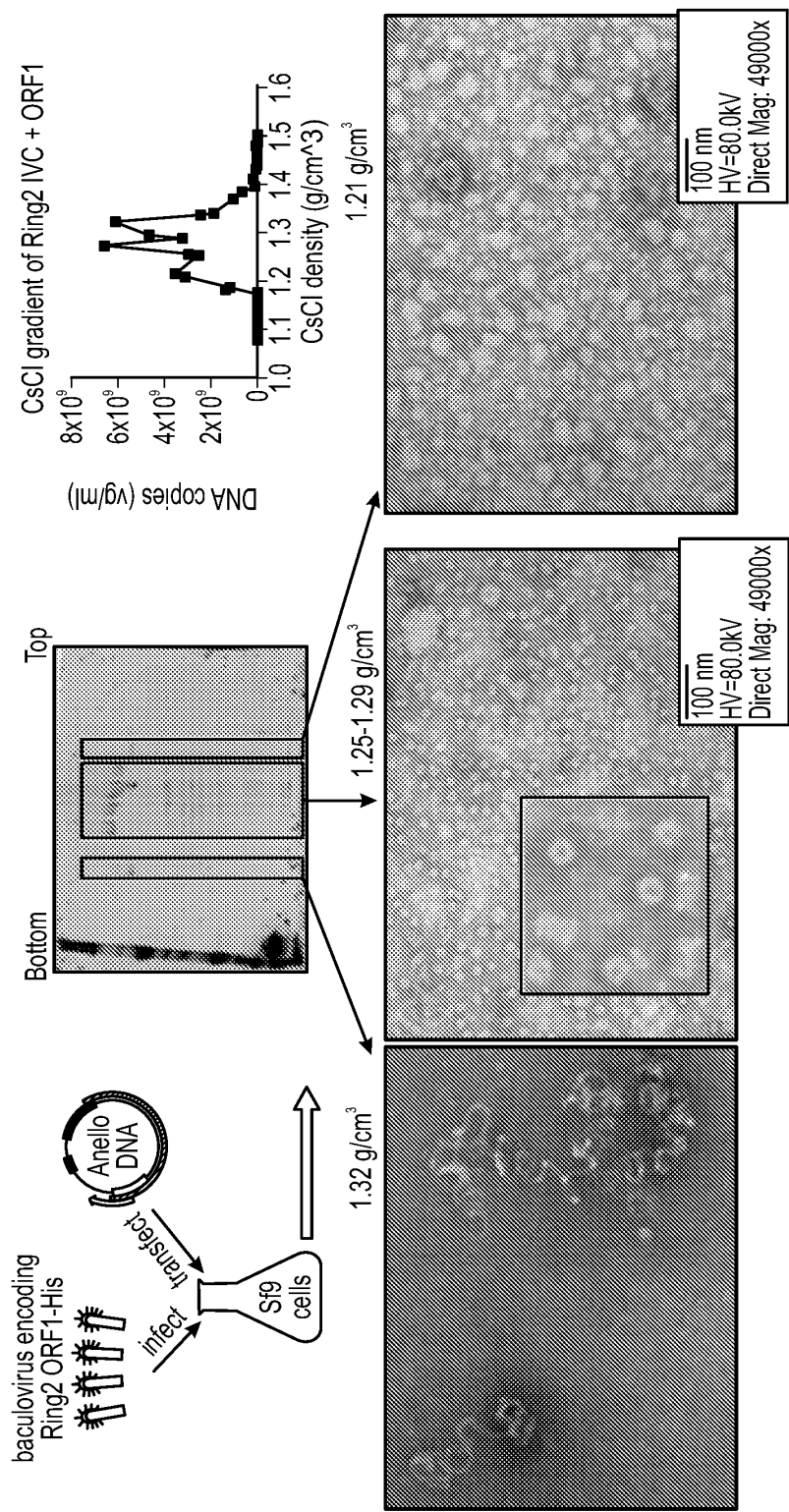


FIG. 17

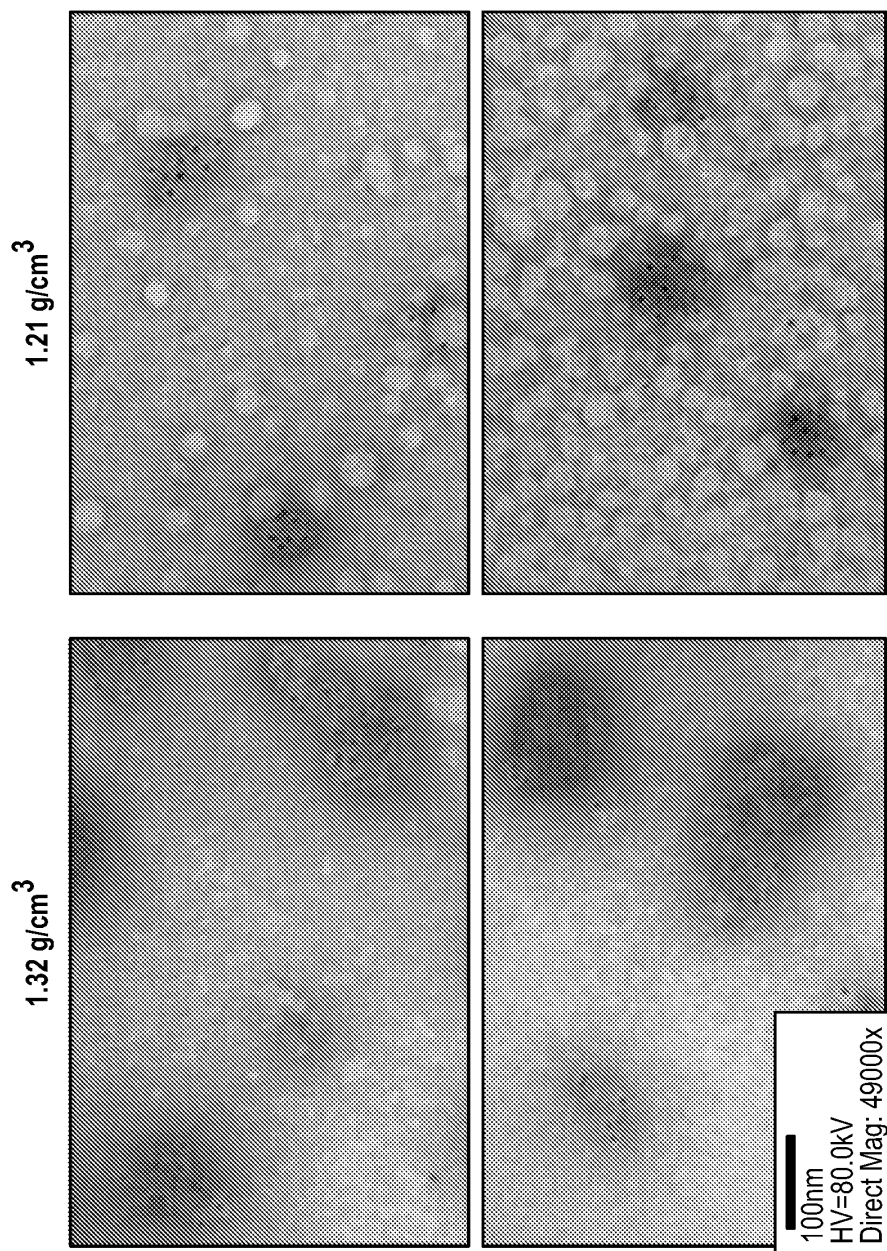


FIG. 18

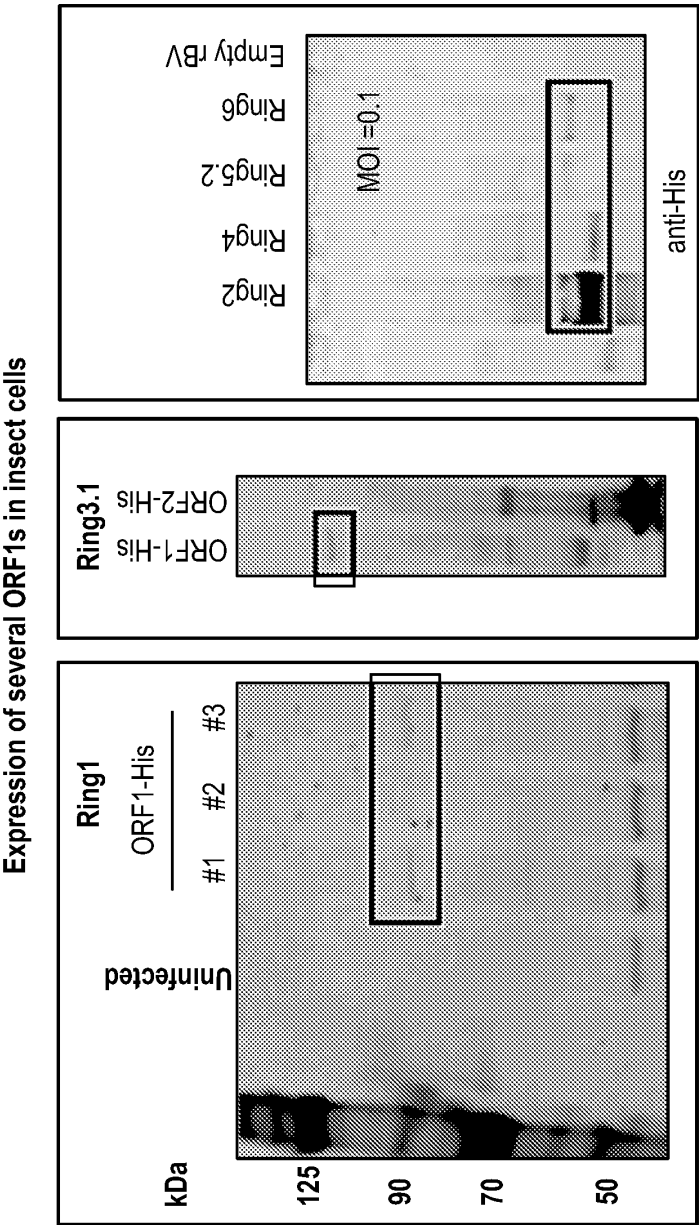
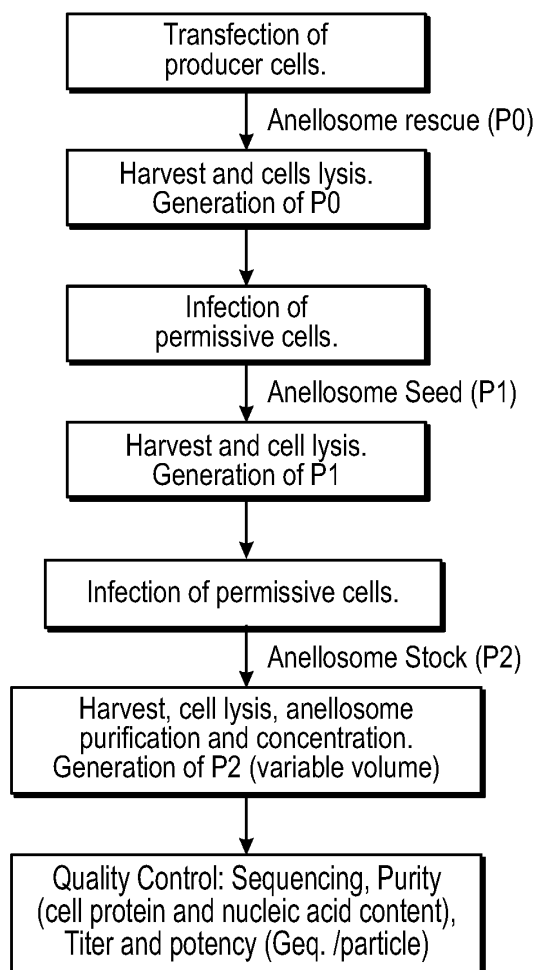


FIG. 19

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**FIG. 20**

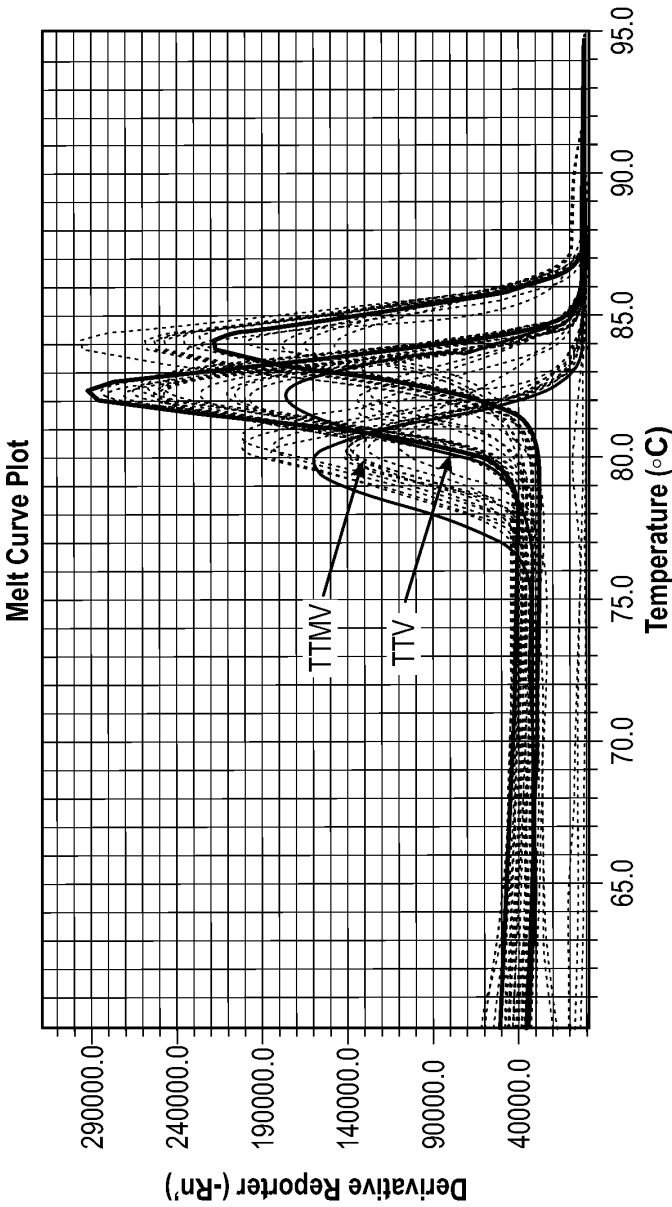


FIG. 21

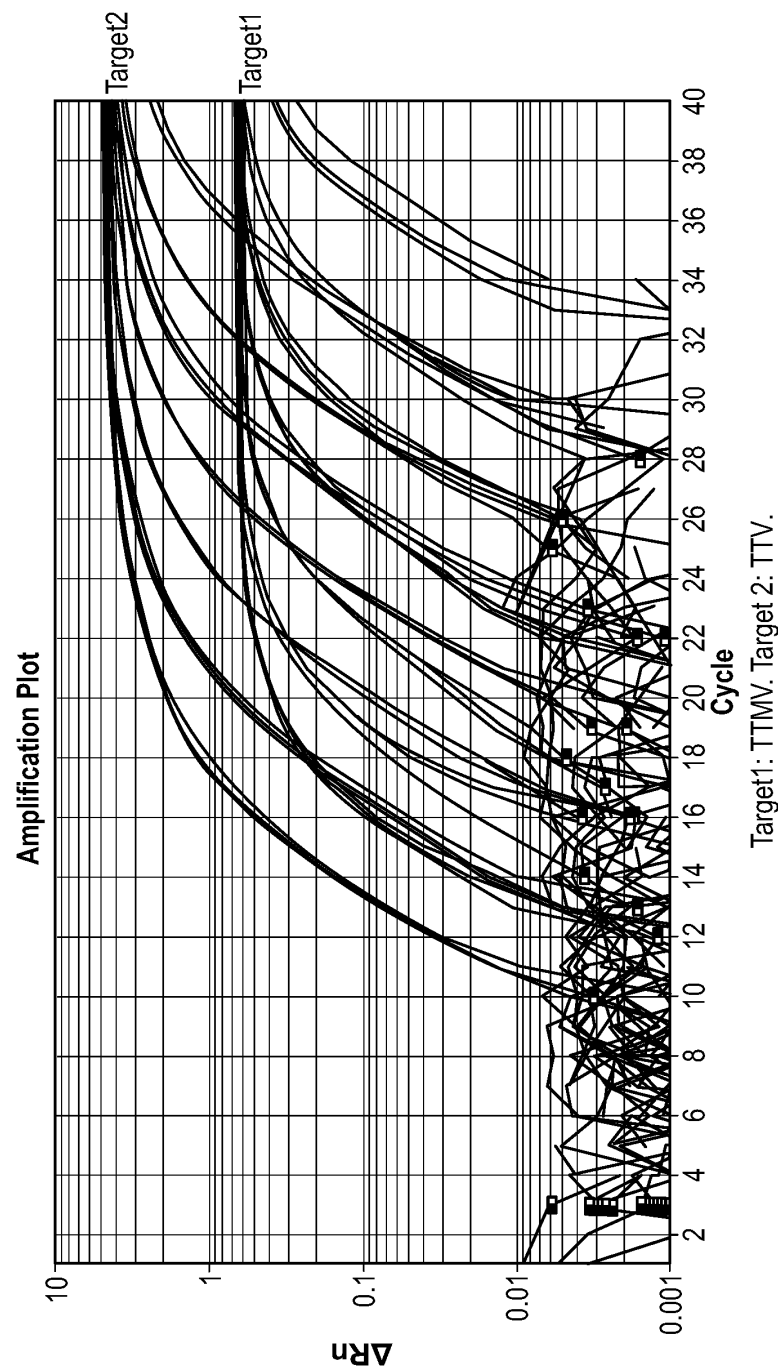


FIG. 22

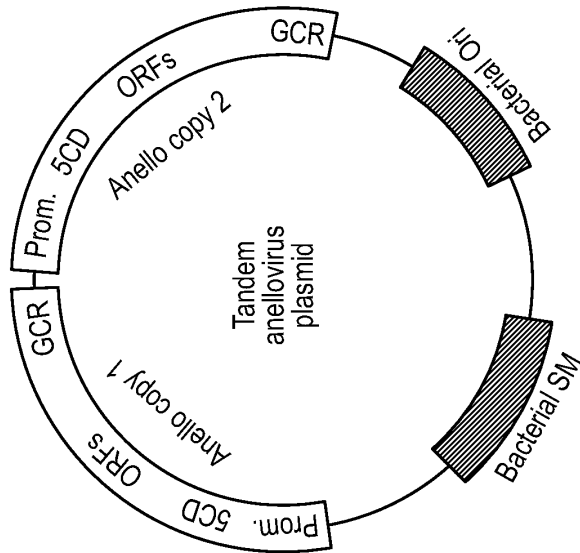


FIG. 23A

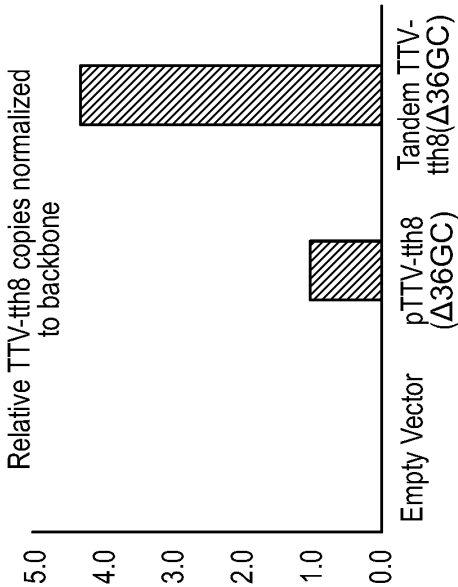


FIG. 23B



FIG. 23C

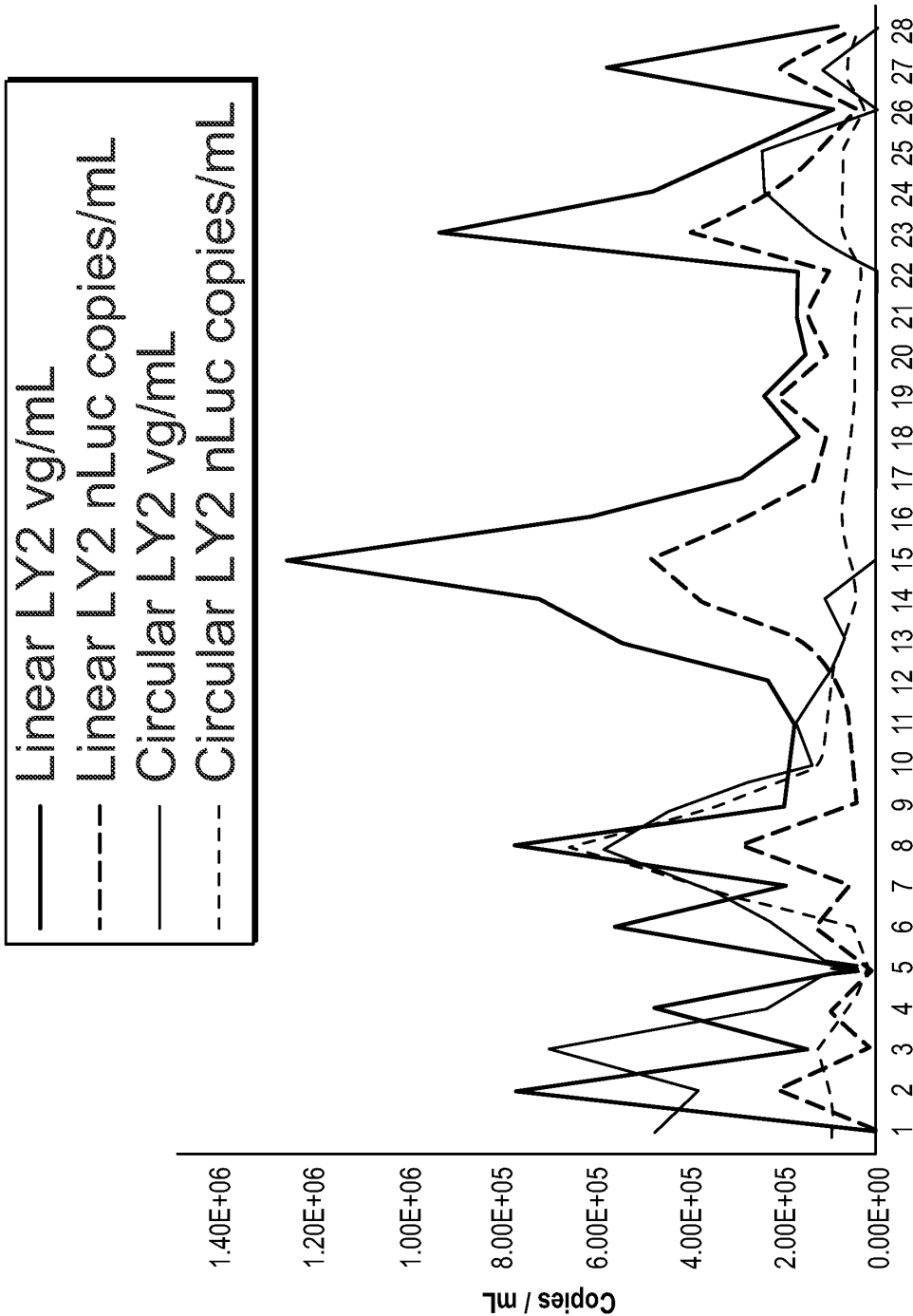


FIG. 23D

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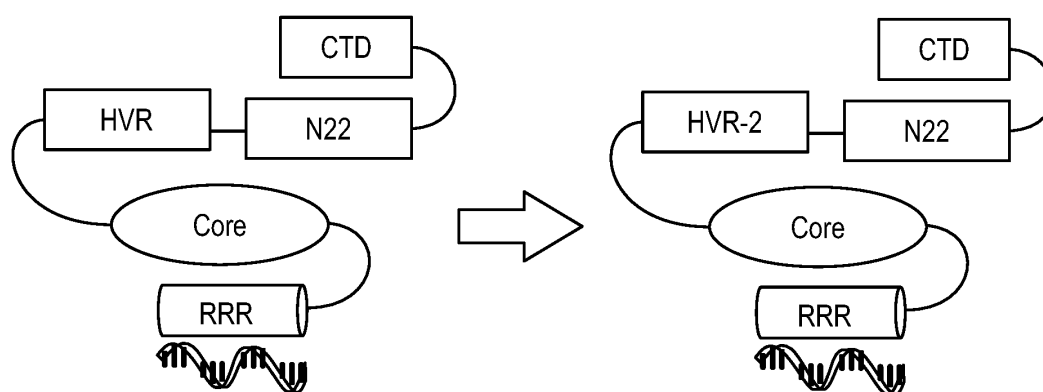


FIG. 24

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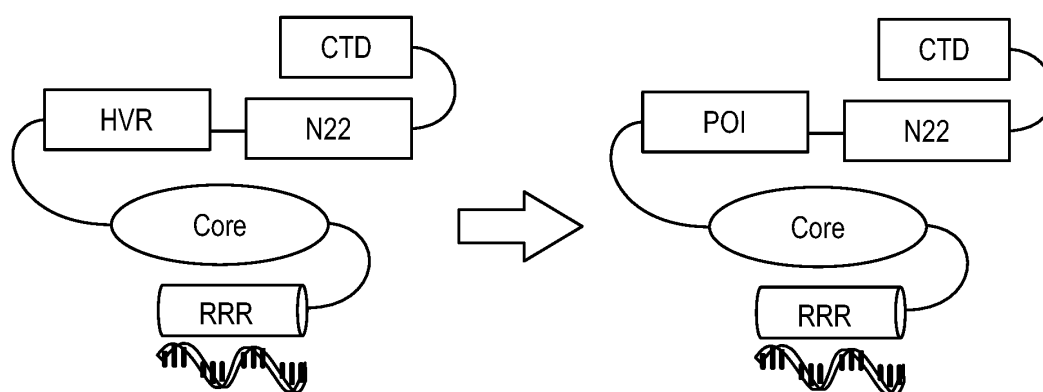


FIG. 25

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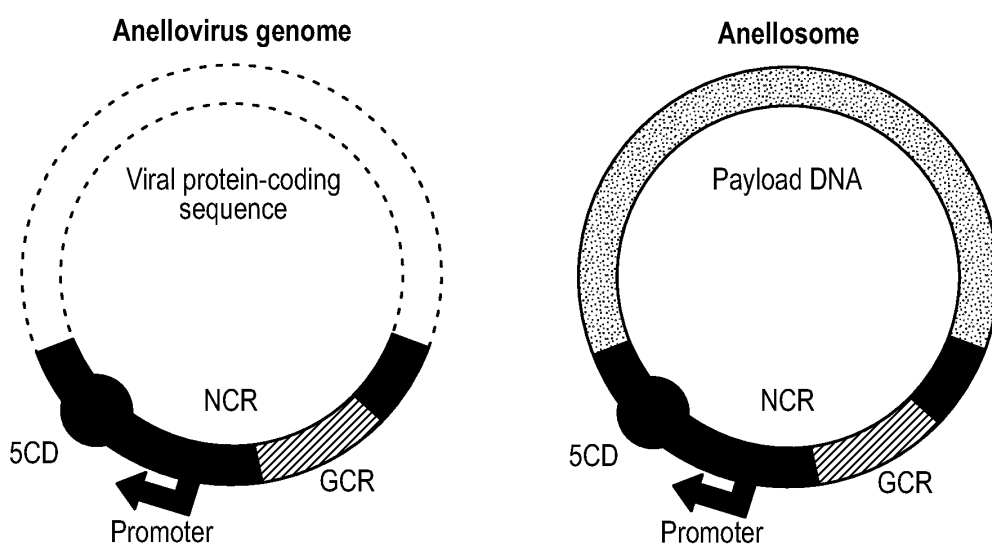


FIG. 26

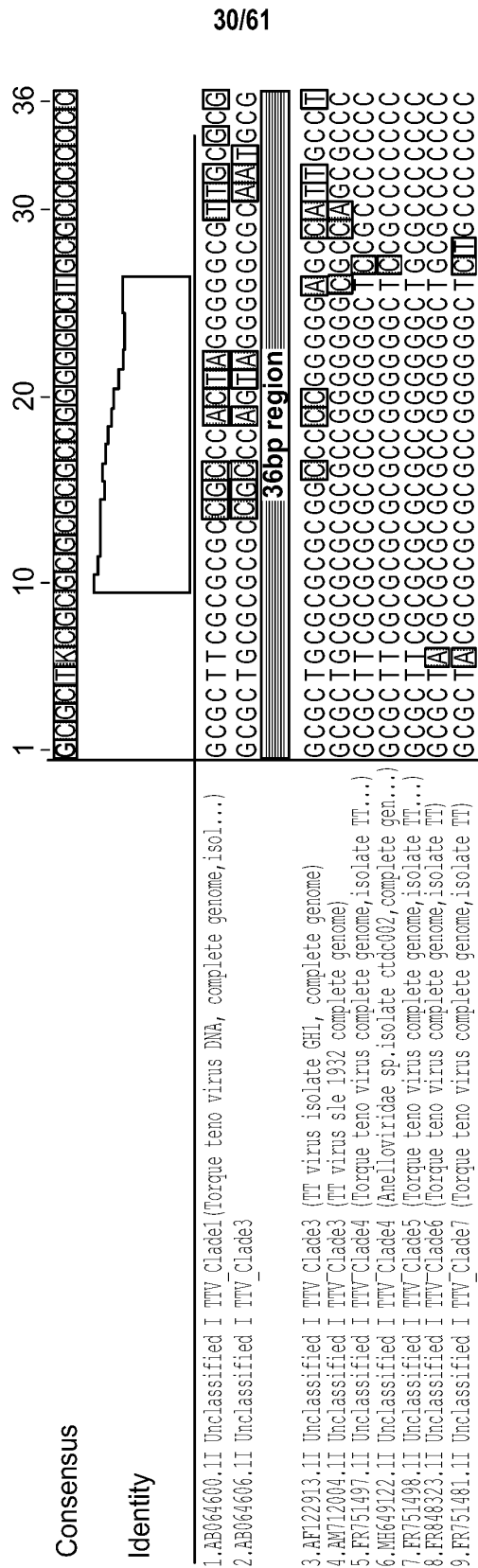


FIG. 27

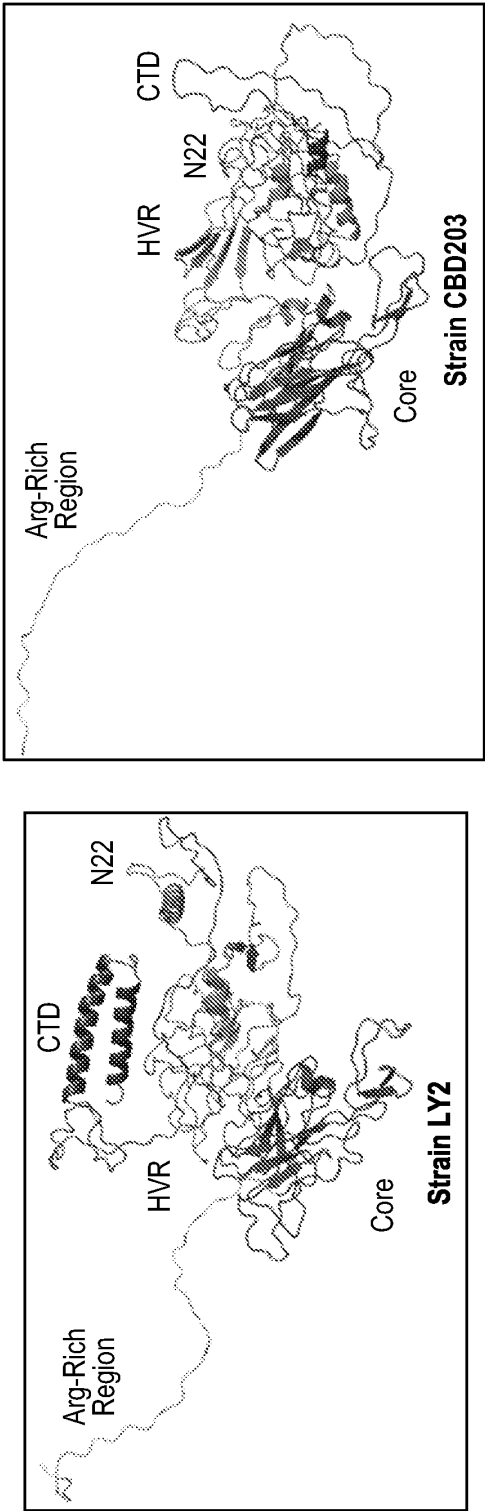


FIG. 28

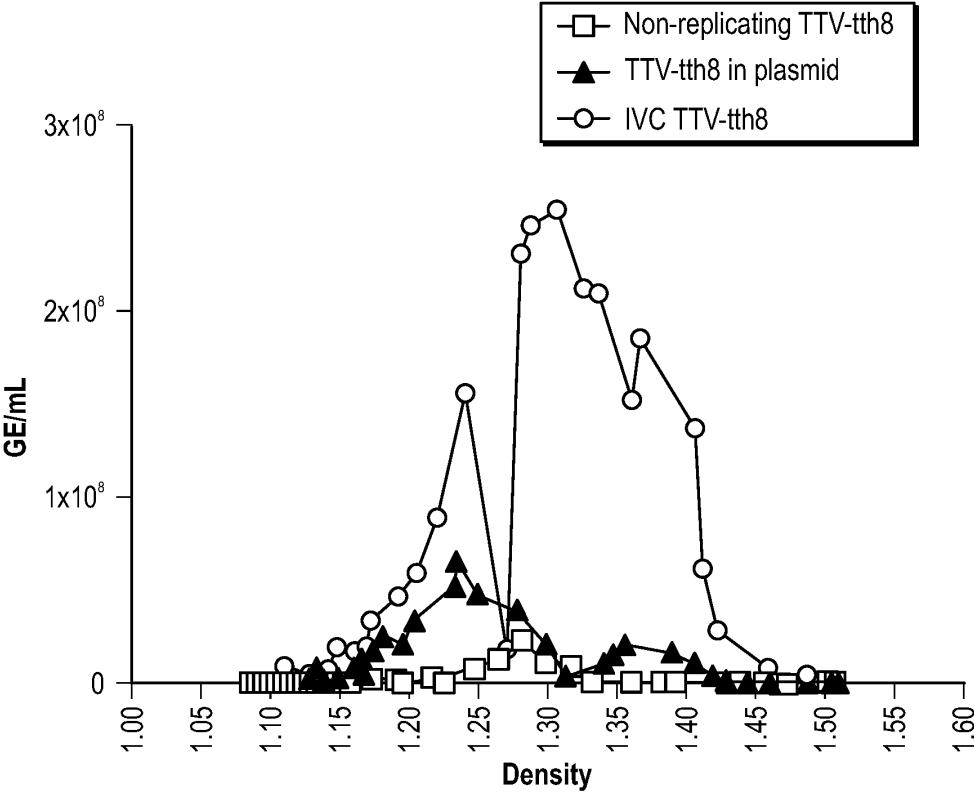


FIG. 29

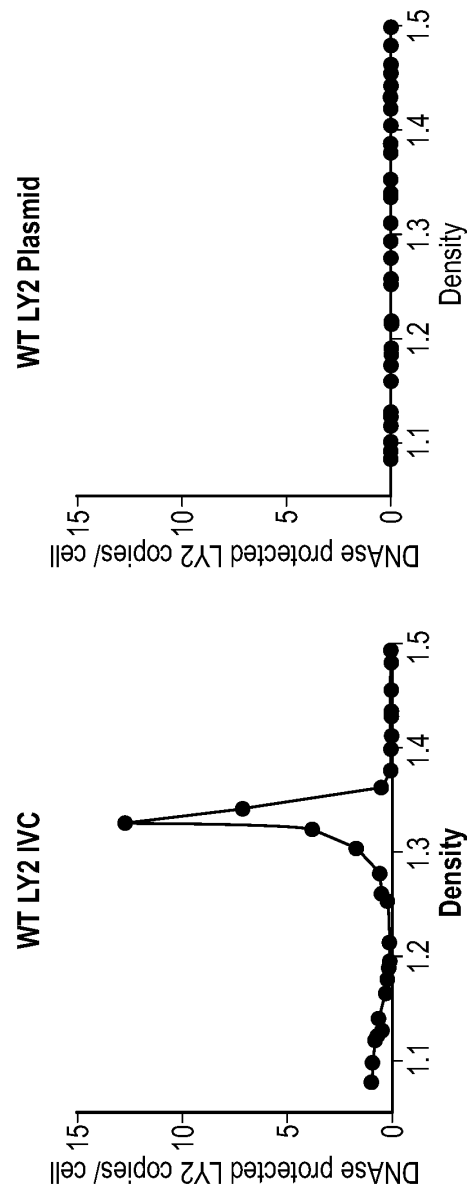
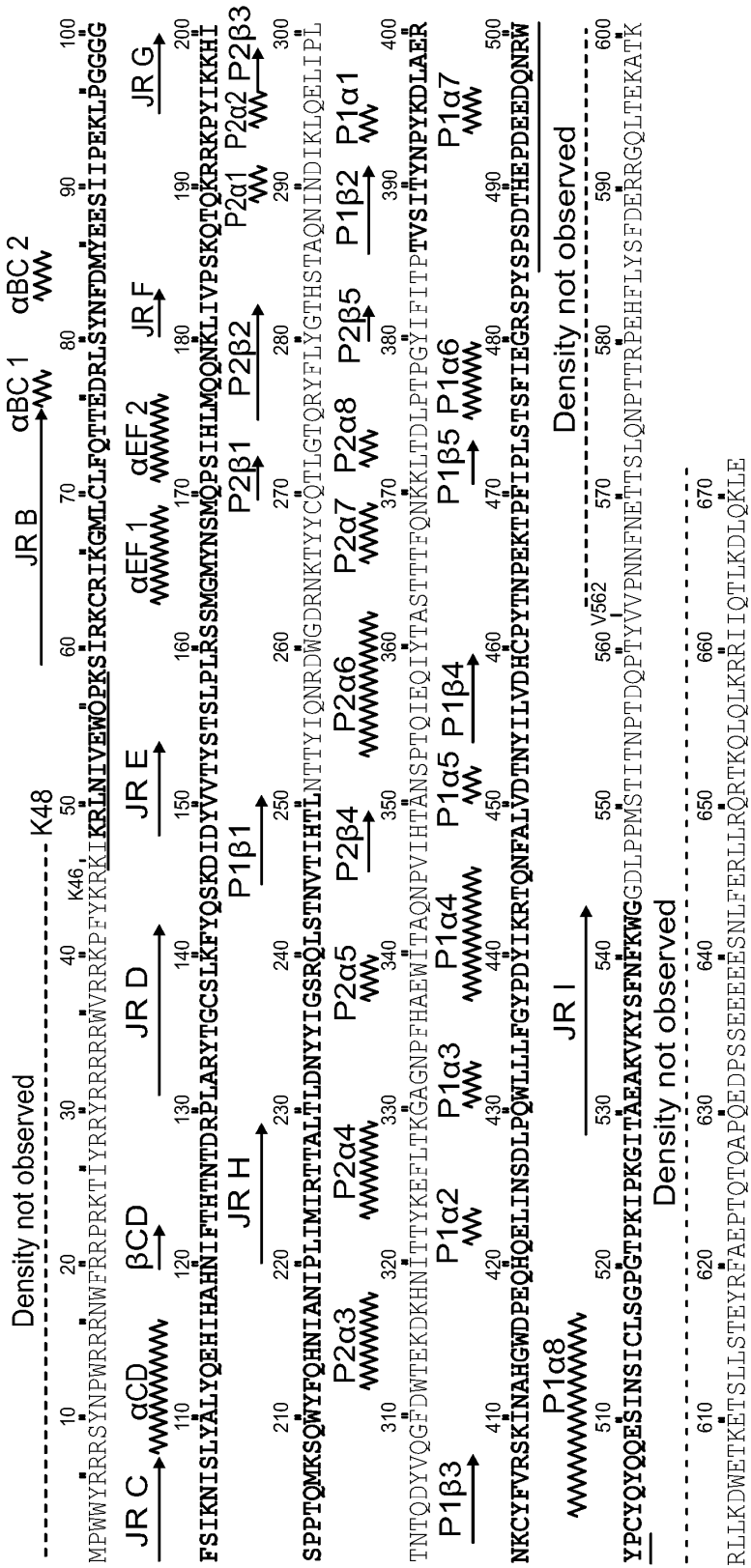


FIG. 30



FIG. 31A



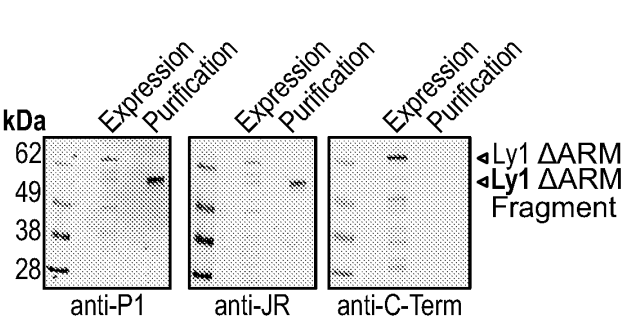


FIG. 31C

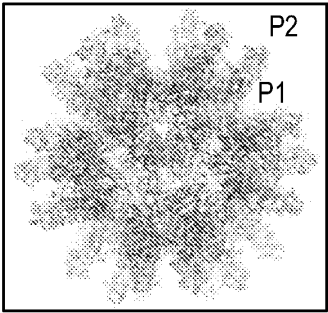


FIG. 31D

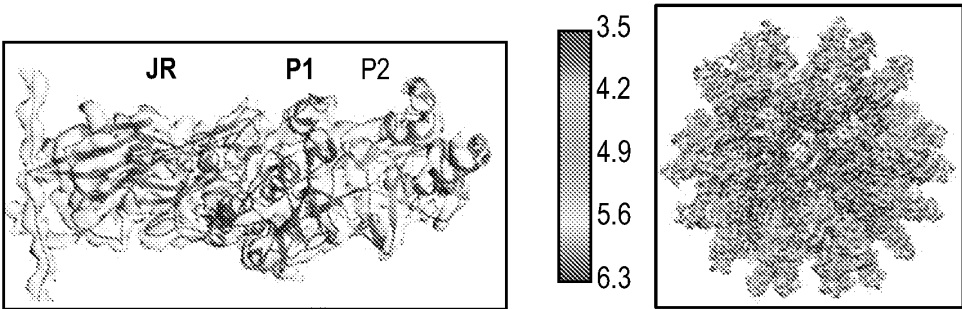


FIG. 31E

FIG. 31F

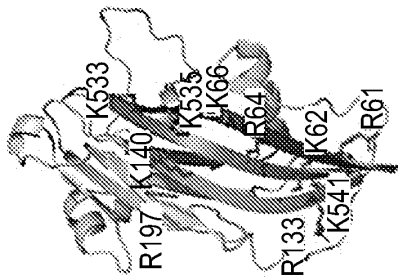


FIG. 32C

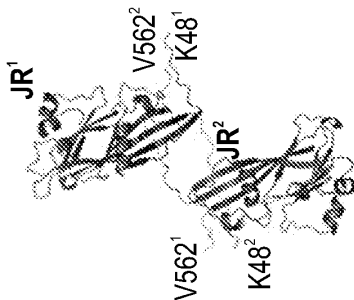


FIG. 32B

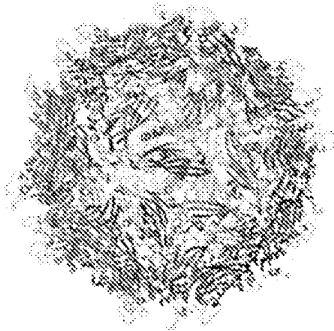
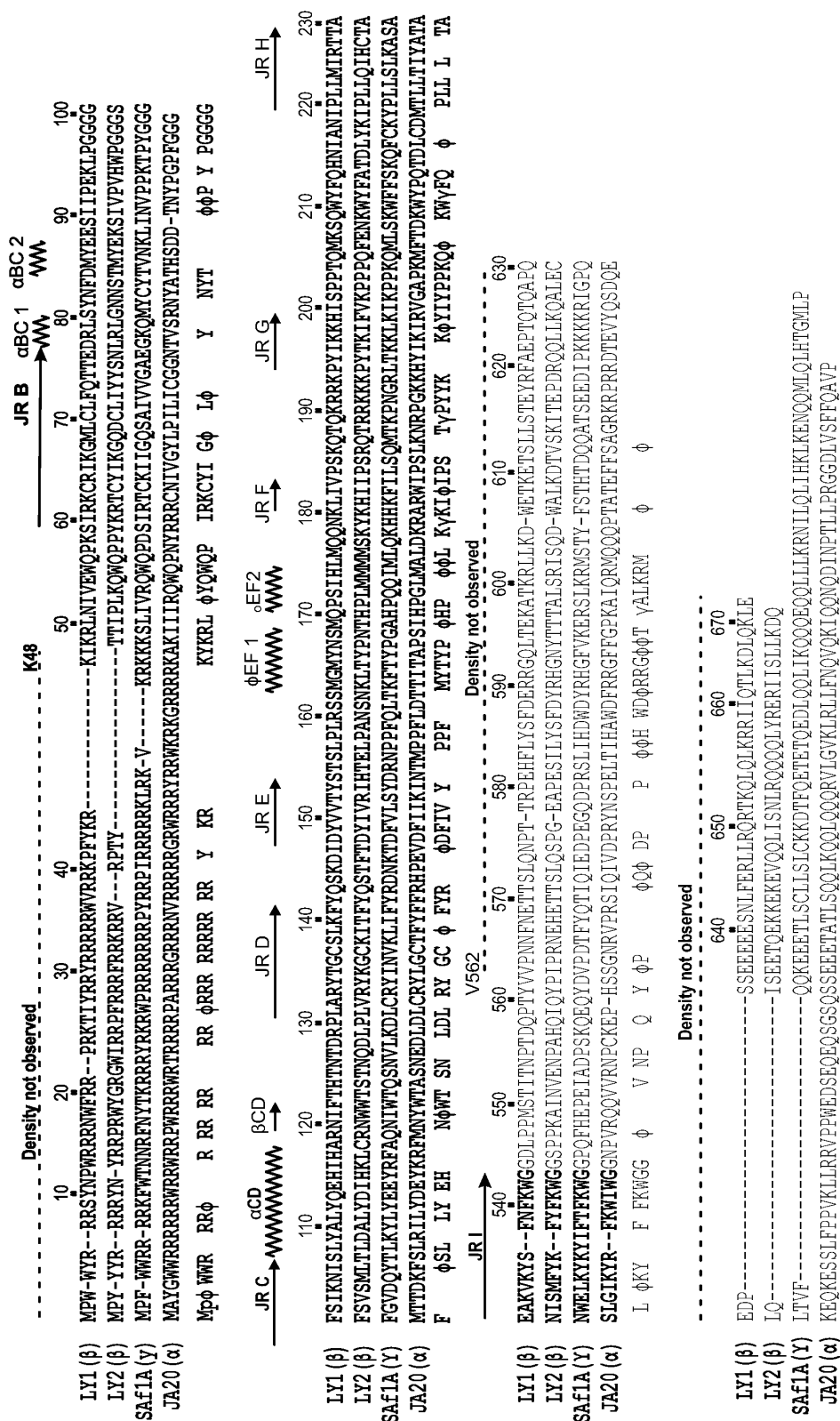


FIG. 32A



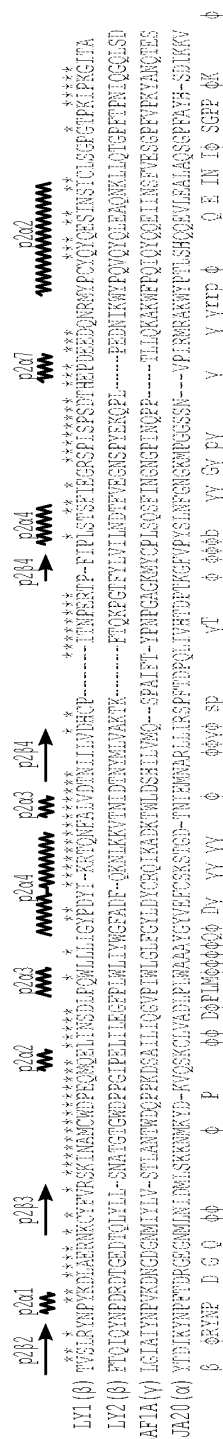
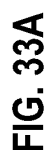


FIG. 33D

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Ly1 Full-Length

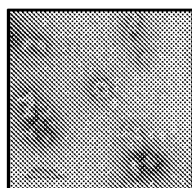
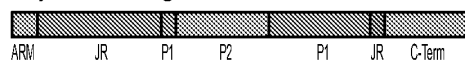


FIG. 34A

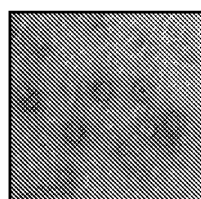
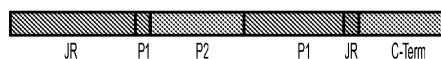
Ly1 Δ ARM

FIG. 34B

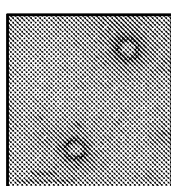
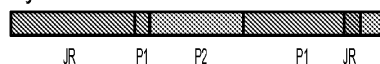
Ly1 Δ ARM Δ C-Term

FIG. 34C

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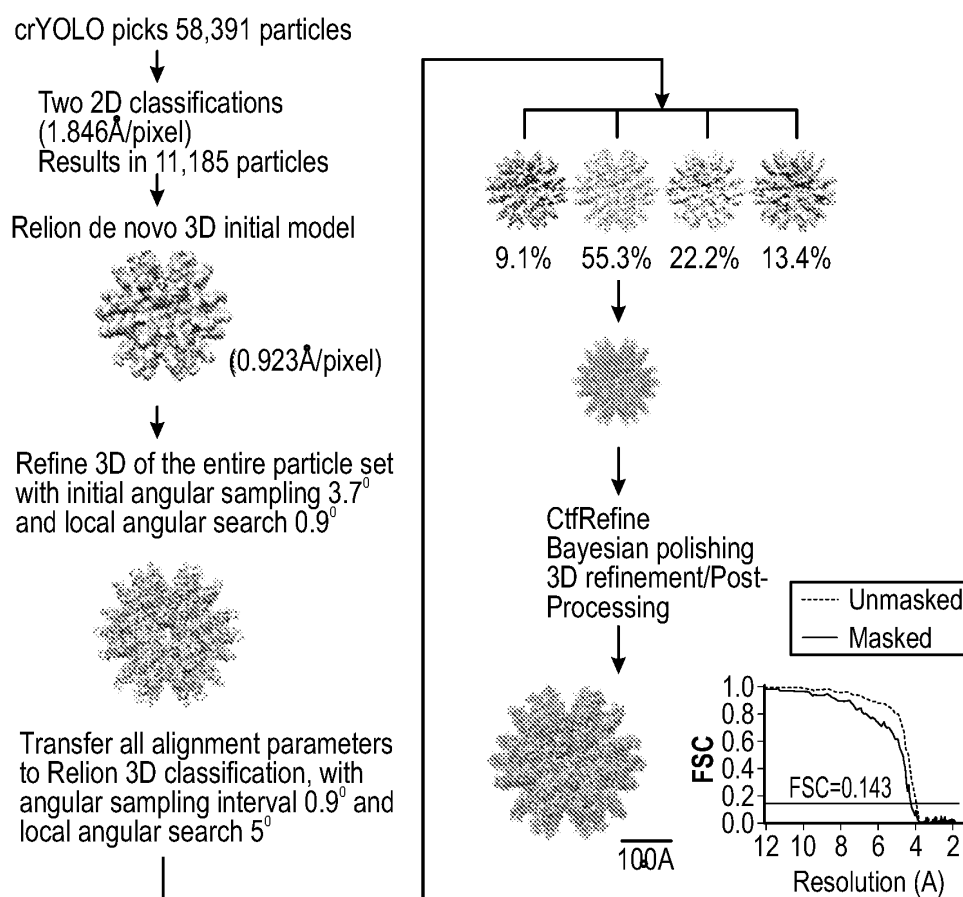


FIG. 35

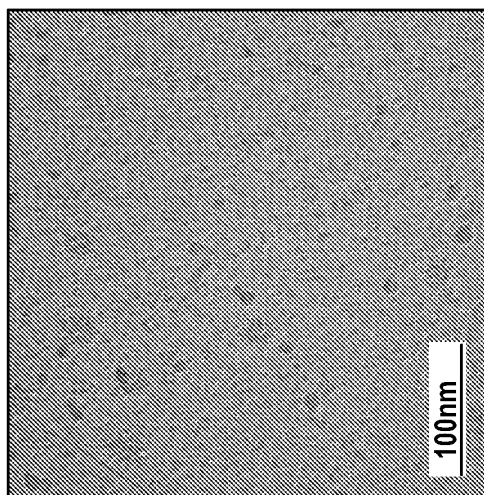


FIG. 36B

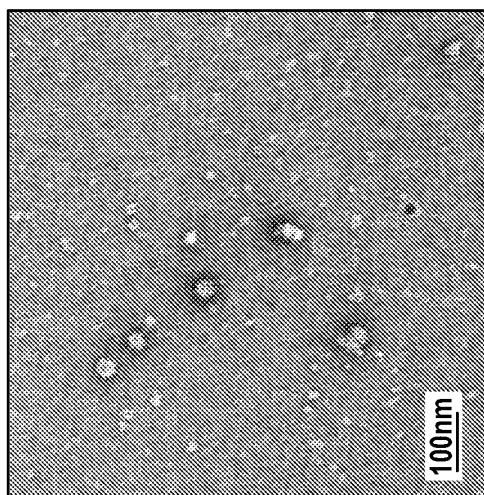


FIG. 36A

	α -helix	β -sheet	Turns	Unordered
SELCON	60.1%	4.4%	14.6%	21.6%
CONTILL	70.2%	2.2%	7.9%	19.8%
CDSSTR	87.7%	2.2%	3.8%	5.5%
average	72.7%	2.8%	8.8%	15.6%

FIG. 37A

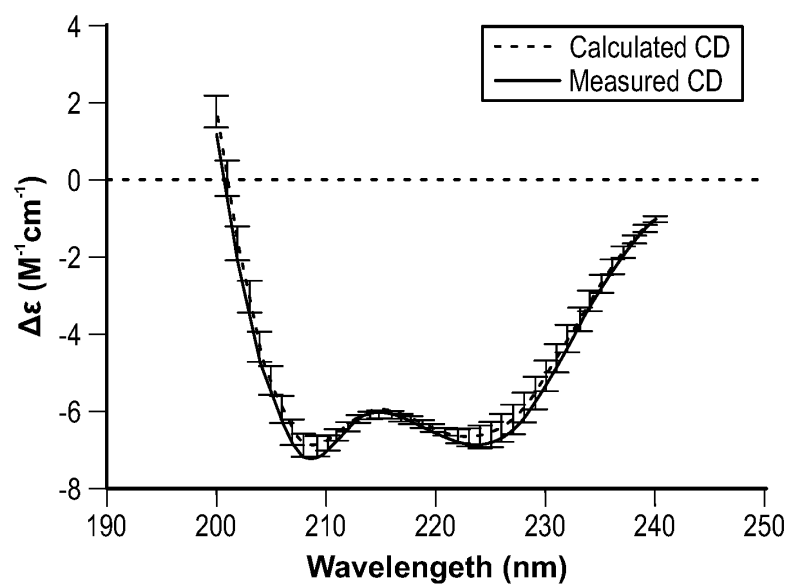


FIG. 37B

[illegible]

FIG. 38

[illegible]

FIG. 38 continued

FIG. 38 continued

FIG. 38 continued

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[illegible]

FIG. 38 continued

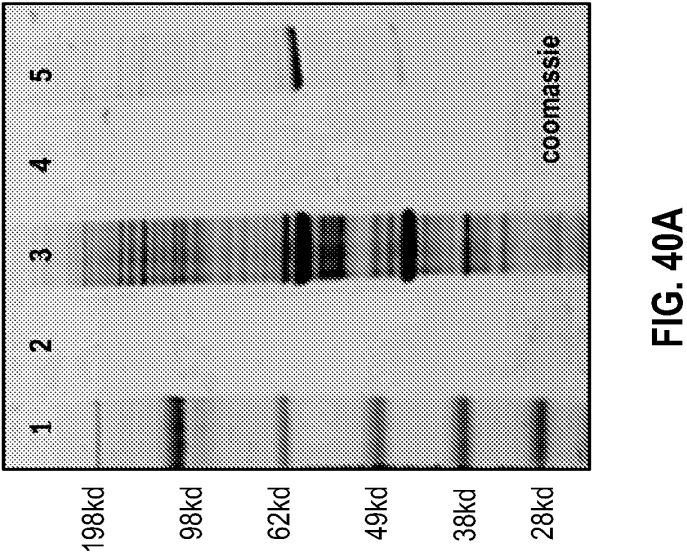
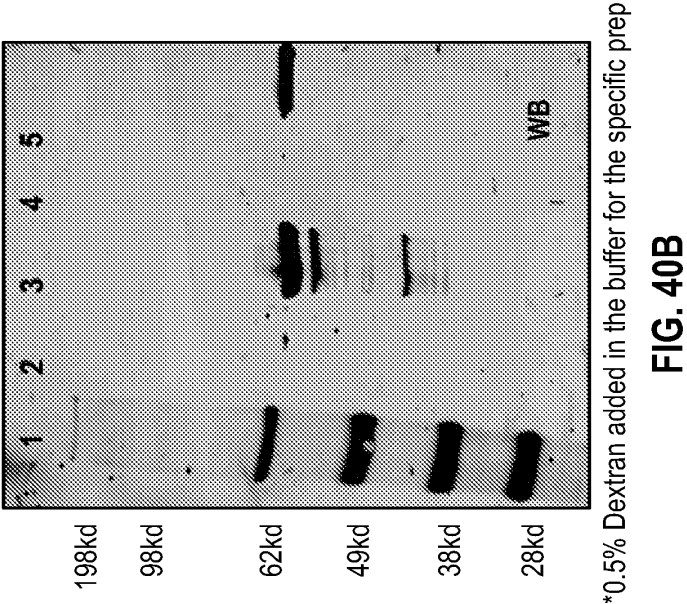
	510	520	530	540	550	560	570	580	590	600
LY1 (β)	YPCYQYQFESINSICLSPGTPKIPKGI	T--AEAKVYSFNEKKGGLPPMSTITNPTDQ	T-----YVVPNNEFTSLQNP	T--TRPEHFLYSFDERGQITEKATK						
LY2 (β)	YPOVQYQLEAQNKLLIQTFPTNIIQGQLS	--DNISMFKYFKFKGGSPKAINVENPAHQIQ	----YPIPRNEHEFTTSLQPG	--EAPESILYSFDYRHGNVTTTALS						
MN773391.1 (β)	YPRYVQREAIENILMTGPMWCADNINN	--IQSLIKYKFFKFGGTPATWENVYPMQSP	I-----TSPNNLISTNEIINPE	--TSIDNVIYKWDTRDILTOKATD						
MN769198.1 (β)	HPQFQAEAINITICSSGPGTKIPDNYS	--VQGLMKYSFVKKGSGPPMSTIEDPIQQPT	----YVPVPHNFLTSLQNP	--TDPASILMSFDQRRHHTTKKAI						
MN774797.1 (β)	FPSFQFQAEAYTDICLSPGTARIPKGD	T--AEAKMHTTFHFKWGGELPDMEQIADPSEKPT	----YPIPNNEFLTSLQNP	T--QAPETLYLYKFDQRGDIYITKTA						
JA20 (α)	YPTLSHQQFVLEALAQSGPFAYHSDIK	---KVSGLGIKRFKRWINGGNPVRQVVRNPCKEP	-----HSSGNRVRPSIQIVDPKYN	SPELTIHAWDFRRGFTGPKAIQ						
MN766736.1 (α)	RPTLTFQESTMRDITMTGPFYSYKDELK	---NTWLTAKYKFNFRGGNLLHEQ	TIIRNCPNTAH-----PSTGRQPRD	YQVVDPIVGPFRVFSWDRRGFLSEAAIK						
MN765841.1 (α)	YPLRLFQVLQVLDHMYICGPFYSYKDDIK	---STVLTAEYKREFLMGNNIPEQ	VIIRMPCKAEGAGSGYTPDR	LPRDIQIADPQTMGFEWAFETWDRRGFLGKCALIK						
MN765788.1 (α)	YPLRIFQAQVLDHLYLTGPFYSYKDDIK	---SFTISAKINFXELMGGTIIPEQ	VIKMPCKEQD--SFFTGRQPRDI	QVTDPTMGPEWVFTWDRRGFLGENAIAIK						
MN765502.1 (α)	YVMYHQQFEFEAIVQSGPWAYKGDEK	---SAVLAMKYVFNWKGGNPISQ	QVVRNPCKTSS-----SSREPR	SIQAVDPKRVAPPLVVFHSWDRRGFLGCHASIK						
SAF1A (γ)	FPOIQYQQELINSFVESGPFVPKYANQTESNMELK	YKTYITFKWGGQFHEPEIADPSKQEQ	---YDVPTFTYQTTI	QIEDPEGQDPRSLIHDWDRRGFLVKERSLK						
MN777719.1 (γ)	YPTLNAQLKTINAIQAQGFVPKLDNIFLSSWELYS	NTVTFVKEGGSELPEDTVNPODQGT	-----YVIPTNIOKAIQVSN	PQSPYTTLSWDRRGFLITSSAFK						
MN776710.1 (γ)	YPOATFTQTTINALVESGPFVPRLTNIPDSTWEL	VYKXFFKKGQPTHDDHVQPKHQPD	----YDTPDLTQTTI	QIGPKKQTPESIIEHWDRRGFTIQTALIK						
MN778499.1 (γ)	YPTCEHQVETINAFVKCGPFVPKLDNDRDSTWEL	PFKSTFFKKGGMQMPNQVSDPKDKTS	----YIVPDTVQEG	QITNPLKQAESELLHEWDRRGFLIKTKAFK						
MN777204.1 (γ)	YPDINYQTELIINSIVTSGPYIPKLDNIKNSTWEL	HYHYQFFFKWGGPEITDQPVADPSKQPV	-----YDALDKQQGG	IQVRNPAKQKYATLMHPWDIRRGIIITNKALIK						
	YP Q E IN I SGPF K	L KY F FKWGG V NP Q	Y P Q DP P	H WD RRG T ALK						
	φ φ φ	φ φ φ φ φ φ	φ φ φ φ φ φ	φ φ φ φ φ φ	φ φ φ φ φ φ	φ φ φ φ φ φ	φ φ φ φ φ φ	φ φ φ φ φ φ	φ φ φ φ φ φ	φ φ φ φ φ φ

FIG. 38 continued

	610	620	630	640	650	660	670
LY1 (β)	RILKD-WETKETSIL-LSTEYRREPTQAP--QEDP						
LY2 (β)	RISQD-WALKDVS-KTEPRQOLKALE--CLO						
MN773391.1 (β)	RITKS-STYDGNV-FDGRSTSDIFQTT--QVA						
MN769198.1 (β)	RIQKD-TGKITIV-TGGSHEFTPTISQEE--T						
MN774797.1 (β)	RIRKD-WSTATDSL-SITAPFAEAQYUT--S						
JA20 (α)	RMQOFTATEFSA-GKRPRARTEVYQSDQ--EKEGKSSLP						
MN766736.1 (α)	RIEDQPLDYEAYSF-MEKRPRIEPP-TTGEOLPGEQESSS						
MN765841.1 (α)	RVSEKEDYADYV-LPKAPRIEPP-TUGSGGGRKDSLOVISLPF						
MN765788.1 (α)	RVSEQPSHDADYVA-PKKAPRIEPP-TDLOQDES-ADFTQRLAL						
MN765502.1 (α)	RMSEESATPTLFTGPAGKPRRPTS-VQQAEE-DQ-QKSSSS						
SAF1A (V)	RMSTV-FSTHTDQO-ATSEEDIPKKKKR--IGPO-LTVP						
MN777719.1 (V)	RMSEN-QTTDTTEF-PDTE-TLPKKKKKIQHANG-LDRA						
MN776710.1 (V)	RMSEN-IQUTDQFQ-SDDS-ASPKKKK--VTKS-MPTT						
MN778499.1 (V)	RMLEN-LSIESDVY-PSA--ETPKPKQR--VENS-LHYQ						
MN777204.1 (V)	RMQCN-LSIDSTEF-AGS---TPAKKPRI--TGFC-FTAL						
RM							
Yφ	Yφ	φ	φ	φ	φ	φ	φ

-----SSEFEESNLEFRLRQRTKQLOLKRRIQTUKDLOKLE
-----ISEETORAKKEVQQUISNLRQQQDUMPERTISLLKQD
-----PQET-PTQAEETILLQHLQCFNLOLQQRFNNLKQIMQNI
-----SSESS-EEEKETSILEXIQQQQFQRRKIRINKITLLIQOLE
-----TETTS-ESEEDLFOHNGORUKQQRUKKLIQKLOTT
-----QSGSQSSEETATLSQKQLOLQAVLVGVALLFNQVKIQMNQDINPTLPRCGDLVSTQAVP
-----AEE-NNLISTEEQEPKQAVHKQILKIRQVILGQRLALYQNLQKTQAGLHINPLIESQA
-----PTEE-----TLKSGQEVQTOQOQDUHLRLAQQRGLGQULAHLYTQILATQAGLHINPLINHV
-----LSEA-PQASEEERQEEQLOQAEHLQRLAQFTIRHQLOHLFVQVKTQAGLHINPLINHV
-----QKGEETILSILLSECKDFTQETQEDLOQLIKQOQEQDILLKRNLIQLIHKENQOMLOLHTGMLP
-----BEETQETQCNLLSUCENTFQETP-QTSLLLEIQOQOQOQOQKXENLALLSDLALQSRSLQQTGLIH
-----SQKENIKKQULLSICQEEFTQ---ETPENLQDLIQOQOQOQOQHLKRNLIQULTHIKQOQRYLSLQUGLID
-----BEENQEKINTCLLSICSSSSSEKEEENLHLLIQOQOQOQKALQOLHTLINDLKEQNALQQTGVI
-----QELHQEERSQLOFTLCKESTSTQEAQETDIQLLIAQOQOQKRELYKYNLLKLISYMEQONMLKLTGMEN
E L QQ

FIG. 38 continued



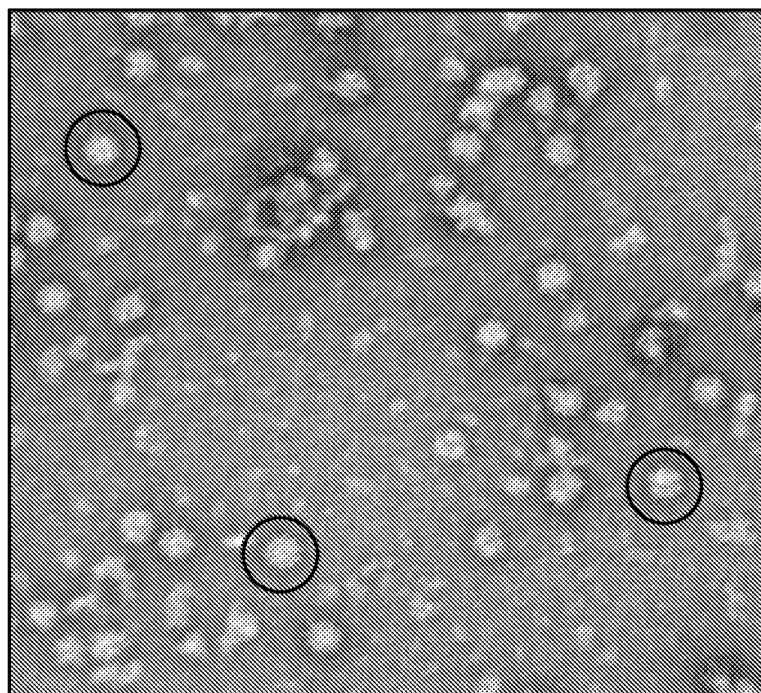


FIG. 41

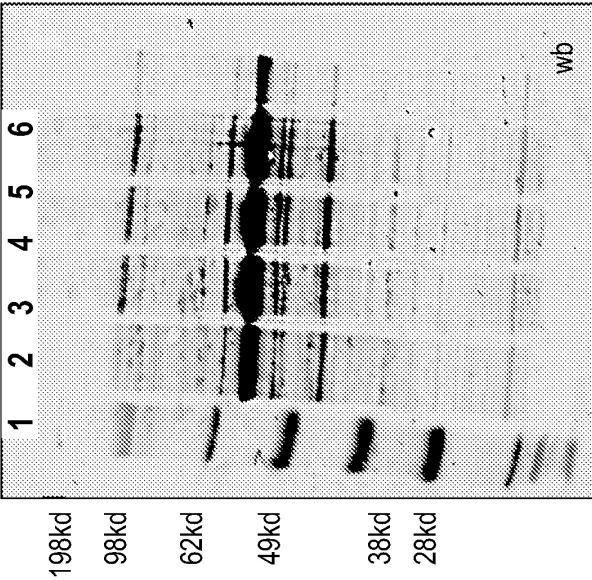


FIG. 42B

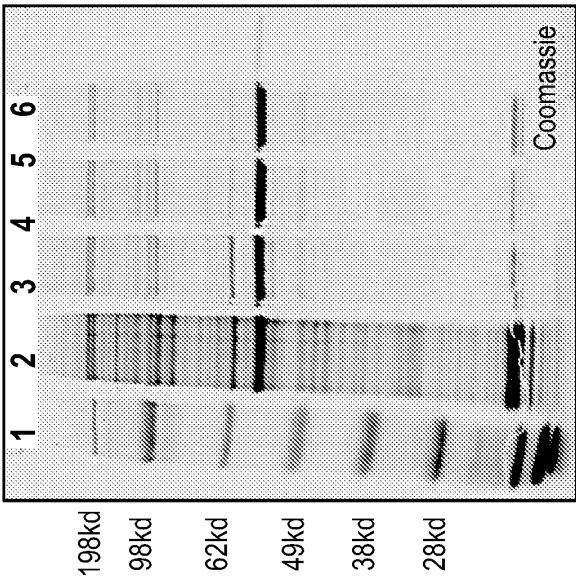


FIG. 42A

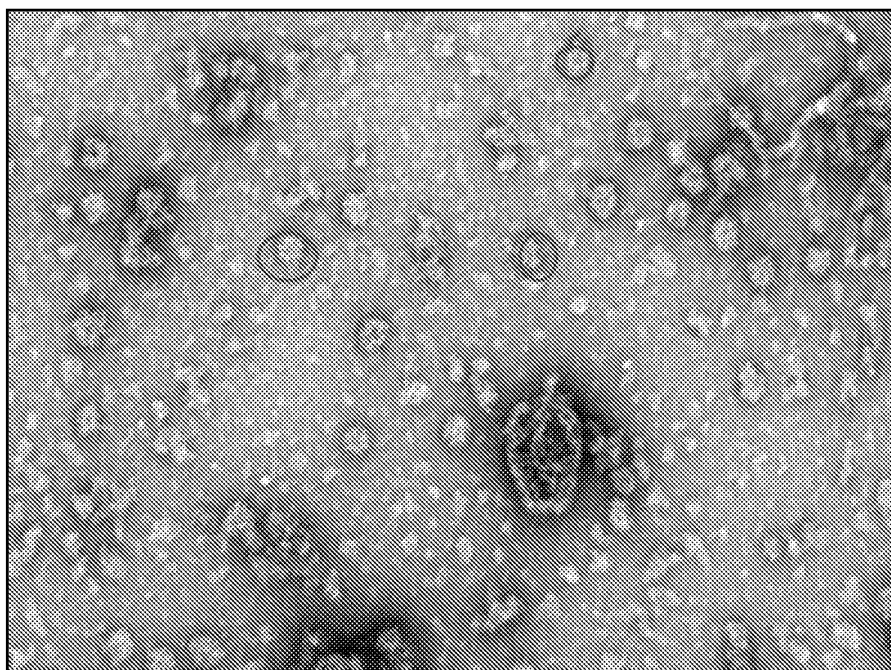


FIG. 43

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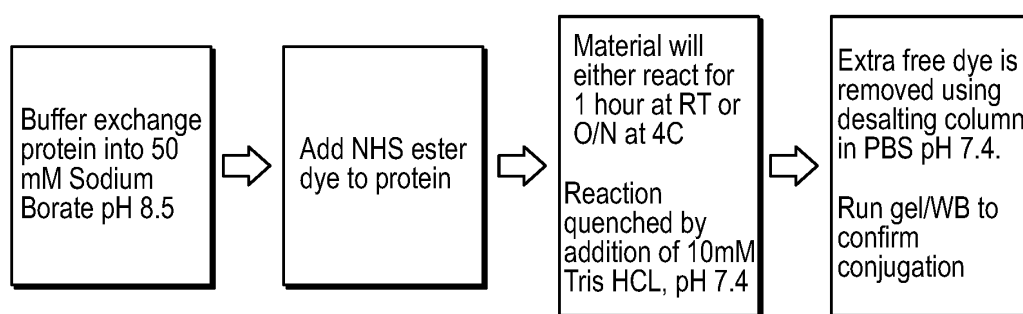


FIG. 44

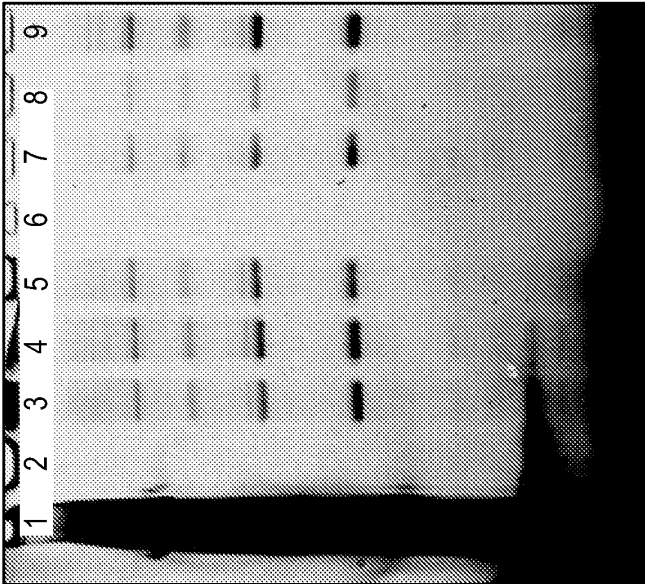


FIG. 45B

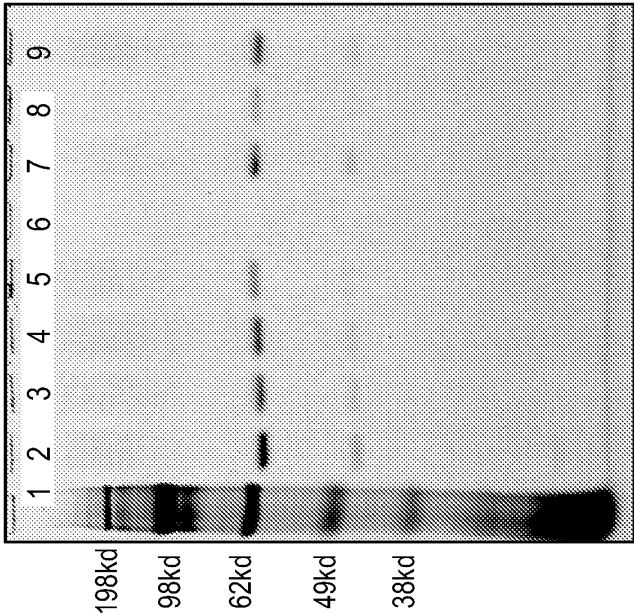


FIG. 45A

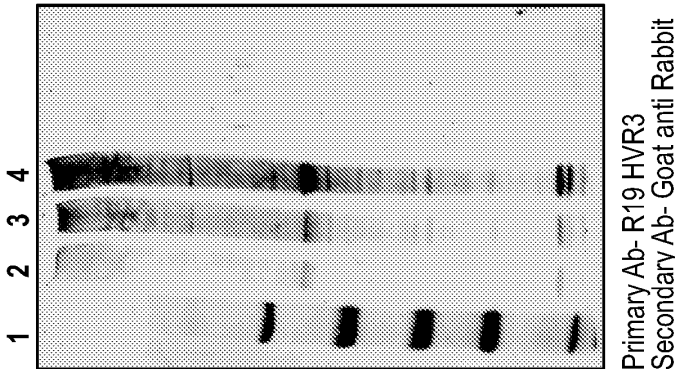


FIG. 46B

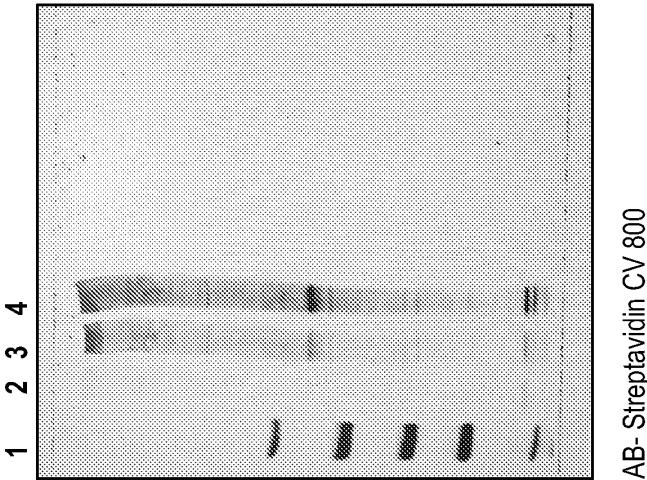


FIG. 46A

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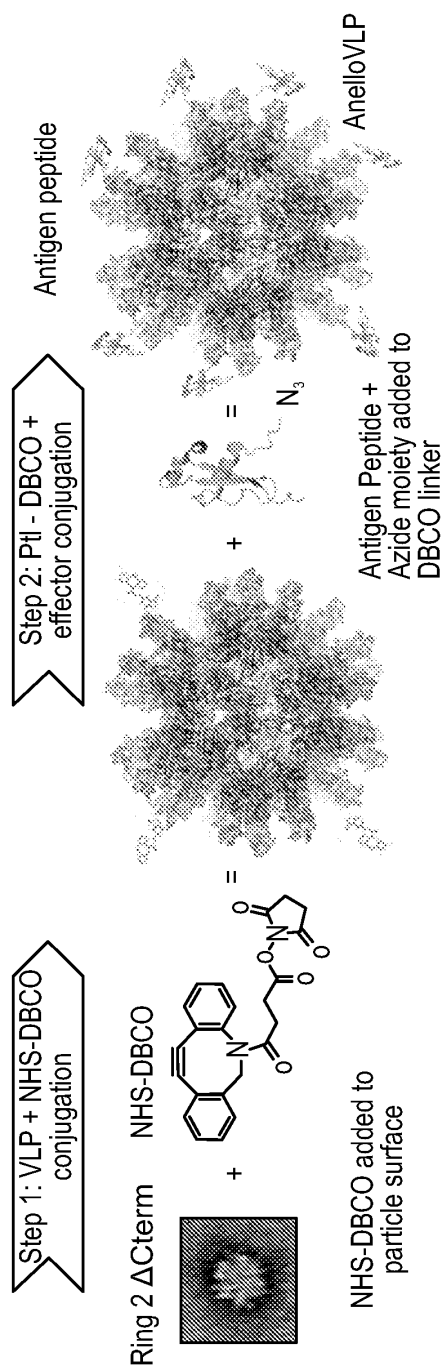


FIG. 47

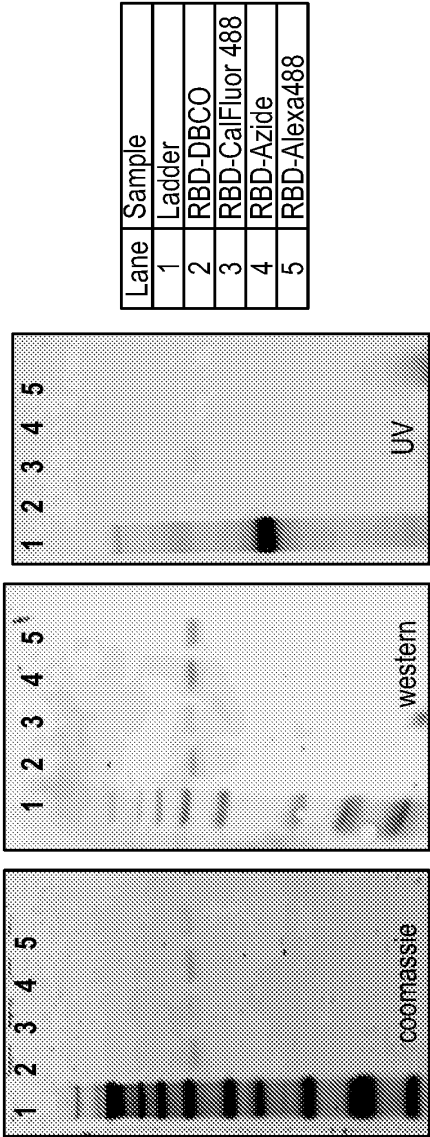


FIG. 48

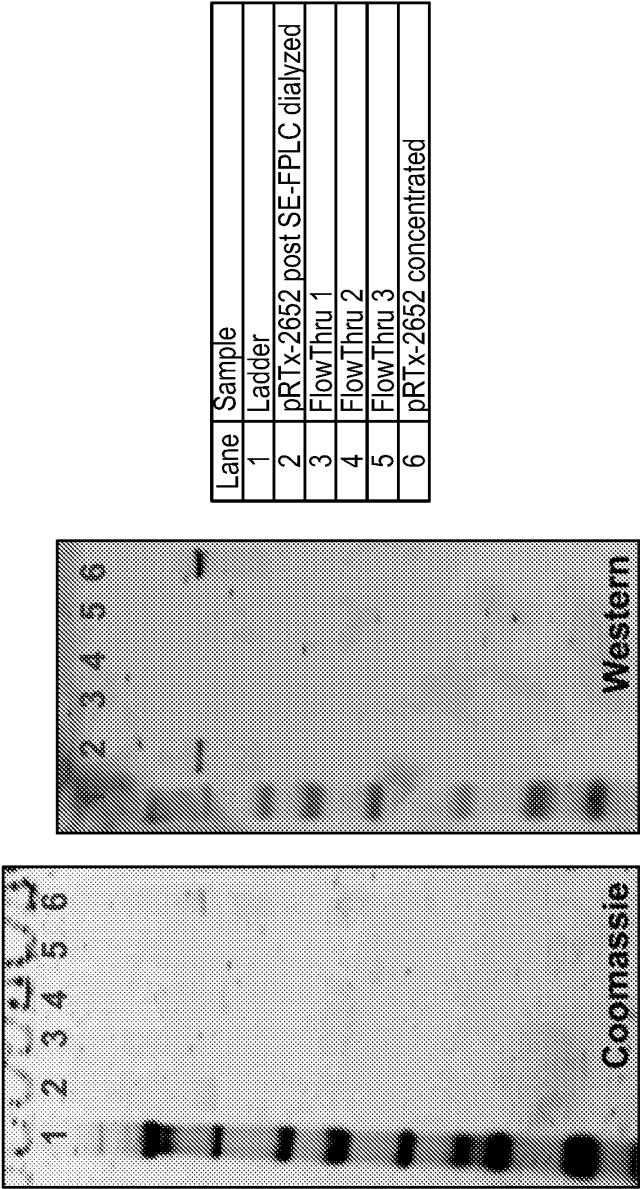


FIG. 49

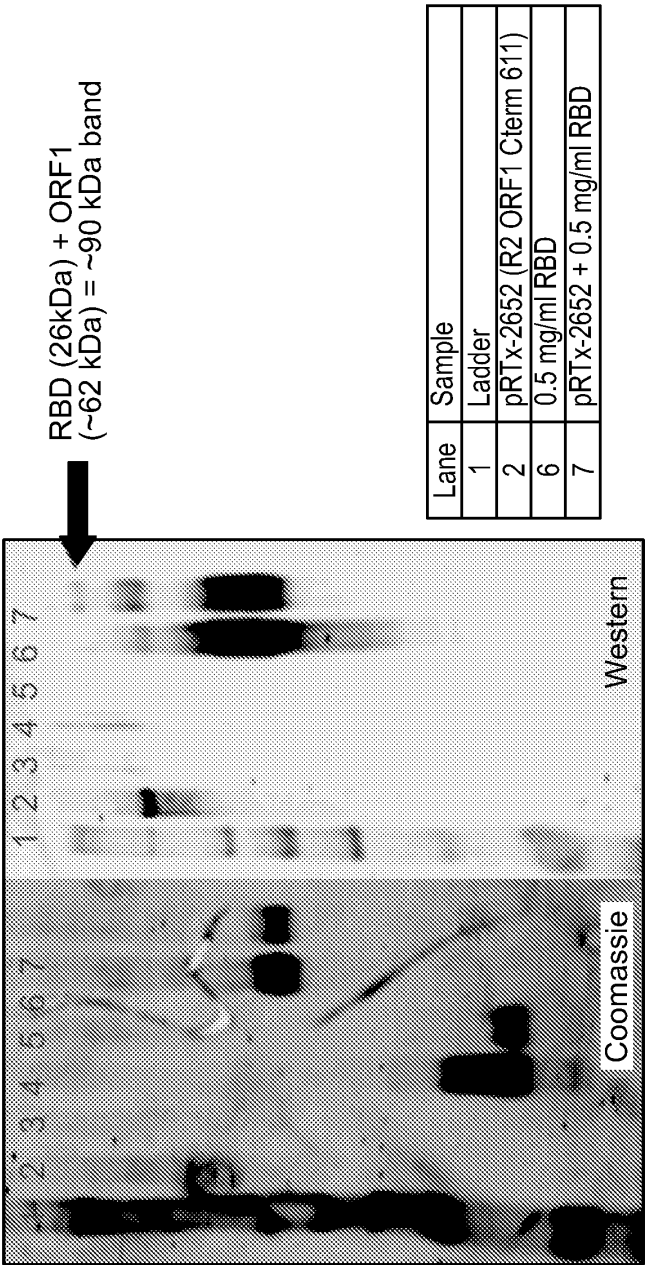


FIG. 50