

Supplementary Figure 1

	10	20	30	40	50
				A1	
				LTyxEL	
Consensus		P A	D-G-----	TY L	S LA L
NPS1 mod1	ELFAEQAKAR	P-TAPALCAW	D-G-----	EMTYDELDRL	SSQLANHLIH
NPS1 mod3	ELFAEQAKAR	P-SALAICAW	D-G-----	EMTYSELARQ	STQLAGYLVN
NPS3 mod1	DLYIEQAKVR	P-NAPAICAW	D-G-----	EMTYKQLDEH	STQLAGYLAG
NPS3 mod3	DLYLEQVKSQ	P-KADAVCAW	D-G-----	RMTYEELDET	SSRLAHHLIS
NPS4 mod1	DRFSQWADRQ	P-DAQAICAH	D-G-----	EYTYAELEV	TDRLAHLVQ
NPS4 mod2	DVIQEDQSAR	RPTASAIIDAW	DTG-----	VMSYQELDER	ATALAYRLTA
NPS4 mod3	KVIHDQALTR	PRMTKAVEGW	D-G-----	SFTYQEFDR	TDQLAAHLQS
NPS4 mod4	AVFQKKVTAQ	-PDAVAVAAF	D-G-----	ELTYAELARY	STNLAQELID
NPS5 mod1	SLIENTAKCQ	P-DALAVDAW	D-G-----	AMSYERINEL	STTLANEIMQ
NPS5 mod2	ELIQESVQRQ	P-ASTAVCSW	D-G-----	ELTYEQLDRF	SSGVACRLVS
NPS6 mod1	EKVSERAALH	P-EKIAIDAW	D-G-----	TLTYGQIEDY	SDKLAKLLRL
NPS8 mod1	GLFDIQLRKR	P-EVMAVCAW	D-G-----	SLTYSQLDKY	STLLAFHLLD
NPS8 mod2	EIYAVALQNW	N--QPAVCAW	D-G-----	EISYGELEQM	STRVANNLRE
NPS9 mod1	RLIELSVQKM	P-QATALISR	D-G-----	EMTYTEFDQA	ACRLAKYLEQ
NPS9 mod2	HLVKKQTMRQ	P-NTPAVCSW	D-G-----	DVTYAELDYY	SSKLAVHLLD
NPS2 mod1	DLLHQLVPR	HHDANAIDFL	EHGS---KRR	KFSYTTLHSL	SDAFAARITE
NPS2 mod2	HAVEKWAATD	PHRTAIFGH	EVNGSIKVKD	TMTYSMLNSR	ANQLARLLAE
NPS2 mod3	SGFERTALLH	PDRIALDFWH	SQG---KKT	TWSFEQLNRE	ANQIAHALIR
NPS2 mod4	ELVEKTAQEH	PQRIAFEFVS	KESSGKRPVR	KWTYRELDQE	GNKIAQLLAA
NPS1 mod2	DVFREQAAAW	SSKVAIKDTR	G-----	EMTYDQLDIQ	SDRLAQALTT
NPS3 mod2	DLFHQQVSIC	PSRIAVKDPL	R-----	EMTYAQLDKE	SEVLSWLLAK
NPS3 mod4	DVFRQQVAMQ	PSRIAVIDAF	T-----	ELTYTELDAQ	SEKLAKYLAT
NPS7 mod1	RLLQQTAEERH	CDKIAMICGD	E-----	KVTFKTLATL	ATQLARILVN
NPS11 mod1	EAFEKIAETH	PHTVAATFAG	N-----	SLTYQQLDEA	ANQLANRLIH
NPS10 mod1	ALFSQQVQAT	PNLVALEDDK	N-----	TYTYQELHDK	VAALADRLRG

60 70 80 90 100

A2

L KAGAAFVPLD P

Consensus	- G--	V F KS	VA LA L	KAG A VPLD	P P R
NPS1 mod1	NLE--VKPED	IVPLCFEKS	WTIVAILAVL	KAGGAFVPLD	PDHPASRHEE
NPS1 mod3	-LG--VGVED	IVPLCFEKSI	WTVVAMLAVL	KAGGAFVALD	PDHPTS RHKM
NPS3 mod1	-QG--VIAEE	MVPLCFEKSQ	WTVVAMLAVL	KAGGAFVPLD	PSHPRS RHEE
NPS3 mod3	-LG--VESES	IVPLCFDKSI	WVVVAMLAVL	KTGGAFAPLD	PNHPTS RHRE
NPS4 mod1	-LG--VRPET	FVATCFDKSM	FAIIAMLSVI	KAGGAAVPLD	AAHPVNALQT
NPS4 mod2	-LG--VKPRQ	FVPLCFDKSG	WTIVAILAVL	KTGAAFVPLD	FEAPVLRLE
NPS4 mod3	-IG--IKTET	FVPILFEKSS	WAIVSMIAIM	KAGGAYVPLD	PKHPQTRLRE
NPS4 mod4	-LG--AGPET	LILICLDKSL	WTIVAMMGII	MAGAAYVPLS	PEHPPSRHEQ
NPS5 mod1	-LG--IGPGL	AIPLCFEKSA	WYTVALLAVL	KSGNAFVPVD	RSNPTNRICQ
NPS5 mod2	-SG--VQPEH	VVALCFEKS	WGIVAMVANN	KSGGTFVHID	PQAPRARVQA
NPS6 mod1	-LD--DSSNR	IIPVLFEKSR	WTSVAVLAIM	KSGACFALLD	PAQPEGRLRA
NPS8 mod1	-QG--IQPGS	IVALCFEKS	LMPISMLAVA	KAGITGLGID	PDQPEGRLAQ
NPS8 mod2	-QG--IGRGH	IVPICFEKS	WMPVAALGVM	KAGAAVVALD	ITLPVQRLQV
NPS9 mod1	-AG--IRRGQ	LVPICFEKSP	GAVITMVALW	KLGAAYVPLD	PAHPLQRLQA
NPS9 mod2	-IG--VGAKD	FVPICFEKS	WVIVAILGIM	RAGGAFVPLG	PDTPYSRLVM
NPS2 mod1	ILGKLESASS	IIPVFLPQSP	ELYVVLLAIL	KAGKAF CPLN	LDTPTERLKF
NPS2 mod2	-HG--VTNDQ	LVCIIMEKSV	NLYTCILAVL	KLGC GYLPLV	PDTPIDRVKT
NPS2 mod3	-AG--AWPDQ	VIPIHISKSP	IYYASILGVL	KSGAAFAPVH	PDLPEARQL
NPS2 mod4	-HN--VKQNS	LVGVCFDKCP	EASFAMLGIL	KAGCAFVAID	PGAPAARQTF
NPS1 mod2	-RA--LTPET	AIGVLALRSC	ETIVAF LGIL	KAGLAYVPLD	AKSPAERTES
NPS3 mod2	-QS--LAPET	LVGVLAGRSC	QTIVAF LGIL	KAGLAYLPFD	VKLPAKRMET
NPS3 mod4	-KS--LALET	AVGVLAHRGC	EAIVAFFGIL	KAGLAYLPFD	SKAPEKRMES
NPS7 mod1	-RG--IGRGE	VVGIALDRSI	DLVVALLAVM	KTGAAYMPID	PGFPTDIRH
NPS11 mod1	-TG--LKPKQ	RVCLVVQRSF	EMLIGIFAIL	KAGCQYVPVD	GGVASEVALT
NPS10 mod1	-HG--VGRDS	LVGVLLPRSA	DYVIACLAAL	RAGGAFLVLE	LAYPPDLLAD

	110	120	130	140	150
Consensus	I --- L				----
NPS1 mod1	IFKQT----E	AKLVLTSVQH	AMLWDPD--A	RHVVPIGEAF	V----SQLSS
NPS1 mod3	ILKQTFKQRD	AKVVLTSVQH	ATMWKDLDLA	GNVVAVSEAL	I----SRLP-
NPS3 mod1	IFKQT----K	AKVVLTSVQY	ANLWPNS--T	QRILAVSNAF	I----NQLS-
NPS3 mod3	IFDQT----K	AKMILSSTQY	ANLWPES--S	QIVVPISRDF	I----DQLPA
NPS4 mod1	RLEDA----A	SKIVLTTTAR	AEKFEGE--V	DNIIIVDDSL	L----QSLPA
NPS4 mod2	IVG----DVG	AELLLCAPQY	EELCESIPCR	AQVVDRQ-ST	-----IYDKP
NPS4 mod3	LIE----DVG	ADVVLCSRK-	YQATASEVSK	TPLVVDQRSI	R----KLATP
NPS4 mod4	IIE----TCN	SSIMLCSPSY	KSRFEALVKH	VRTITED-SI	R----KLPTP
NPS5 mod1	ILRQLDIDVN	SGLVITSREH	VQTFVPLCKH	VIPLEPNFFA	K----EKTYT
NPS5 mod2	ITE----QTR	CKVALVALSC	HTLLDDLVDG	VLLLTSHAAE	E----WCSMD
NPS6 mod1	VVQ----QVN	AKIFLSSKAQ	STLAARVAPA	ATIIPISKSK	FNKIFSPYTA
NPS8 mod1	VVT----ESK	AAALLCSLRH	HELSSRLG-A	KKALPLGLDD	L----SLMQL
NPS8 mod2	ITK----QVQ	SDIILASLAQ	TDLAGRLG-F	AKLLVLPNHD	E----QPKEP
NPS9 mod1	VISIV----E	ADIAIVSASN	KILVQDI--V	RRVITVDPTL	L----SATDV
NPS9 mod2	ATR----EVG	AHFMVCSKKQ	LHRFPDLVDR	TVPIGPGFNA	L----VINTP
NPS2 mod1	ILD----DIS	ADIIITFESY	SEHIRTATNI	HVVSANRELS	G-----CHDT
NPS2 mod2	ILN----DAQ	IAVCMSELSL	SATLRSHLSV	DIIDFDLAAL	SD---YCDRN
NPS2 mod3	MFK----DLK	PKIILCDD--	GSLLPEDLPD	VTVLITQSMS	SD---DVSNP
NPS2 mod4	IIE----DSD	AQAVLSMSSQ	SAQFNIAIKV	PVLNLDEVEW	CS---LSGQK
NPS1 mod2	ILSS----FQG	QRLVLVGMDV	EIPVLTSENV	EFVRIADMLN	GATDNSLVRG
NPS3 mod2	ILSS----LPG	QKIVLFGTDV	EPPKLIKIGDV	RFVRIAETL-	-D---EQIRK
NPS3 mod4	ILST---IDG	KKLVLVGPNI	RLPGAGLEDV	EFAHIVDILN	VDDNAEFIRR
NPS7 mod1	MIED-----A	SPILVIVGAS	TRLASQSWG	ATLDELDETRD	K----MADSE
NPS11 mod1	HILS---DSG	ATFILCLPKF	VERTQKVAKQ	DAVIALEAN	-----VGAS
NPS10 mod1	VLE----DSQ	PTVIVTVSAE	VGKIKGSIPL	VVLDETSSEK	N----GQLDE

A3

LAYVIF TSGSTGxPKG V

Consensus	-	AY	F	TSGSTG	PKG	V	H
NPS1 mod1	TENMK-EATV	NPSNTAYIMF	TSGSTGIPKG	VVLEHRAVST	SCLSHGKAIG		
NPS1 mod3	SSEID-GSRV	QPHNTAYIIF	TSGSTGVPKG	IILEHKALST	SCLGHGRAFG		
NPS3 mod1	AETKV-CSKV	EPWNAVYVMF	TSGSTGVPKG	VVLEHGAIIT	SCLAHGKSMR		
NPS3 mod3	KPYDA-QIAV	QPGNTAYIIF	TSGSTGVPKG	VQLEHKAVST	SCLYQGPALG		
NPS4 mod1	VRSPI-NTGV	QPHHPVFVIF	TSGSTGRPKG	VVLEHSAMVT	SAEAHGSKIG		
NPS4 mod2	-SLPC-LPSV	DSNDPAYAFY	TSGSTGKPKG	AVVNHVHWVT	SSTAFAPGWK		
NPS4 mod3	DSSAL-LAAA	TPENAAYCLF	TSGTTGKPKG	TIISHRAFCT	SAAAFTRRMN		
NPS4 mod4	-EAPL-PQKI	KSNNACYVLF	TSGSTGVPKG	AVIEHRNVTS	NAIAISEGSH		
NPS5 mod1	--RFN-MPEV	SAHDKAYVIF	TSGSTGMPKG	VVVEHGAYAY	AARAHQGGLH		
NPS5 mod2	VASLA-TVQH	KPTNALYVIF	TSGSTGTPKG	VVIEHQNFCS	AVIANREWLQ		
NPS6 mod1	EQPNTTLPPV	SPDQPLYIQF	TSGSTGVPKG	CILTHSQYTS	GAIPRAAVG		
NPS8 mod1	DDTRS-LPTV	KSSDILYAVF	TSGSTGKPKG	VLVSHGSYSA	AAICQHEPFG		
NPS8 mod2	AQIDG-AVAS	SPDDLLYIVF	TSGSTGTPKG	TMLTHSHVCS	MLHHQREIIG		
NPS9 mod1	VFE----SRS	QPRDTAFVIF	TSGSTGRPKG	VVHVHSAVCS	SALRHGPAMS		
NPS9 mod2	MPVLL-LPAV	TPTGAAYVMF	ISGSTGMPKG	IVMEHQVFCT	SALCHKEGL-		
NPS2 mod1	FHHHS--PHL	SPDNLAYVLY	TSGSTGLPKA	VSVSHRAVTQ	SLLAHDPHIP		
NPS2 mod2	LEIP-----Y	NGQHLAYAVF	TSGSTGTPKG	VLVTQDNLMS	NLHYLSTIYP		
NPS2 mod3	IIED-----L	KDTNLAYCLF	TSGSTGVPKA	VSMEHCAPIQ	TIESSRTIIP		
NPS2 mod4	LLQNS---VI	DPQDRSYCLY	TSGTTGTPKG	CELTHENAVQ	ALLAFQRLFA		
NPS1 mod2	TLEGNHSLGP	SANSIAYIIF	TSGSTGRPKG	VMVEHRGIVR	MAQ-HDRITD		
NPS3 mod2	PSDSGNIVKP	SATSIAYVMF	TSGSTGQPKG	AMIEHRGIVR	LVRDNNFVQH		
NPS3 mod4	ELDP--ALKP	SPSSLAYILF	TSGSTGQPKG	VMVEHRGIVR	LAQ-HDQMEH		
NPS7 mod1	SQISSVDTDP	ESEDLAYVIY	TSGSTGKPKG	VEISHGALSN	FLCAMQREPG		
NPS11 mod1	FPSTRPSVPV	SQHDGAYAIY	TS-STGTPKG	VDVAHSNVTN	ALLLNPARLD		
NPS10 mod1	SDLKPLPEET	DLERLAFVSY	SSGTTGKPKG	IANPHKAAVL	SYNLRFGGLSD		

210 220 230 240 250

A4

FDxSxxxE

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Consensus -- R L QF ----- YTFD** *E L G
NPS1 mod1 --LKPDTRAL QFAT----- YTFDACCIAEI ITPLLHGSCI
NPS1 mod3 --MSHNTRVL QFST----- YTFDASMAEI VTTLVHGGCL
NPS3 mod1 --LGPNSRAL QFAA----- YTFDICIAEI FTTLIFGGCI
NPS3 mod3 --ITKNTRAL QFAA----- YTFDACILEI ITSLLHGACV
NPS4 mod1 --LDHSSRML QFAS----- YTFDNSLEEM FTTLQRGGCV
NPS4 mod2 --ISETSRIL QFAS----- YTFDACLIEI FTTLMNGGTV
NPS4 mod3 --INATSRTF QFAS----- YTFDASCIEI LSALTVGATV
NPS4 mod4 --LTPTSRVI QFST----- LVFDASVLEI FVTLLLGATV
NPS5 mod1 --ISNTRSVL QFAS----- YGFDTSMEDH LTTLIVGGCL
NPS5 mod2 --IQATSRVL QFTS----- YSFDASLEET FTALVAGACI
NPS6 mod1 --YYPHSRVL DFAS----- YAFDVCIDSM LCTLAHGATL
NPS8 mod1 --FSQEARVL DFSS----- YAFDAAWFNL MHTITSGGCL
NPS8 mod2 --LTSGRRVY NFAS----- YAFDVAWDDF FHALTSGGCL
NPS9 mod1 --ISQATRAL QFGS----- YTFIVSTFEL FTPLIFGGSI
NPS9 mod2 --LNEES-VL KFTS----- YMFDASIVEI PFKLLHGGCV
NPS2 mod1 --AFS--RFL QFAAPVSASF EPFFAMLTQ KTFDVSIFEI FFPWFRGKTL
NPS2 mod2 --FSADSRL L QACS----- QAFDVSVFEI FFTWYVGICL
NPS2 mod3 --WNPQSRL L QYAA----- VTFDMCYDC FLSWTFGFAL
NPS2 mod4 GHWDVDSRWL QFAS----- FHFVDSVLEQ YWSWSVGICV
NPS1 mod2 --FQSTKATA HMAN----- LAFDGSSWEI YTCLLNGGTL
NPS3 mod2 --LPASPVMA HMTN----- LAFDVSTWEI YASLLQGGTL
NPS3 mod4 --FRSSEATA HMAN----- LAFDGSSWEI YTCLLNGGTL
NPS7 mod1 --CAETDRLL AITT----- ISFDIAALEV FLPLLCGATM
NPS11 mod1 --ITVGSKVA QVLN----- IAFDMG--KL YKKFRRKLPN
NPS10 mod1 --LQPGDRVA CNVF----- ----FVWEI IRPLLRGATV
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		260	270	280	290	300
Consensus	C P	-- L		A* TP V	--	P ----
NPS1 mod1	CIPSEDDRQN	--ALPEAINT	MNVNWAQLTP	TVARLLD---	PQKTPS----	
NPS1 mod3	CVPSESERRD	--GLAEAMNK	MDVNWAMLTS	SVARLLD---	PKSIPS----	
NPS3 mod1	CIPSEDDRRN	--ALSEFINN	RNVNWAQLTP	TVARLLD---	PLTVPT----	
NPS3 mod3	CIPSESQRRD	--NLIDTINA	MEVSWALLTP	AVARILD---	PXKIVS----	
NPS4 mod1	CVPSEVDRVN	--DLAGVVTR	LNVNIMDLTP	TVASLLS---	PKEVPT----	
NPS4 mod2	CVPDQAARTN	--DLVGAINQ	FNVNWAALTP	SVVRTMT---	PSQVPH----	
NPS4 mod3	CVPSEDDRMN	--NLAGAIRK	LKANWSLLTP	SVLGTVE---	PERVPC----	
NPS4 mod4	CVPSEEKRTA	--DLASALTS	LKADWAFMTP	SVASTLDG--	PQSVPT----	
NPS5 mod1	CVPSEEEERLS	--DLVGFANR	SKANWAHLTP	SVANIFN---	AEETPV----	
NPS5 mod2	CVPSEQDRMS	--DVTGFIQR	AAVNWAAFTP	SFLRSLE---	PHDVSS----	
NPS6 mod1	CTPSDERRMN	--DMSGAMRD	MQVTFAGMTP	SVARTLEV--	DILNN-----	
NPS8 mod1	CVPSTDDLRLN	--HLGGCILQ	FGVTF AFLTP	TVCRGIER--	KALIH-----	
NPS8 mod2	CIPSEEDRKN	--NIETSMAM	LRANYVHITP	TILRHIDW--	SKATG-----	
NPS9 mod1	CIPSEQDRQT	--DIQSALRA	FKVNWAIFTP	SFARSLS---	TEDTP-----	
NPS9 mod2	CVPSEEXRRG	--YLAEAYCS	MKVNWAVLTP	PSPSTVD---	PGSAPL-----	
NPS2 mod1	VGCTRTQMLD	--DLPGTIAS	LDVDAAELTP	TVVSSLLSG-	RSSVPG-----	
NPS2 mod2	CSATKEHLFR	--DFEAAIDQ	LKVTHLSLTP	TVAALVD---	PKNVP--K--	
NPS2 mod3	CAAEQSDLLN	--DLSGVIKT	LEADLLDLTP	SVAETLK---	RADVP--N--	
NPS2 mod4	VSAPRDLIFE	--DLAGSIRD	LNITHIDLTP	SLAQILH---	PDDVPSLC--	
NPS1 mod2	VCIDANTVLD	QDALLEVFTR	HSIRIAFFTP	ALLKLSLA--	ASPRTIGA--	
NPS3 mod2	VCIDRMTVLD	PEAVLRTFRR	EQVQTAFMTP	SLFRTYVQ--	QSPAMFAN--	
NPS3 mod4	ACIDATTVLD	QDALLRAFRE	YKIRIAFITP	ALLKYILA--	ESPDTIGN--	
NPS7 mod1	IMAQAHEVKD	PEATLSLIQQ	HDITMMQATP	ATWQMLLDA-	GWKGDP-R--	
NPS11 mod1	KWPGAWEILA	CLMNGGTYLY	RGSDWTATLR	EVSDILSKYR	RQSFPN----	
NPS10 mod1	VAVPDDVSYD	PRMLVDLLAS	KKITETLFTP	TLFSAVLAC-	HQALATRLPN	

310 320 330 340 350

A5

NxYGPTE

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Consensus L L* *GE W ---- N YGPTE ** ----
NPS1 mod1 LRTLVLGGGER VNAVDWERWG ----DSVEQI NAYGPTECAV WCTSYP-----
NPS1 mod3 LKTLVLVGEQ VTPADWNRWP ----HSVQMI NGYGPSECCI ICTCHA-----
NPS3 mod1 LKVLVLGGGER VDDADWKRWD ----GNVAQI NVYGPTECSI WCTSHE-----
NPS3 mod3 LKTLVLGGEEK VNASDCEIWS ----DRVQLI NAYGPTECCV SCVANP-----
NPS4 mod1 LKRMCLGAEP LTKALIELWS ----PHVPVF GQYGPSEASI NSAFKD-----
NPS4 mod2 LKTLFLVGEA MSQQDLTTWA ----DKVTLG NGYGPTECAC VATCNIMTP-
NPS4 mod3 LKTLVSGGEA LPHILKKWG ----TSTCFI NAYGPTECAV VAATAYKSTL
NPS4 mod4 LKTLTVGGEA ITTEVINKWA ----SGVKLL NVYGPTECCI FALTNDKVR-
NPS5 mod1 LKTMVLGGEA MTLRNVQAWA G--RPNKRLI QVYGPSECCV TSTIS-----
NPS5 mod2 LDFMTVHAEP MSQALVARWA ----DLVHMR PSYGPTECSV TSAVG--KR-
NPS6 mod1 LESIALGGEG VSISDAMSWG ----QRTRVV NAYGPSEATV GATIND-----
NPS8 mod1 LKRLLLGGEM IVPSDIALFA ----DNCIIT LVYGPSECTP MTMFHN-----
NPS8 mod2 ISVVNLSGEP VAPSDRSILS ----RKTQV NLYGPAETNV VTVQDL-----
NPS9 mod1 LH TLVLAGEP VQDDIMDRWA ----PKVDLI SIYGTSECSV CITGR-----
NPS9 mod2 LEVLCLTGEV ISTTLIETWA ----PCAHLV NAYGPSECCA ASS----KR-
NPS2 mod1 LKLLLTIGEM LTQPVIDEFG G DATKESILW AMYGPTEAAI HCTIWP-----
NPS2 mod2 VEFLVTAGEA VTEHVRKWA ----GR-GLY QGYGPSETTN ICTVRVA---
NPS2 mod3 VKWLYCIGEA MSSSVKWEW ----G--ACV NSYGPTEAA- FCTTITP---
NPS2 mod4 KGVFITGGES LKQEILDVWG ----PKGVIY NGYGPTEATI GCTMYPR---
NPS1 mod2 LDVLLVAGDR ADPGDMLAAQ S--LVKGVVA NAYGPTENSV MSTLYILT--
NPS3 mod2 LEMLCVGGEA LQSNDIVSIK T--LRTGKIV NGYGPTEENTT FSTIFVLS--
NPS3 mod4 LDTLLVAGDR ADINDLFTAR N--LVTNKVF NAYGPTENSV MSTLYLLS--
NPS7 mod1 LSRILCGGEA LSRRLADRL L---CAESVW NMYGPTEATV WASIWR-----
NPS11 mod1 IKYVVTGGER LG-RLADEWA ----ENACFY NICGPTEITI LNSAHR-----
NPS10 mod1 LKTVWLNGEV VT TDLARRGI K-ALPNARLL NVYSACETHE IACGDIKDML
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	360	370	380	390	400
Consensus	-	IG	W	-- ---	L P G GEL EG
					A6
					GELxIxx
NPS1 mod1	-NGAQQYKPG	IIGKPI-ASV	SWVVDPDD--	---CNKLVPL	GAIGELLVEG
NPS1 mod3	--KKEDYNSG	TIGKSV-AST	SWIVHPEN--	---HNMLVPL	GCVGELLVEG
NPS3 mod1	-NTGPDFQSG	MIGRSM-ASV	SWVTNPDN--	---HNQLVLF	GEVGELLVEG
NPS3 mod3	--DMKGLDPE	PIGNSV-ASV	SWVVNPDD--	---HNRLAPL	GAVGELLVEG
NPS4 mod1	-FSDGRGEAT	NIGKAV-GCV	TWVVDPEN--	---RNRLMPI	GCKGELLLEG
NPS4 mod2	-HTR-PNNLG	DVVTA----R	GWIVLRNN--	---HNILAPV	GAVGELLLEG
NPS4 mod3	DHKLIASEPG	TIGTGS-GCR	LWIVHPRN--	---HDKLMPV	GTVGELVIEG
NPS4 mod4	-EQRSLSNIG	NVLKAG---R	GWLTNPNN--	---PHQLAPV	GATAELCLEG
NPS5 mod1	EDVSYNMDPT	NIGRALPGCA	SWIVRIDT--	---PHALAPI	GVVGELLVEG
NPS5 mod2	--MTARSDAA	NIGWPV-GCR	GWVVDPGC--	---LDTLVPV	GAIGELVLEG
NPS6 mod1	--NVAAKPYI	TMGKRK-GCA	LWLSDPEN--	---HNKLVPL	GAVGELLIEG
NPS8 mod1	--PENS-VDI	ALGHGM-GTK	TWVVNPDN--	---VHQLCPI	GTIGELCLEG
NPS8 mod2	--DELTTQEV	SIGKGY-GAS	TWIVDLKN--	---SDILAPI	GEIGELWIEG
NPS9 mod1	-MVHGQTPRN	CIGRAT-GSL	SWIVDPMD--	---HNRLLPV	GAVGELVIEG
NPS9 mod2	-DVIIGSNLR	NIGTAI-GTA	CWVIDYEN--	---HHQLSPV	GCVGELLVED
NPS2 mod1	-QFSTSDSTN	TIGHPLDTS	AFILASSTGL	HTSPIDILPI	GQAGELAIGG
NPS2 mod2	--VTPDDLIN	NIGSPFANTS	AFVLDPEPES--	----QDILPR	GAVGELCFGG
NPS2 mod3	--LSKDESTS	IIGKPFPTTS	FAVFSEGS--	----QTPLPA	LSIGELYIGG
NPS2 mod4	--VPANGKPS	NIGPQFDNVG	SLVLRPGS--	----DVPVLR	GGVGEKCVSG
NPS1 mod2	-ENEKRVNGV	PIGRAISSSG	AYVMSKQ--	-----QLVPL	GVIGELVVTG
NPS3 mod2	-KDDEYANGV	PIGRALSNSG	AYVMDLKQ--	-----QLVPL	GVVGEKLVVTG
NPS3 mod4	-DNEACVNGV	PIGRSISNSG	AYVMDPEQ--	-----NLVPL	GVVGEKLVVIG
NPS7 mod1	---VLPGKNV	VIGKPITNYR	LYVLDDG---	----LEPVSF	GCAGELYIGG
NPS11 mod1	---HTPGQFL	SIGKPLPNTT	CYLLDADE--	-----QPVPV	GQKGTMWVGG
NPS10 mod1	EKIDKDAAYC	PVGPPLIDKK	YIYILDES--	----GQRVDD	GENGELCVGG

	410	420	430	440	450
A6 continued					A7
xGLARGYL					RxYKTGDLx
Consensus	ARGYL	T F	--	---	-R Y TGDLV
NPS1 mod1	PIQARGYLND	VVKTEAAFIN	NPSWL--LNG	TKTSAGRQG-	-RLYKTGDLV
NPS1 mod3	PILARGYLED	EEMTNSVFNH	DPIWL--LEG	CKNYPGRPG-	-KLYKTGDLV
NPS3 mod1	PILARGYLND	TMKTEAAAFVS	NPSWL--MQG	SDDRTGRQG-	-RLYKTGDLV
NPS3 mod3	PNLARGYLND	AKKTETAFIN	EPPWL--LRG	SEGYSGRRG-	-RLYKTGDLV
NPS4 mod1	PILSRGYLND	MEKTQAAFIT	DPEWAR-VTG	P---TGR---	-RFYCTGDLI
NPS4 mod2	GAVGAGYLNN	PEKTAEAFVK	EVHWPkdLLG	A---NDNTPP	-RIYKTGDLV
NPS4 mod3	PTVARGYLNE	EKTRKAFIT	NPLWTTTIAA	Q---HGKFET	VRMYKTGDLV
NPS4 mod4	SNLGREYLND	PKRTAEAFVE	NPHFLKDFTR	S---VAN---	-RIYRTGDLV
NPS5 mod1	PILARGYLIE	PEKTISSFVT	GLEWAP----	----Q-K---	-RLYRTKDLV
NPS5 mod2	PIVGRGYLRD	QQKTAAAFVT	FSPAGQ----	----KPR---	-RVYCTGDLV
NPS6 mod1	PIVGNGLYLN	PSKTKEVFIE	-DPEF-LLKG	SKSYPGRHG-	-RIYKTGDLV
NPS8 mod1	PLLGAGYLED	KLKTEQA---	-----FIRD	LSWHRDPQA-	-QIYRTGDLV
NPS8 mod2	PLSGLGYLAE	TTEFQKASWV	KNPIW-LTRG	TERFPGRHG-	-QLYRTGDLV
NPS9 mod1	PSLAQGYLGE	PDRTQFAFIE	DPSWVH-LVG	PKSLQRR---	-RFYKTGDLA
NPS9 mod2	HTLARHYLNX	MEKTAETFVP	RPTWLP----	----WGSCG-	-RLYKTKDLV
NPS2 mod1	PQVAKEYLHR	PDLTRASFVE	HPYYG-----	-----	-RLYRTGDRA
NPS2 mod2	SQVFRGYLNR	PELNAQKIIQ	HP-----	----TYG---	-RIYRSGDMG
NPS2 mod3	AQLARGYWGR	ANLTNDRFVS	R-----	----CGQ---	-RFYKSGDMV
NPS2 mod4	KLVGKGYLNR	PDLTTERFPY	LNR-----	----FSQ---	-RVYRTGDVV
NPS1 mod2	DGLARGYTDS	RQDIDRFIVV	TIS-----GT	T-----	IRAYRTGDYV
NPS3 mod2	DGLARGYTDP	KRNIDRFVTV	EID-----GE	N-----	MKAYRTGDYV
NPS3 mod4	DGVARGYTDP	NRNVDRFVTI	TVG-----NQ	T-----	MRAYRTGDYV
NPS7 mod1	VSLANGYHNM	PEVTQSRFVQ	NPFHS-----	-----G---	-LIYRTGDIA
NPS11 mod1	AGVTRGYINL	PELTARRYKH	D-----	-----K---	---FVNDGYV
NPS10 mod1	HLLARGYLNL	PETTEKAFIR	NP-----	----YSSKIG	ARMYRTGDKA

A7 continued A8

	R	GRxD	xQ	VKIRGXRIEL	GEIE		
Consensus	Y	D-G	GR D-	Q	VK RGQR EL	GEIE L	-----
NPS1 mod1	YYN-TD-GNL	MYIGRKD-SQ	VKVRGQRVEL	SEIEYHLHEC	MPE	-----	
NPS1 mod3	HYNNSD-GTL	TYIGRKD-NQ	VKIRGQRIEL	GEIEHCLYEC	IPG	-----	
NPS3 mod1	YYN-AD-GNL	VYVGRKD-SQ	VKVRGQRVEL	GEIEHHLHQC	MPG	-----	
NPS3 mod3	HYT-AD-GSL	VYVGRKD-NQ	VKVRGQRIEL	AEIEHHLYQC	LPD	-----	
NPS4 mod1	QYT-SE-GEM	MYLGRKD-SQ	VKLHGQRIEL	GEIEHHL-KL	NLA	-----	
NPS4 mod2	KYN-ED-GTM	LYLGRKD-FQ	AKVRGQRLEL	SEVEHKLLD-	--D	-----	
NPS4 mod3	RYN-SD-GSV	SYVGRKD-TQ	IKLNGQRVEL	GEIEYHVGQN	LPE	-----	
NPS4 mod4	SYD-LD-GSI	KYMGRKD-NQ	IKVAGQRMEL	GEVEHNLQR-	--D	-----	
NPS5 mod1	YYD-SE-GDL	HFVGRVD-AQ	VKVHGQRIEP	GEIERNLAL	G	-----	
NPS5 mod2	RYA-TD-GSL	IILGRRDDSQ	VKVRGQRVEL	AEIQHHLDLV	P	-----	
NPS6 mod1	RFDPDGDGEP	IFVGRQD-QQ	VKLRGQRIEL	AEIEFNMQKH	LPP	-----	
NPS8 mod1	KYIGDDLGLT	VYVRRKD-TQ	VKLRGQRVEL	GEIEQHVHQA	IMFGTPDHLE		
NPS8 mod2	RYTKD--GSL	IYCGRAD-RQ	VKINGQRVEL	GEIDVALQAL	VKR	-----LG	
NPS9 mod1	RYY-DD-GTV	HLVGRAD-MQ	VKVRGQRVEL	AEIESHLCQM	SPS	-----	
NPS9 mod2	RYV-PD-GSM	WLLGRKG-YS	VKFHGQRVEL	GEIEYNxxxx	xxx	-----	
NPS2 mod1	RINEQ--GLL	ECLGRVVAGQ	VKLRGQRIEL	GEIEQAIMKT	R	-----	
NPS2 mod2	ILLPD--DSI	LSTGRTD-DQ	VKIRGQRVEL	GEVTSVILDH	GAV	-----	
NPS2 mod3	RMLSD--GNF	EFMGRLD-DQ	VKIRGLRVEL	GEINSILAE	DPD	-----	
NPS2 mod4	RILHD--GTF	HFLGRAD-DQ	VKLRGQRLEV	AEINSVIKQS	DSD	-----	
NPS1 mod2	RQRPMG-QQL	EFFGRMD-GQ	VKIRGHRIEL	GEIESVLCS-		-----	
NPS3 mod2	RYRPTD-GQL	EYFGRMD-GQ	VKIRGHRIEL	GEIEHVLRS-		-----	
NPS3 mod4	RQRPTD-GEM	EFFGRID-GQ	VKIRGNRVEL	GEIESVLRG-		-----	
NPS7 mod1	KFDGPD--RL	IVLGRAD-GQ	VKIRGHRIEL	GDIEAAITD-		-----	
NPS11 mod1	RNIIGIMLDL	HSAGQECSTP	VTSHDGGRMV	HLICSAVKMS		-----	
NPS10 mod1	RILPS--GLL	EITGRVG-AM	IKIRGYSVVP	GKVENAILS-		-----	

	510	520	530	540	550
Consensus	-	-	-	-----	--
NPS1 mod1	-VK-QMAVEV	ISPAGDTDKA	-MVAVFLELD	-----	--EETCGTYH
NPS1 mod3	-VK-QLAVEA	IQPSGQGSQP	-LLAAFLHLQ	-----	--SNTQHAEL
NPS3 mod1	-VK-QLAAEV	ILPTGDQGKA	-MVA AFLQLS	-----	--EETHHT-P
NPS3 mod3	-IK-EIAVEV	ILPTG--GKP	-IVAAFLEAN	-----	--SELLNS--
NPS4 mod1	-TSAKSAVEL	VKFND---TN	-ATKALVAFL	-----	--CLSEQEEM
NPS4 mod2	-HM-VQSALA	SVPTKGPCAK	-RLVAILSLQ	N-----	-MPSTTLGTA
NPS4 mod3	-NV-QSAVEL	ITPSTRSSAK	-ALAVFFAVV	HPSLVEGEQD	AQHATADDAG
NPS4 mod4	-DS-IRQLVV	QLPKTGPCAK	-KLTAVISFS	-----	-TSMTAYANT
NPS5 mod1	-SL-LHS-IV	LVPNAGPCAG	-ILVAVIAHQ	-----	-RQSTQDVYD
NPS5 mod2	-DF-ANS-LV	LLPSKGPLQG	-KLTVVASLK	DDIDP-----	CPSSLQLIHS
NPS6 mod1	--DTQLAAEV	IKPSGGGEQT	-LVAFLEVEQK	K-----	----NGMRHL
NPS8 mod1	QP NLNIVA EV	VHAEETENAV	-LVTFVSLRT	N-----	----ANQSEA
NPS8 mod2	-HDWHVAVET	VQSLESDVQV	-IMAFVAPRN	-----	----VCIDEK
NPS9 mod1	-ISLKFAVSL	IFPRG---TP	-MLAAFIARQ	-----	--SGFGPEFP
NPS9 mod2	-xxxxxxxxxx	xxxxxxxxxxxx	xxxxxxxxxxxx	-----	--xxxxxxxxxx
NPS2 mod1	--GCRAVTAM	VIQDN-----	-LVAFCSGRD	-----	-----
NPS2 mod2	-WDCVT---L	ALEQSTNSKT	-LVSFVWPRE	-----	----DSSSR--
NPS2 mod3	-LLSVTT-QI	LLKGESSKEQ	-LVSFVWLR-	-----	-----
NPS2 mod4	-ISDVAT-LV	LKHPKQKQEQ	-LVSFVWCG-	-----	----KALK--
NPS1 mod2	-HRCVRDAAV	VLAQKDQSDH	-AIFGYVTLK	-----	-----QEAT
NPS3 mod2	-HKS VSEAVA	VVQQQNVDEA	TRLAAFVTVF	-----	-----EGDV
NPS3 mod4	-HNFVRDAVV	VAEQQQEKDQ	-RLFGYVTLK	-----	-----EGSE
NPS7 mod1	-HSDVLDVV	ISRDDR-----	-LIAYCINVD	-----	-----
NPS11 mod1	-FQNVRRGAA	MLVEN-----	-ALCAFYATE	G-----	-----
NPS10 mod1	--HLAVSHCA	VIAFGDGIDR	QLVAYIVRDK	-----	-----

	560	570	580	590	600
			A9		A10
			LPxYMVP		S
Consensus	---		L L P Y M P		P
NPS1 mod1	VSESEFGSNPA	---MRLARMD	DTDIELVQRL	PSHMVPEVYF	AIAKLPMTTS
NPS1 mod3	IGNTTRNDST	---AQFVLPD	GVDKRLTERL	PEYMVPTVFF	SVAQMPMTAS
NPS3 mod1	ISQISDSNSE	---VQVIFPT	QVDEQLAQRL	PRDMVPEVYF	AVTEFPLTTS
NPS3 mod3	K--KSDSGSG	---VHVVFPA	QAEDELSQRL	PRDMVPGIYF	ALVEFPIMTS
NPS4 mod1	VAIGEMTES-	----LRAVAK	RVEMALANAL	PVYYVPSVFM	PVTRMPMTTS
NPS4 mod2	SPLQILSQDF	---ASPNVAS	IRDS-LCERL	PTYMIPSLWV	AINRFPMLPS
NPS4 mod3	SDDLPLPLDD	---QLRDICK	NAENGLAGSL	PTYMIPSIFI	PVKKMPWTTSA
NPS4 mod4	QWNTPLSDPE	---SLSLLNR	SRER-LMERV	PPYMPVPIVWI	AVPRIPSLVS
NPS5 mod1	MATFERPETS	---YISNLRN	FLLD--L--V	PHYMIPAIWL	VVRDMPHNTS
NPS5 mod2	SPGWTSTRAT	---YASHVLT	VVQKALSCKL	PTYMVPHTWL	LVGKLPQIS
NPS6 mod1	DGNVFGSFTN	---KFQDALR	DMTKQLFVDL	PSYMIPSAYI	PLWKMPLLVS
NPS8 mod1	D-----HQK	---TIRQLTV	GISDRLEQVL	PSYMVPTSYI	PLSSIPTTIT
NPS8 mod2	Q-----LEN	---HIMQEAS	LLREQLRSVL	PQYMPRAFV	PLAALPLTAT
NPS9 mod1	YDFSHKPEPA	SKAELLELAM	QLSKRLAMML	PSYMIPAVFL	PLAYMPLTAS
NPS9 mod2	xxxxxxxPLGF	---DVSVISR	YALQ--R--L	PVHMASTIWI	VIEKILTLPS
NPS2 mod1	-----	-----GMSRG	AVLTTCKHWL	PASMIPSDVF	VIDVMPQLPS
NPS2 mod2	-----VESL	EPSKFTTTIS	ELFDLLSRRV	PSYMPVSHLI	PISCLPMTQP
NPS2 mod3	-----QSI	QESDIPTLQR	KLKKLASARL	PSYMPVQFFL	VVDEIPKSMA
NPS2 mod4	-----AQPE	VLLGEVGGIA	SAKQACNDKL	PPYMLPTHFV	PLTSMPLNVN
NPS1 mod2	MTEDPIEDSR	QLQHVNAAWEE	RFDSETYALI	DGIKPETVGR	DFVGWTSMYD
NPS3 mod2	VADEEPNDND	ESQHVDTWED	QFDSKVYMPI	SNVLSEAVGR	DFIGWTSMYD
NPS3 mod4	MPAGKNSDSN	QIQHVTAWED	RFNTEIYAPI	SHIESGTIGQ	DFIGWTSMYD
NPS7 mod1	---GDSSDET	--EEKPALES	LLRPWLAQLL	PAYMMPAFFV	SLKSFPMTPN
NPS11 mod1	-----	-----SVDEE	ALKSFTQKHL	PYYSVPEKWV	KVDSIPLTNN
NPS10 mod1	--NTSAERPE	LEIDRTGRSS	TARRMLMTYL	AHYMIPSLWV	EMDKLPTSDV

A10 continued

GK xDR

Consensus	K- DR L
NPS1 mod1	TK-VNRRQL
NPS1 mod3	RK-TDRRRL
NPS3 mod1	AK-VDRQRL
NPS3 mod3	GK-IDRKRL
NPS4 mod1	GK-LDRKVL
NPS4 mod2	GK-LDRRRA
NPS4 mod3	GK-LDRNRL
NPS4 mod4	TK-FDKKQV
NPS5 mod1	GK-LDRKRM
NPS5 mod2	CK-IDRKLIV
NPS6 mod1	CK-TDRKRL
NPS8 mod1	GK-TDRVRL
NPS8 mod2	GK-VNLRKL
NPS9 mod1	GK-MDRRKL
NPS9 mod2	SK-INLRLV
NPS2 mod1	GK-VDRKSL
NPS2 mod2	AK-IDKRFL
NPS2 mod3	GK-IDKKAL
NPS2 mod4	NK-ADGKAL
NPS1 mod2	GSDIDKAEM
NPS3 mod2	GSAIDKVEM
NPS3 mod4	GSDIDKTEM
NPS7 mod1	NK-IDRKAL
NPS11 mod1	GK-VDRKVL
NPS10 mod1	SGKVNLKAL

Supplementary Figure 2

	10	20	30	40	50
E1 homolog					
PxxPx Q					
CON Consensus	P P Q		- Y	-- -- --	
NPS1 con2	IEDVYPC SPL	QEGMLSLT-L	KHAG-DYTMQ	CVLELRAD--	--AN--EDAF
NPS3 con2	VEDIYPC SPL	QEGLMSLT-V	KRPG-DYIMQ	TVLELRPD--	--VE--EAAF
NPS4 con3	IEDIYPC SKL	QEGLIMLT-N	KDPG-TYVVQ	PVYRLPSD--	--ID--LPRF
NPS4 con6	VQDVYPT SPL	QDALITLT-I	KQPG-AYVAQ	HVLALPQS--	--VD--IAKF
NPS6 con1	VEDVYPC TPL	QEGLIALS-A	KFQD-AYVAQ	RVATLP AE--	--T---AVRL
NPS8 con1	IVDMLPCT PL	QRNLA SWARL	HPKG-HFR TT	HQLELKQH--	--TD--IPKF
NPS9 con1	LDDAYPCT PL	QEGLMALS-A	KLSG-SYVAR	HTLNL PAT--	--IS--TQQF
NPS1 con3	VSDILP ATHM	QHVVISR G-I	RSRP-LAFNY	LFLDMGYE--	--VD--IPRL
NPS3 con4	IVDILPTT WM	QNLFISR G-V	NDLA-LAFNY	FFLDLGTR--	--LD--VARL
NPS4 con9	ISDIFPV TDF	QALAITGS-I	MESK-WMLNY	FYLDGRGP--	--VD--LRKL
NPS4 con2	VEDIYPC SSM	QEGLLSQ-T	KDVG-YYAAA	TLHEVLAP-Q	FHMS--WKT V
NPS4 con5	VEDIYPAS PM	QQGLLFTQ-S	RNP D-LYTYQ	TICQVKSTDN	NPVD--PRRL
NPS4 con8	VENIYPC SPI	QDGMILSQ-I	RAPE-SYWSS	TVFEVKAR-R	GPVD--AKKI
NPS5 con1	IDDVYPC SPM	QEAMFIGQKT	RTTQ-LYRTI	GLFKVRTA--	T--I--PQAV
NPS5 con3	IEAAYPC SPM	QESLLFSQ-L	KNTN-PYNQH	FLFQLMPGYD	DPLEGRQERL
NPS5 con4	IVNILPC SPF	QEYTHQALQT	DPTT-PYLYH	TLVEITSDVG	--LN--ATAA
NPS5 con8	IIDAYPAS PL	QEGISLSAYQ	GLS--TYDTF	WIWKCLPR-N	GEEKVDMAQL
NPS2 con1	VALILPCT PL	QEAMLAETRS	KPT--AYCNW	IEVELSVAYT	-----YEQI
NPS2 con2	ATKILPCT PL	QEAMISSG-L	SSPGQAYCNV	MVFDVKGD--	--LQ----QL
NPS2 con3	VAAVRPCT PL	QNGMVSQFLA	KEG-AVYMNY	LRLQLEPK--	--VD--LEKL
NPS2 con4	-ESLAPCT PL	QQGMIARSME	NGNG-LYFNT	FRFRLNMD--	--VD--EGKL
NPS2 con5	VETVLPAT PL	QDGMVAEMVH	SDFQ-LYFNH	NIMEIEPH--	--VG--LGKL
NPS2 con6	IEAVLPATAM	QVHMLSVWQN	TQGD-VFHAT	FTYRLTGN--	--IS--KSSL
NPS1 con1	YSGPVAQSFA	QNRLWFLEAL	HPGLHWYLV P	IALRINGP--	--LQ--LDAL
NPS3 con1	HRGPVTQSFA	QGRLWFLEQL	HPGLDWYLMH	LAVRIRGP--	--FQ--LQAL
NPS3 con3	SDGPVEQSFA	QGRMWLEEL	HPGLTWYLM P	VVVRIRGP--	--LQ--LSAL
NPS4 epi1	FDEEFDLSPI	Q-SLYFQRP N	TDG--HFNQS	FYLRVARI--	--TS--ATEF
NPS4 epi4	YSLPFGLSPI	Q-KIFFESV G	DSYN-HFNQA	ETLRLSRN--	--VE--ESEL
NPS4 epi7	LDEL FQLGPI	Q-RFYFQSQ G	AEPNTHFNQS	STLRITSH--	--VE--LPVV
NPS5 epi2	IGVAWPLSPI	QQMHFQASAK	GDP--LDQQV	MVLSITKH--	-ISD---DLL
NPS8 epi1	EVLNLPLRKV	STTKRFTSLG	GDS---ITAM	QVVSQCRK--	--QG----VA
EPI Consensus	F LSPI	Q- F S G	D --HFNQ	LR R --	-- --
		PI Q xWF			
		E1			

60 70 80 90 100

C2

X xxxLRTxF

Consensus	AW	V	LRT	F	----	Q	VL	-
NPS1 con2	RAAWEEVTQS	LLVLRTRILQ	HSTL	----	GL	LQAVLAE	----	-----K--P
NPS3 con2	QIAWEKTVQS	LQILRTRIVV	HKTL	----	GL	LQAVVAD	----	-----K--M
NPS4 con3	KAAWKAVVAA	ESVLRTRIVY	SEKY	----	GF	FQVVLREE	--	-----L
NPS4 con6	RSAWEKAIGD	IDILRTRIIQ	LASG	----	AF	MQVVLRED	--	-----R--I
NPS6 con1	KEAFDTAVQG	SPILRTRIIN	VSGR	----	GL	FQVVLKDG	--	-----Q--L
NPS8 con1	KQCWDMVVER	NPITRTHIVN	LPKL	----	GY	TQVIVDRP	--	-----S
NPS9 con1	QDAWQRVVDS	HAALRTRIAE	VEGF	----	GM	IQAVLSG	----	-----P--I
NPS1 con3	KDACSTLVQH	FSMLRTRKFVY	LEG	----	NL	WQVVLRSPLG	-	RFSEFE--L
NPS3 con4	RRSIPALVKH	FSILRTRKFVY	VDG	----	VL	WQTVLRDPEV	-	PFIKFE--L
NPS4 con9	KQAAYRMVQA	FDILRTVFVP	YGD	----	RF	LQVVLRLKLP	-	EFMFEQ--T
NPS4 con2	AEAWQQVVKR	HPALRTVFVAE	NVGVKG	--LY	NQIVLKNIEV	-	NIVHLEAAD	
NPS4 con5	AEAWQVVVHR	HQALRTIFID	GLAKNG	--SK	DQIVVKNKAG	-	RVQLFVDCD	
NPS4 con8	VDGWRQVVAR	HPALRTVFID	SVCKGG	--VF	DQIVLKNPDS	-	GVVTCT-CS	
NPS5 con1	ERCWQQVVNR	HQTLRTIYVP	AAGGTG	-RL	DAVVLARNVQA	-	SVSHKRCRD	
NPS5 con3	SKAWARVVEK	HAILRTVFVAE	SSSH	----	GF	MQIVLRKATP	-	MVEWIRSKS
NPS5 con4	ARAWRAVVD	HSILRTVFVP	AKNGD	----	KI	YQVVLHDSS	-	VDCSITSVDK
NPS5 con8	AEAWRSVVRK	HSILCTVMVP	DPSGE	----	GL	IQLVLSEPE	-	----IKVICL
NPS2 con1	QDALLFLAQE	NEILRTGFCI	DSQHTT	--VF	SQVIWKELS	-	-----LS	
NPS2 con2	QRCWKTVIQR	HEIFRTSFVA	TDNP	-L	YSF	AQVIVEGYG	-	-----MGWH
NPS2 con3	KAAWSSTMER	HSLLRTRGFVAH	VNDPLFPFAM	-	IEYTQVSVT	-	--LPWSAIRE	
NPS2 con4	RHAWETMYSN	TQILRTVFVN	TEEG	----	Y	LQAVLGGIPF	-	NG-FIQTSTQ
NPS2 con5	KSAWQTVVAN	SPILRTSFFM	VDDPTLDFAY	-	LQVVHQQLP	-	---AEAMTEL	
NPS2 con6	SGAWKSVAE	FPILRTIFFT	NDQPGK	--PV	MQVILRP	----	-----DALAD	
NPS1 con1	KAALRTIEHR	HETLRTTFST	HNGT	----	GV	QLV--HQFSD	-	EKDVTVIEVP
NPS3 con1	QAALQTVERR	HETLRTTFST	NNGE	----	NL	QEV--HPFHD	-	GKDLNVIDIN
NPS3 con3	ESALNAIENR	HETLRTTFST	VGDA	----	SM	QVV--QPFHP	-	RAMNVIDID
NPS4 epi1	HAAVRQLVTR	HSMLRARFSH	SAER	----	GW	QQ---HDIEG	-	SYRFRHSAVT
NPS4 epi4	RTALVALVKI	HPMLRGRFTR	NEIG	----	IW	KQRVEQDVEN	-	SFRLQRHHVQ
NPS4 epi7	KRALDAIVTC	HGMLRARYSK	NTAG	----	EW	QQLV-KPVAN	-	SYVFEAHAVS
NPS5 epi2	HNAFRHIVEV	HPMLRARFTP	TIDG	----	W	VQHITDDVSG	-	--SFALRFHH
NPS8 epi1	LTALRAIIDR	HSMLRARYHR	SSQG	----	LW	SQHIAPLGP	-	----WNMIEH
Consensus	ALRAIV	H MLRARF	G	----	W	Q	DV	S F V

x HxxLRxR

C2 homolog

110

120

130

140

150

C3
xH

Consensus

```

NPS1 con2 EWVANNLAT YLDQSQSSPI ELGQPLVHFA LVRDQQ---T KKRWFVWTIH
NPS3 con2 KWAEADDLAT YLAQDKLLSM QLGEPLARYA LVRDSH---K EKRWFVWTIH
NPS4 con3 PWHLSAVQD IDESTRRLPA KNGAPLTTLT LVGEN----T TQPIFVWTVH
NPS4 con6 NWNEAGSLQD VQAEVLRIPS HHGGRLATYT IVTTE----S NQRYFVWTIH
NPS6 con1 VREYSTEVSE YLRLDRNEPM DLGTALFRYG LVEEPG---S DKMNFVITMH
NPS8 con1 KWIDGSTLEQ CHKELASRHT LQGEPLVNFA LARLASPTNQ QSAWFLCDLH
NPS9 con1 KWQKAEDLES YLTLDEQRPM WMGDPLARHA IIQSNNH--S ALYHYVLTIH
NPS1 con3 SKPLEKASDV ICTHDIAQ-S SPTELPTSFM FIKS--A--D GEHRLIIRLS
NPS3 con4 DMPLDEAADT VCLEDSRN-T EPLELATAFL LVKS--S--S GEHRLVIRIT
NPS4 con9 DDDLDTFTRG LQQRDREMGP RVGEAFIQFV VAKQK-Q--T GSHRIFMRLS
NPS4 con2 EDDAIRIIEE QRSISYS--- HGQCPNHRLT ICDTA----D GRIFCSLDIS
NPS4 con5 DRISAEMLRG LAPIDCR--- -ESTPPHRMT IAKTK----S GKVWMKLEIS
NPS4 con8 DAELSAMLQS IKHSSLNG-K KKPVLPHQAA VIQTT----S GRVIVKLIIN
NPS5 con1 KTEVQEKYIS RCNSDSP--- FMNGVLHQAF IWSTD----N GEIFCILDLS
NPS5 con3 KEAVVKTWEQ DLLMPGPLP- LSGKLLHSLK IYIVED---- GTIFCQLDKN
NPS5 con4 VSSIDETANL HMTDIRSKCL ASAVPPLALR LFLVD----S GRMFALLAIG
NPS5 con8 EIHGQDPEDV LYQLQRPLWT SQGSPRHCFE VYQSG----- VKTAFRLDIN
NPS2 con1 QIQKVASFSN QYSMQSDHDF LRPFGVQIKT HCKLP----- ---RLLFQIH
NPS2 con2 EDSIDSGQLL RVSKILFDLM EANKPPVYFS LNREE----- DSAKLLFCCH
NPS2 con3 QKKSQSSNAW LQRIRAQSLK ELYVPPWALR FVERN----- DQSFLDLAIF
NPS2 con4 DDDLISHMAQ LHKDWLSLND VDFRQPFQVH LVSAQ----- KQKQLIVHIF
NPS2 con5 EIEREEDLSK ITDYATARAR KAGGHASLLQ LVFATLG--- DRRFVVLZIA
NPS2 con6 NPAEDIDPKQ WSSLSRKGQG GLVQPLNSMG GQOTD----N GDWILNFTIH
NPS1 con1 SNDKHHLLDA LQEDQTTSTFC LQNEPGWRVR IYRLNEQ--- -EHVLSIVMH
NPS3 con1 SND-EALLEV LELEQKTPFN LRSEPGWRVS VYRIDGE--- -NHVLSIVMH
NPS3 con3 EHS---LTDA VHRDQTTTDF LRTEAGWRVS LYRISKE--- -DHILSIVMH
NPS4 epi1 SQAT---IDA SIEDTQQCLD HANGPLFAAE FFDYGT---- -QQFAFLTGH
NPS4 epi4 EMNDP-ALQR AFDNSQASLN ITSGPTFAID LFEIEDDF-- -SQVLTVAH
NPS4 epi7 AVSS---AIP IANTQKSLD ILRGPVFAAN LFDIKG---- -EQIIFMAAH
NPS5 epi2 ADCTHKDIVQ RIGSTKLSVD MVNGPLVGID IFGSGE---- -KRFVSVTIH
NPS8 epi1 AVSKPSEAFN MAKELQKQLN IVNGPVFLAV HFTVTN---- HRPLLLLSAH
Consensus A - I TQ SLD I NGP FAA F ---- - Q L AH

```

H
E2

C3 continued

HxxxDGxS

Consensus	HA DG S	Y G ----	-----	--
NPS1 con2	HALYDGWSVP	RIVSAVRTIY	DGG----VLR	KQPG----- --FNSFIKYL
NPS3 con2	HAIYDGWALA	HILNAVQTAY	NGA----ELE	KQFG----- --FNNFIKYL
NPS4 con3	HAIYDGWSWT	NLFRKVEIHY	HND----VQD	IPATVP----- --YSRFVKYL
NPS4 con6	HALYDGWSIY	LVLQRVQIY	MKG----VSN	ILQT-P----- --YARFIQYL
NPS6 con1	HAVYDGWSMP	LVFDRVNRAF	NGL----HTE	RPSS----- --FKHFIKHL
NPS8 con1	WAAYDGWSLR	LLLSEAONLY	HGR----HPH	PLND----- --MRVLTNSL
NPS9 con1	HAIYDGLSLP	ILLQDLNEAL	RGT----GIK	PRPQ----- --FNSFIRYV
NPS1 con3	HAQYDGVCLP	KILDTLSCIY	NRK----PLG	PSYP----- --FSTFLAYA
NPS3 con4	HAQYDGVCFP	SFIKTLFAIY	SGK----PVE	ATHS----- --FSTYLAYT
NPS4 con9	HAQYDGVCMS	KILLALQDGY	NGL----PVS	SAPS----- --FGNFVRET
NPS4 con2	HAIMDGHSMS	LLVSELRTAC	EGQ----LTL	D--YTP----- --LSAYIAWL
NPS4 con5	HVINDGTSVS	NMLVDLARAY	ERK----LSR	ADIGPL----- --YSDYIDHV
NPS4 con8	HSVIDGGSLA	VIENDLQEAY	EGR----LTG	E--GPL----- --YSDYIKYL
NPS5 con1	HMITDGSSWV	LLIEDFSRAL	RGI----QSL	S-VAPG----- --YDRYVDYI
NPS5 con3	HIISDGISSR	IMIQDLLDAY	GDR-----LE	GLSAS----- --FSDYINHI
NPS5 con4	HMIIDHVSLT	HILSDWDRFC	RGWNP-LSDL	DVLPP----- --FRHYIHHL
NPS5 con8	HALIDGGSLM	PLIQDLRMAY	NGF----HSI	AAPP----- --FGEMIRYL
NPS2 con1	HALYDGWSLD	LLLRLDHLCL	RGK----QDL	KRPS----- --FREVVRYL
NPS2 con2	HALYDGIAMS	TLLAEVQELY	HGR----QLL	PPVS----- --YDVYLKRM
NPS2 con3	HALFDAQSLQ	NIFTDVTAIFY	KGLS----LP	PVPS----- --LNEVVSHV
NPS2 con4	HGLYDGNSIG	LLLQGVWNSY	ERRD---SMP	DAPS----- --FHTALAHG
NPS2 con5	HALYDGWSLS	LLHQDVQAAY	EGR-----YT	PRPS----- --YEAYLEEI
NPS2 con6	HALYDALSLP	MVVDRFAALC	AGASISGEAD	ASES----- --LKVWKEYT
NPS1 con1	HIVSDGWSLD	VLKKELAVLY	AAAVRGENLI	SRLSPLPVQY RDFS AWQ RMP
NPS3 con1	HIVSDGWSVD	VLKKELSKLY	AAALRGEDLD	SCLPPLPIQY RDFS V W Q K L P
NPS3 con3	HIVSDGWSTD	VTRELGIFY	SALIQGRDPL	SCVQPLPIQY RDFS V W Q R Q Q
NPS4 epi1	HLVVDLVTWR	LLLEEELEEIL	KGG---QLLA	PALP----- --FQKWAELQ
NPS4 epi4	HLVIDIVSWG	VLLEDLQALL	NGVQ---PSP	QSLP----- --YHAWLQQQ
NPS4 epi7	HLVVDLVSWG	MIIQDLEDLL	GSTGSMPTLQ	RGLS----- --FQAWCEKQ
NPS5 epi2	HLVVDVAVSWR	VILEDLEGII	ARG----APA	RPEP----- VHFQAWGRAQ
NPS8 epi1	HLVIDLVSWR	VIWRDLEDFI	RNK--CLLSA	RGIS----- --FRRWCKEQ
Consensus	HLVVDLVSWR	VILEDLE L	--- A R LP-----	--FQAW Q

HLxVDxVSW

E2 continued (C3 homolog)

	210	220	230	240	250
Consensus	--- -	YW - L	P L	-- ---	
NPS1 con2	SKQ---D-QD	ATATYWKA-A	LGGCTATTPF	PPLVPGVQ--	-----PPIAD
NPS3 con2	EQL---D-QD	GLASYWRA-T	LSDCEAN-VF	PPLQSRVQ--	-----QPVAD
NPS4 con3	CSL---D-QK	ESDAFWMS-H	LDNVTAT-QF	PQLPSADY--	-----HVETN
NPS4 con6	SNR---D-HS	VSKEYWRT-N	LDQIDAY-QF	PRSSQVSA--	-----KDKPS
NPS6 con1	ISL---D-PA	DAQQYWKE-R	LEGTIPH-QF	PPLPQKGY--	-----TTQAD
NPS8 con1	WSC---E-LA	KAESYWQNF	SGLTHAALAF	PQQQQQQPLV	CREDSTLLRP
NPS9 con1	LAS---N-RE	DAQQFWKS-E	LSSVGLA-TF	PVLPSKTY--	-----SPLAN
NPS1 con3	QS----Q-RP	ASELYWRR-L	LQGSNMIKIT	SLLCPRVP--	-----ESNDQ
NPS3 con4	RG----R-RS	ISSQYWRN-L	LQGSRITKVT	SLLGPSIR--	-----RGNNP
NPS4 con9	AK----T-VS	GAHDHWRE-V	LRGSKMTEIV	NRFPGPNYQ--	-----RSAGR
NPS4 con2	TRQ---P-EE	ASLDFWKS-Y	LNGSEIS-SF	PVLDDGQGQL	L---EKKLVT
NPS4 con5	LSM---P-RD	ADLAYWKT-Y	LSGIEPC-FF	PTLNDGKP--	L---AREPAS
NPS4 con8	REL---S-AD	DAIGYWKG-K	LRGVSPC-HF	PTATRDTs--	K---PRQLKS
NPS5 con1	RLD---PNAD	AALDYWMQ-Y	LEEVEPC-KF	PVLGDGDIR-A	A---TEIGEL
NPS5 con3	NET---D-AG	EAEKYWSR-Y	LDSATRC-HF	PQLAPPVN-K	G---SQAMPT
NPS5 con4	SSR---N-LA	YSTNFWEG-R	LRNLLPCQVS	DPNSCSVG--	-----DSQSM
NPS5 con8	SQS---N-HQ	EKIDWWGN-Y	LHKTKPCEVL	SIFNQPIKGI	S---HDNERF
NPS2 con1	DDDRRLNKTQ	NSTNYWKS-L	LGDIPT-TL	PNYHGKLVH-	-----NASIH
NPS2 con2	LEQ---N-LD	EADKYWSA-L	LEGFEPT-SF	PSLTGKRVRE	YEAFTSSSRR
NPS2 con3	IQSYKQD-NS	SGKEFWVE--	LGKTANPSRF	PNLAPLKCD-	-----PKPPI
NPS2 con4	PLR----IPD	DAKSFWKDLI	LARTSS---L	PTLFDNSS--	Q----DAVVI
NPS2 con5	LR----SGDD	RSTAFWSG-Y	LAGAKPT-FY	PQLSLEQS--	-----SVIY
NPS2 con6	RQQT--HPSA	EAKQFWTE-Y	LAGAKSAPVN	LNLNTWTP--	-----SRRVS
NPS1 con1	EQM---QGYQ	KQLEYWVA-E	LQSSRPAEFL	CDKPRPMTLS	G---KAGVHK
NPS3 con1	GQV---QEHQ	RQLDYWIN-Q	LDSSRPAEFL	YDKPRPATLS	G---KAGTQK
NPS3 con3	AQI---DNDQ	SQLEYWSN-Q	LNTSRPAELL	CDKPRPTALS	G---QAGKEK
NPS4 epi1	QEH---A-ES	LEISEILP-E	VDVPHMDFSY	WGIHQDNTY	G---NASHAS
NPS4 epi4	FLQ---VKQE	NPRKVFPT--	VEIAPAKFDY	WGMGRPNLN	G---DLISED
NPS4 epi7	SVN---ALDT	LQQSSIQRQP	LVVQPANLSF	WGMSTRSNLY	G---DVERDD
NPS5 epi2	VEQ---ARTR	LDPARVLPAG	LDIESANTYF	WKMEGQPVFF	Q---DSASKK
NPS8 epi1	HRE---S-CN	LMPDVLPL--	FAVPPYDTSF	WGCASKDQVR	G---NAIDST
Consensus	---A	L LP-	V PA SF	WGM N	G---D

260 270 280 290 300

C4
xxxxA AWA

Consensus	- -	T	A	AWA	L	--DV	FG
NPS1 con2	AIVEY-QCP- ---SFPRMTS	DATLSATIRA	AWAILISQYT	GLD--DVVFG			
NPS3 con2	ATAEY-QCP- ---PLPKRTS	NTTISTLIRT	AWAIVASAYT	NSE--DVVFG			
NPS4 con3	GQLLH-RVQ- ---LKRNAEL	DVTVPSMIRA	AWGLLLATYS	GSD--DVVWM			
NPS4 con6	GQTLHYQMK- ---LAPHKHV	DVTPTNVIRA	AWAIIAAYT	HSN--DVVFG			
NPS6 con1	SLLEH-YVT- ---VPTSAHS	KLTLATIIRG	AWALVSSLYM	GHP--DIVFG			
NPS8 con1	GDDHDASVVL QDFGCQGTGS	GFTASTLIRA	ALGIVLARHL	QTD--RVVFG			
NPS9 con1	ASFQY-RIS- ---LQRKTRS	DFTTATLIKA	AWGLLLARYN	DSP--QAVFG			
NPS1 con3	SGINVVRII- ---NMPKLPK	NLTTASVUSA	AWAMILSHIT	GEE--DVTYA			
NPS3 con4	IEIQTESII- ---SMPHVPT	GFTLASIVSS	AWARVLSKIT	GEE--DVVYG			
NPS4 con9	SITLERRVD- ---SPSLKRF	DITSATVAKA	AWASTLACIA	SKS--DIVFG			
NPS4 con2	IRMDLSSISL PDFQSFCNAN	GITLSNVFHT	AWALTLSCYI	GSD--DVTFG			
NPS4 con5	VVVDIHHIN- -PVQEFCQON	GVTLSNLLQL	TWALTLHYV	GAF--DVSFG			
NPS4 con8	FDMRFSRFG- -ELHGLAEAS	NVTFANLFLT	AWALVLSYR	KSS--DVCYG			
NPS5 con1	FEVQFTEFD- -ELQRFCCKHN	ETTISAVLQT	AWALLLRNYT	GNS--DVCFG			
NPS5 con3	EKVELVLDNK RALELKCRNF	GISNSSALQA	AWALVLKTYL	NSE--AVIFG			
NPS5 con4	GAVSFTIETA GATQTFCKTT	GVTLSNLLQF	AWALVLHVYT	GQD--TVCFG			
NPS5 con8	RYVKIPQSAT VGVIGFCQRF	GITRSVFLQV	VWAMVLSYLT	DAP--DVCFG			
NPS2 con1	RFFGQSSVSR HNFLFECAHHS	AINPQVYFQA	ATAFVLSLYT	GSS--DVVLG			
NPS2 con2	LSMSLDSVR- ----NSCQNS	SVSLLSVVHA	AWAKLLHFYT	HES--DICFG			
NPS2 con3	VCTRRSAKSL IDLENGCRQA	NTTMPAVGMA	SWLSLLSSYT	GES--SVTCG			
NPS2 con4	ARTMRAPAN- --FDLIRRQL	NVTAQAVVQA	CWFSVLHRHV	KG--DVATG			
NPS2 con5	QHETTSQSDF YKIKSFTKQQ	AITLQTLGQA	CHAAVLATVI	RSL--DVMFG			
NPS2 con6	LVQRNAIADV SRIKKLCAA	GVSIQALFFA	AYARFVSETI	EAKSRDVVFG			
NPS1 con1	IRIDGQVCS- -KLRRFCRTH	EVTVPFVLLA	TFRAAHYRLT	GQE--DATIG			
NPS3 con1	LTISHRLYE- -RLQDFARER	GVTLFVLLT	VFRAAHYRLT	NQD--DATIG			
NPS3 con3	INIDGPLYN- -KLQFCKAH	GVTQFMVLF	AFRATHFRLT	GQN--DATIG			
NPS4 epi1	FELDNELSS- -AFLTTCHNA	YKTEPVEVLL	ASLIQSWSLV	FTD--RPIPA			
NPS4 epi4	IGLSTRDT-- -MLLLGAQDA	LATEIVDILV	AGLLESFRKT	FQD--RSPVA			
NPS4 epi7	FTITKEIT-- -AMATGHHHV	YKTDLVDIFL	AAVIHSFSRV	FIN--RKVPT			
NPS5 epi2	LQLSKASS-- -QAFGACKCH	GFDQVDLLSA	AVLLSFLDLF	GRP--SASLF			
NPS8 epi1	MILDRDSSQ- -LLMGHSNDT	MRTEPLDIIL	GALAHSFGQS	FPE--HKMPT			
Consensus	L S-- -	TE VDI	L A L SF	F --R P			

310

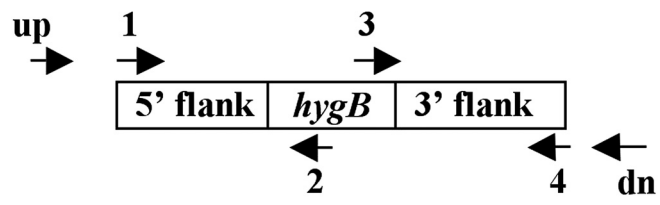
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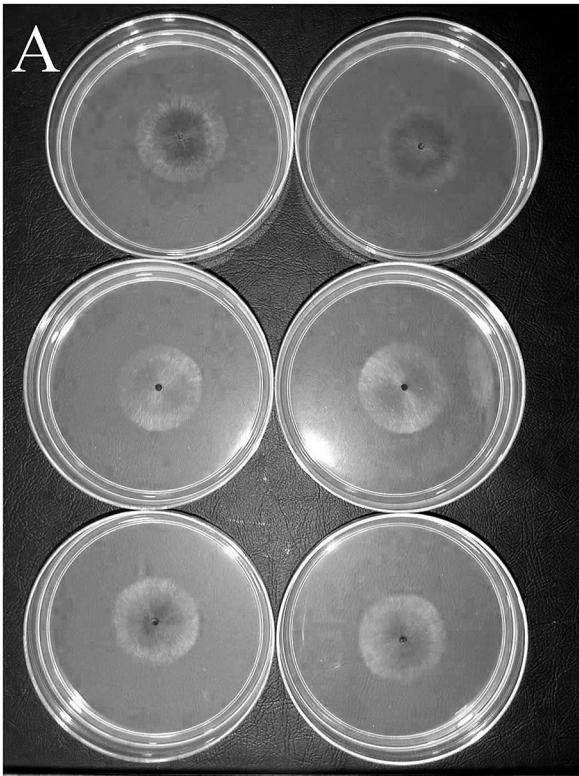
C5**xGPxxxTxP xR**

	GR	-	----	GP	P	R
Consensus						
NPS1 con2	ATVNGRNAP-	----	VAGIED	IIGPTIATVP	VRIRID	
NPS3 con2	ATVTGRNAP-	----	VAGIES	LVGPVIATVP	VRIRLQ	
NPS4 con3	ETNSGREAI-	----	VPGIEA	IIGPTITTAP	ARLQLN	
NPS4 con6	ETLTGRDVA-	----	VNGIMD	ACGPVLTTPV	TRVKID	
NPS6 con1	ETLTGRSAP-	----	VPGIEQ	IEGPMITTVP	IRVRLS	
NPS8 con1	ATVTGRQGA-	----	ATGLDR	MAGPAFVTLV	ICMSVD	
NPS9 con1	CAVSGRISA-	----	VSGVED	IVGPVLTATVP	VKIELD	
NPS1 con3	SIVAGRNSN-	----	VPYISE	IVGPCVNVIP	VRAQVL	
NPS3 con4	YMIAGRANAN-	----	IPNITK	IVGPCLNIIP	VRARVH	
NPS4 con9	HVISGRNGS-	----	VPNIEN	IIGPCLNMVP	VRVTYR	
NPS4 con2	YLTSARDSEE	----	IEDVES	IVGPLINTLV	CRVNF5	
NPS4 con5	LVASGRDIP-	----	VPNIES	AVGCFITMLC	GRLVFS	
NPS4 con8	YLTSGRDVP-	----	VQNVES	AVGAFLNMLV	SRVEIN	
NPS5 con1	YLSSGRSLP-	----	IHGVEA	IVGPLINLLI	CKATGL	
NPS5 con3	FLASGRDIP-	----	IPGIDK	IVGPMVNMLP	VRVQVT	
NPS5 con4	YLVSDRDID-	----	TVDSDE	IVGPLLSLVV	GQVTIS	
NPS5 con8	YLTSGRDAP-	----	IQDVDR	MIGPLANMLI	SKIQLN	
NPS2 con1	NVTSGRTIP-	----	VAGIED	IIGPCIASLP	FRIDFA	
NPS2 con2	NIVSGRSFPG	-----	EHLER	LVAPCFNTLP	VRVDFD	
NPS2 con3	VVLSGRSSD-	-----	ATAH	ANFPCINTVP	LAFTVA	
NPS2 con4	IIVSGRSIE-	----	FEGADR	VIGPMFNTIP	YHHRAQ	
NPS2 con5	AVLSGRAGS-	-----	EEAEQ	LMFPTMNTVA	VRSVLH	
NPS2 con6	VYLANRSS--	-----	DLSE	IPYPTLCLVP	LRVRVQ	
NPS1 con1	TPNANRDQ--	-----	WELKD	MIGFFVNMQC	IRIKVE	
NPS3 con1	VPNANRNR--	-----	WEVGD	LIGFFVNIQC	LRIKIQ	
NPS3 con3	TVNANRDR--	-----	WELKD	MIGFFVNLQC	LRTTIT	
NPS4 epi1	IFNEGHGREP	WDSS-	IDITR	TVGWFTALSP	ILVTPS	
NPS4 epi4	IHNEGHGRET	FNSR-	QDLSR	TIGWFSTATP	IYLPIS	
NPS4 epi7	VFNEESHGRQV	WESSNIDLSR		TVGWFTTMYP	VTVPIG	
NPS5 epi2	VEGHGREPFY	PG---	LDLSR	TVGWFTTLAP	IAIDKT	
NPS8 epi1	VFLEGHGREP	LGIRRIDCRD		TVGWFTVIYP	LPLPTK	
Consensus	VFNEGHGRE	S	-IDLSR	TVGWFTT	P	I P

TVGWFTTMxP**C5 homolog**



Supplementary Figure 3



Supplementary Figure 4