

gi#	species	sssssssss	14*	hhhhhhhhhhhhhhhhhh	42	sssss-----sss	s---ssssssss	55	hh---hhh---hhhhhhhhh				
46015497	ECOLI	KHLFTS	ESVSE	GHDPDKIADQ	SDAVLDAILE	---QDPKAR	ACET---YVKTGM	---ILLGGEIITSAWVD	---IEE---ITRNTVREIGYVHS				
400245	HUMAN	TFLFTS	ESVSE	GHDPDKICDQ	SDAVLDAHLQ	---QDPDAK	ACET---VAKTGM	---VLVAGEIITSRAAVD	---YQK---VVREAVKHIGYDSS				
15836994	XYLFA	SYLFTS	ESVSE	GHDPDKVADQ	SDAVLDAILV	---QDPRAR	ACET---MVKTGV	---AIIAGEIITSAWVD	---LEA---LTRKVIIVDIGNSS				
6016553	CAEEL	KFLFTS	ESVSE	GHDPDKMCDQ	SDAVLDAHLK	---QDPNAK	ACET---VTKTGM	---VMLCGEITSKAVVD	---YQV---LVRRLVLEKIGTDS				
22095828	FUSNN	FTYFTS	EFVSP	GHDPDKISDQ	SDAILDAACLK	---DDPNSR	ACEV---FCTTGL	---VVVAGEIITSTYID	---VQD---IVRKKIIDEIGYRP				
13357974	UREPA	KKIITS	ESVAG	GHDPDKICDQ	SDAILDECLA	---QDKNSR	ACEV---LACNRL	---IIVAGEIITTHAYVD	---VVK---TAWEIIKPLGYNEN				
2500686	MYCPN	WGRYVA	EAVGR	GHDPDKICDQ	ADSILDECIK	---QSPTSH	ACEV---FASKNL	---IMVAGEIILTGYVD	---VVQ---TGWKVLNRLGYTEN				
3334428	METJA	RPTEIV	ERKGL	GHDPDISCDG	AESVSRALCK (13)	TQVEL	GGHA (8)	MVSPYI	---ILLSERATMEILDK (4)	VIK (5)	TAVKAAKE	---YLKK	
21646472	CHLTE	QPFELV	ERKGI	GHDPDTICDS	MEAVCIDLCR (13)	TKGLL	AGRS	---LPKTGG (7)	KLIFG	DRATYTCNG (4)	VGE	---IAEAAAKR	---WIRE

gi#	species	sssssss	16*	hhhhhhhhhhhhhhhhhh	42	sssssss	hh---hhhhhhhhhhhhhhhh	163*	165*													
46015497	DM (8)	VLSA	IGKQ	SPDINQGVDR (5)	QGAGDQGLMF	SYATNE	DVLMPPAP	---ITYAHLR	VQRQAEV	RKN	---GTLPLWR	LPDAK	SOVT	FQY (5)	VG	LD	AVV					
400245	SK (8)	VLVALE	EQQ	SPDIAQGVHL (6)	IGAGDQGLMF	SYATDE	TEECMLPT	---IVLAHKL	NAKLAEL	RRN	---GTLPLWR	LPDPSK	TOVT	VQY (10)	R	VH	TIV					
15836994	DV (8)	VLNL	IGKQ	SPDINQGVDR (5)	QGAGDQGLMF	SYATNE	DSYMPAA	---IHISHRL	VEQAQ	AKIRKKS	NSPLWR	LPDAK	QAQIT	TRY (5)	SA	ID	AVV					
6016553	SI (8)	VLVALE	EQQ	SPEIAAGVDR (6)	VGAGDQGLMF	SYATDE	TEETMLPT	---LILSHKIN	AELHK	RRN	---GTLPLWR	LPDPSK	SOVT	TRY (10)	R	VH	TVV					
22095828	GM (7)	TLSCI	HAQQ	SPDIAMGVDI	---GAGDQGLMF	CAVRE	EELMPLA	---LVLRSRE	ILV	KLTNM	KS	---NEIEWAR	PDQ	KS	SOVT	LAY (6)	DH	VDSIV				
13357974	DF	---TIIS	SNV	NSQ	SVDAIQSVNK (5)	IGAGDQGLIV	SYACDE	TEQYMLPT	---TVLAHELL	KEIEK	QRN	---KEFVKI	QADM	KS	SOV	IDY (5)	V	LETML				
2500686	DF (2)	LSCIN	NSQ	SEIINQGV	SNDIEI	GAGDQGITV	SYACSE	TEQYMLPLG	---SIVAQAL	QRAARI	---I	---DQYPF	FKHDM	KS	SOV	VLN (4)	VQ	CE	SVL			
3334428	VL (11)	DCRI	GGQ	SMDLVDV	FER (5)	PLANDT	SFGV	YAPLS	HTER	LVLETER	FLNS	DELKNE	IP	PAV	GED	---IKVMG	REG	KIT	LTIAM	---AV	DRYV	
21646472	NL (11)	QNEI	KPG	SPELTD	AERK	VIGAND	T	SVGV	YAPF	SETER	IVLATE	QFLNS	PALKE	FP	EAG	ED	---VKIMG	CRNGR	KLOLIT	VAV	---AF	VDREI

gi#	species	sssss	hhhhhhhhhh	hh	sss	230*	238*	244*	245*	265	269	271																					
46015497	LST	QHSE	EIDQK	SLQEA	VMEI	IKP	---IL	---PAEW	TT	---SA	---TKFF	INPT	GRFVIG	GPMD	CDCL	TL	GRKII	VD	TY	---GGMARH	---GGG	AFS	CKD	PS	---KVD								
400245	ISV	QHDE	VEVCL	DEMR	DALKE	KVIKA	---VV	---PAKY	D	---ED	---TIYHL	QPS	GRFVIG	GPQ	DA	GL	TL	GRKII	VD	TY	---GGWGAH	---GGG	AFS	CKD	YT	---KVD							
15836994	LST	QHPDG	IKQ	DLVA	ELRE	EILK	---VL	---PSKW	H	---KG	---TKFH	INPT	GKRVIG	GGP	ED	CL	TL	GRKII	VD	TY	---GGSARH	---GGG	AFS	CKD	PS	---KVD							
6016553	VST	QHSP	DVTL	EKLRE	TILAD	VIKK	---VI	---PASL	D	---ES	---TVFH	INPC	TRFIVG	GGP	DA	GT	TL	GRKII	VD	TY	---GGWGAH	---GGG	AFS	CKD	PT	---KVD							
22095828	VSV	QHD	DTTH	DEIE	KIV	EVV	---VL	---EKYN	S	---SDN	---TKYY	INPT	GRFVIG	GGH	ED	TL	GRKII	VD	TY	---GGYFKH	---GGG	AFS	CKD	PS	---KVD								
13357974	VSI	QHDE	DYNI	IEYFN	KKVS	---TIMD	---LA	---IKYG	N	---TD	---FKKI	INSS	GRFVIG	GGP	ED	TL	GRKII	VD	TY	---GGIGHH	---GGG	AFS	CKD	PT	---KVD								
2500686	MSV	QHTQ	QDVS	LDQL	RQTI	INQV	---VL	---TEYG	N	---DPK	---IKHL	VN	PGSS	FV	GGP	AD	TL	GRKII	VD	TY	---GPYANH	---GGG	SFS	CKD	PT	---KVD							
3334428	KNIE	YK	EV	IEK	VRRK	VE	---LA	(7)	HINT	AD	DYER	---ESV	YLT	VT	ETS	---AEM	DD	SV	GR	NR	---NGL	IT	PF	FR	PM	---SME	AA	AK	NV	HN	VG		
21646472	PNAN	HY	FER	KSAL	RHEL	LSFT	ES	QSCNI	(5)	DINS	---D	---DP	(4)	EG	VYLT	VT	ETS	---AEG	DD	GV	GR	NR	---NGL	IA	FN	R	Q	TM	AA	AK	NV	HN	VG

gi#	species	hhhhh---hhhhhhhhhh	sssssss	sss	hhhhhhhhh	hhh																																			
46015497	RSAA	Y---AAR	VAKN	IVAA	GLADR	CEIQV	SYA	IGV	---AE	TSIM	VET	FGT	EKV	PSE	QL	TL	LV	RE	FF	DL	RPY	GLI	LI	QML	LD	LLH (5)	TAAY	G (23)	LK												
400245	RSAA	Y---AAR	VWAK	IVK	GLCR	RRVL	QV	SYA	IGV	---SH	PLSIS	IFHY	TSQK	SER	RE	LE	IV	KKN	FD	LR	PGV	IV	RD	LD	LKK (5)	TAAY	G (15)	KY													
15836994	RSAS	Y---AVR	VAKN	VAA	GLADR	CEIQV	SYA	IGV	---AE	ISIS	VTF	FGT	GKI	SDD	KI	EL	KL	RF	DF	DL	RPY	GI	IK	ML	DLH (5)	SASY	G (39)	KI													
6016553	RSAA	Y---AAR	VWAK	IVK	GLAK	RRVL	QV	SYA	IGI	---AK	ISVL	VY	AF	T	SPL	---DE	EL	HQ	IV	ED	SFL	PGKI	IK	EL	DLR (5)	TAENG	G (15)	KL													
22095828	RSAA	Y---AAR	VWAK	IVAA	ELAD	KCEIQ	LSYA	IGV	---PK	VSVK	VD	TF	GTSK	V	DE	DK	ISEA	V	SK	V	FD	LS	PR	GI	EKA	LE	LR (7)	LA	AF	G (24)	EL										
13357974	RSAS	Y---FAR	VAKN	VAA	KLAK	QCEIQ	LAF	IA	---PQ	VAMF	VNT	FFK	NLV	DE	KKI	FEA	IN	S	FN	FD	IK	F	IND	LE	LWD (5)	VATY	G (23)	SK													
2500686	RTGAY	Y---FAR	FAK	HIV	SL	GWAE	CEV	SV	SWFS	Q	---PL	QK	Q	V	KN	IF	N	KE	FS	Q	LN	IV	IS	QV	F	N	WS	VAKI	IA	KL	LD (6)	YAVY	G (22)	KN							
3334428	KIYNI	Y---L	NL	NA	IV	AK	LE	Y	KE	CV	YR	IL	SQ	TK	P	NE	K	ALD	LE	IT	ED	S	---	D	IK	D	IE	PK	AE	TAN	K	W	LD	N (1)	ME	VQ	K	---	MIVE	KVT	TF
21646472	KIYNV (4)	L	ARRI	HRE	TE	GEV	---	VSVT	V	FL	CSQ	TK	PK	VDR	LM	AS	ARIT	TP	EP	GA	NMA	EL	Q	RS	ATS	I	D	RE	LD	GI	---	DA	FQ	---	KLAD	---	EF				