

gi		124430729		ref		NP_082363.2		-----MISWQR	L	CWYR	LW	LGCY	MLLA	IAI	LKLS	SLR	LK	CD	F	D	A	M	D	L	S	E	F	Q	S	O	Y	150																																																																																																																						
gi		27545396		ref		NP_775434.1		-----MVSWRR	F	CWYH	Y	G	W	L	G	CY	M	L	L	A	I	A	L	K	L	S	L	R	L	K	C	D	F	V	M	D	L	S	K	E	F	Q	S	O	Y	150																																																																																																								
gi		4758422		ref		NP_004742.1		-----MVQWKR	L	Q	L	H	Y	L	W	A	L	G	CY	M	L	L	A	I	V	A	L	K	S	F	R	L	K	C	D	S	D	H	L	G	L	E	S	R	E	S	Q	S	O	Y	150																																																																																																			
gi		114657354		ref		XP_510451.2		-----MVQWKR	L	Q	R	H	Y	L	W	A	L	G	CY	M	L	L	A	I	V	A	L	K	S	F	R	L	K	C	D	S	D	H	L	G	L	E	S	R	E	S	Q	S	O	Y	150																																																																																																			
gi		74000823		ref		XP_544703.2		M	S	T	A	V	L	L	A	G	A	S	L	C	N	C	A	E	S	S	N	S	G	G	Q	T	S	G	W	D	L	S	P	E	A	L	L	R	G	A	G	N	W	K	V	I	E	P	P	A	A	L	Y	F	A	E	T	E	E	E	P	E	T	V	R	G	H	P	V	N	I	R	K	H	F	G	G	A	S	I	L	L	L	E	C	A	O	T	P	L	V	S	H	S	M	K	M	I	W	K	K	R	C	R	Q	H	Y	L	W	A	L	G	CY	V	L	L	A	V	A	L	R	F	S	L	R	L	K	C	D	F	S	L	D	L	E	S	R	D	F	R	S	O	Y	150
gi		45430041		ref		NP_991378.1		-----M	K	M	T	G	W	K	K	L	C	R	G	H	L	W	A	L	G	CY	M	L	L	A	V	A	L	R	F	S	L	R	L	K	C	D	V	S	L	D	L	E	S	R	D	F	S	O	Y	150																																																																																														
gi		118095649		ref		XP_425064.2		-----M	R	L	C	E	R	K	P	T	A	I	R	R	C	V	L	L	S	L	L	A	A	V	A	L	R	G	T	R	P	-----C	R	D	A	H	P	R	-----	150																																																																																																								
gi		292628442		ref		XP_002666963.1		-----M	G	I	N	N	R	-----	T	L	K	I	V	I	L	S	V	I	L	F	V	L	M	N	-----	F	E	Q	S	C	L	E	K	P	-----	150																																																																																																												
gi		71984095		ref		NP_492014.4		-----M	V	R	L	K	G	T	I	F	S	L	V	T	A	A	L	V	I	F	L	F	I	V	K	P	L	V	P	R	I	L	E	S	L	N	S	S	R	N	P	O	E	-----	150																																																																																																			
gi		25149682		ref		NP_493135.2		-----M	V	R	L	K	G	S	F	S	C	V	A	V	Y	G	S	L	V	I	F	I	T	L	F	V	A	K	P	-----	S	S	R	P	P	-----	150																																																																																																											
gi		25149687		ref		NP_493134.2		-----M	I	R	L	K	N	I	I	L	N	L	A	V	L	T	F	V	I	F	I	T	L	F	I	A	K	A	L	I	P	R	L	L	E	N	P	Q	R	I	H	P	P	-----	150																																																																																																			
gi		17507895		ref		NP_492015.1		-----M	V	R	F	K	-----	F	K	S	L	I	I	A	I	F	F	L	P	I	-----	M	F	S	V	E	S	L	F	P	R	K	Q	E	D	K	N	V	S	K	Q	F	L	K	-----	150																																																																																																		
gi		17534671		ref		NP_496345.1		-----M	K	K	K	H	K	P	I	N	L	F	R	L	K	F	C	L	Q	L	G	M	N	V	R	R	F	K	I	S	O	F	L	Y	S	F	S	L	V	I	V	L	R	L	G	F	V	D	S	L	Y	-----	150																																																																																											
gi		71982377		ref		NP_493164.2		-----M	K	F	S	I	F	L	G	L	L	I	F	V	T	L	P	L	V	L	I	L	E	F	-----	S	Q	N	P	-----	150																																																																																																																	

1.....10.....20.....30.....40.....50.....60.....70.....80.....90.....100.....110.....120.....130.....140.....150



gi		124430729		ref		NP_082363.2		C	R	D	L	L	Y	K	T	L	E	L	P	A	K	S	S	I	N	C	S	G	V	I	R	G	E	K	A	V	T	Q	A	L	L	N	L	E	I	K	K	O	-----	300																																																																																															
gi		27545396		ref		NP_775434.1		C	R	D	L	L	Y	K	T	L	E	L	P	A	K	S	S	I	N	C	S	G	V	I	R	G	E	K	A	V	T	Q	A	L	L	N	L	E	L	R	K	R	-----	300																																																																																															
gi		4758422		ref		NP_004742.1		C	R	N	L	Y	N	F	L	K	L	P	A	K	R	S	I	N	C	S	G	V	I	R	G	E	K	A	V	T	Q	A	L	L	N	L	E	V	K	K	R	-----	300																																																																																																
gi		114657354		ref		XP_510451.2		C	R	T	I	L	Y	N	F	L	K	L	P	A	K	R	S	I	N	C	S	G	V	I	R	G	E	K	A	V	T	Q	A	L	L	N	L	E	V	K	K	R	-----	300																																																																																															
gi		74000823		ref		XP_544703.2		C	R	D	L	L	Y	K	T	L	E	L	P	A	K	S	S	I	N	C	S	G	V	I	R	G	E	K	A	V	T	Q	A	L	L	N	L	E	V	K	K	R	-----	300																																																																																															
gi		45430041		ref		NP_991378.1		C	R	D	V	L	Y	K	N	L	K	L	P	A	K	R	S	I	N	C	S	G	V	I	R	G	E	K	A	V	T	Q	A	L	L	N	L	E	V	K	K	R	-----	300																																																																																															
gi		118095649		ref		XP_425064.2		C	R	N	R	L	Y	G	A	L	R	L	E	P	R	W	R	L	C	A	G	V	V	R	G	E	K	A	V	T	Q	A	L	L	N	L	E	V	K	K	R	-----	300																																																																																																
gi		292628442		ref		XP_002666963.1		R	E	T	N	L	N	H	L	Q	Q	D	V	G	E	L	Q	A	C	A	I	I	Q	G	D	M	D	V	D	K	E	S	F	R	K	L	L	A	S	K	R	P	S	L	L	T	E	S	F	L	N	I	T	D	C	P	H	Y	I	E	G	R	F	L	M	E	A	L	S	K	E	E	D	F	F	L	A	S	M	V	I	H	K	I	E	M	F	E	R	L	L	R	A	I	V	A	P	O	N	I	C	V	H	V	D	E	K	S	P	E	T	F	K	E	A	V	K	A	I	I	C	F	P	N	V	F	I	A	S	K	L	V	V	V	A	S	W	-----	300
gi		71984095		ref		NP_492014.4		S	S	I	L	S	K	I	E	N	D	L	L	D	L	I	N	C	L	N	I	F	N	G	S	K	N	R	Q	L	R	I	V	-----	N	S	R	S	I	E	D	K	L	L	Y	S	-----	300																																																																																											
gi		25149682		ref		NP_493135.2		-----	T	D	L	D	D	L	E	I	N	C	N	I	L	G	L	K	N	E	Q	L	E	L	I	-----	N	T	K	M	I	E	D	K	L	W	N	S	-----	300																																																																																																			
gi		25149687		ref		NP_493134.2		-----	T	D	L	D	D	L	Q	I	N	C	N	I	L	Q	G	F	K	N	E	T	L	E	L	I	-----	N	T	K	M	I	E	N	K	M	W	N	S	-----	300																																																																																																		
gi		17507895		ref		NP_492015.1		S	I	C	T	A	S	D	S	Y	L	L	D	N	M	E	T	N	C	N	I	L	K	Y	K	T	N	E	K	L	D	I	M	-----	H	L	D	I	E	Q	L	F	S	-----	300																																																																																														
gi		17534671		ref		NP_496345.1		P	-----	E	N	R	K	L	E	N	I	P	L	E	C	N	S	V	I	N	G	T	E	N	R	R	K	I	S	R	A	R	Q	W	D	H	F	D	W	V	H	E	I	F	N	S	-----	300																																																																																											
gi		71982377		ref		NP_493164.2		P	-----	A	S	I	D	F	S	H	L	E	C	Q	K	M	F	D	G	P	V	S	L	A	R	G	A	L	F	K	F	D	-----	D	R	E	I	L	A	Q	I	L	K	S	Q	-----	300																																																																																												

.....160.....170.....180.....190.....200.....210.....220.....230.....240.....250.....260.....270.....280.....290.....300



gi		124430729		ref		NP_082363.2		S	R	V	Q	A	D	L	N	C	M	E	D	L	L	Q	S	V	P	W	K	Y	L	L	N	T	C	G	D	F	P	I	K	T	N	A	E	M	V	K	A	L	K	L	L	G	Q	N	S	M	S	E	S	E	V	P	P	H	K	S	R	W	K	Y	H	Y	E	V	T	-----	450
gi		27545396		ref		NP_775434.1		S	R	V	Q	A	D	L	N	C	M	E	D	L	L	Q	S	V	P	W	K	Y	L	L	N	T	C	G	D	F	P	I	K	T	N	A	E	M	V	K	A	L	K	L	L	G	Q	N	S	M	S	E	S	E	V	P	P	H	K	S	R	W	K	Y	H	Y	E	V	A	-----	450
gi		4758422		ref		NP_004742.1		S	R	V	Q	A	D	L	N	C	M	E	D	L	L	Q	S	V	P	W	K	Y	L	L	N	T	C	G	D	F	P	I	K	T	N	A	E	M	V	Q	A	L	K	M	L	N	G	R	N	S																					

```

gi|124430729|ref|NP_082363.2|      .      *      *:* * :      *:*:*      :      * :      : :
LHRKFDL-----SDMRAIARLTKWYDHEGDIENGAPY----TSCSGIHORAVCVYGSDDLHWILQNHLLANKFDPKVDNVLQCLEEYLRRHKAIYGTGL-----600
gi|27545396|ref|NP_775434.1|      .      *      *:* * :      *:*:*      :      * :      : :
LHPKFDL-----SDMRSTARLTKWQDHEGDIENGAPY----TSCSGIHORAI CVYGSDDLHWILQNHLLANKFDPKVDNVLQCLEEYLRRHKAIYGTGL-----600
gi|4758422|ref|NP_004742.1|      .      *      *:* * :      *:*:*      :      * :      : :
NHPKYDI-----SDMTSIARLVKQGGHEGDIKGGAPY----APCSGIHORAICVYAGDLNWMLQNHLLANKFDPKVDNVLQCLEEYLRYKAIYGTGL-----600
gi|114657354|ref|XP_510451.2|      .      *      *:* * :      *:*:*      :      * :      : :
NHPKYDI-----SDMTSIARLVKQGGHEGDIKGGAPY----APCSGIHORAICVYAGDLNWMLQNHLLANKFDPKVDNVLQCLEEYLRYKAIYGTGL-----600
gi|74000823|ref|XP_544703.2|      .      *      *:* * :      *:*:*      :      * :      : :
YHPKFHI-----SDMIAIARLVKQSGHEGDISMGAPY----APCSGIHORSICVYIGDLHWILQNHLLANKFDPKVDNVLQCLEEYLRYKAIYGTGL-----600
gi|45430041|ref|NP_991378.1|      .      *      *:* * :      *:*:*      :      * :      : :
YHPKWHI-----SDMTAIARLVKQGGHEGDIVSGAPY----APCSGIHORAICVYAGDLHWILQNHLLANKFDPKVDNVLQCLEEYLRRHKAIYGTGL-----600
gi|118095649|ref|XP_425064.2|      .      *      *:* * :      *:*:*      :      * :      : :
HNDKFQM-----SDMNALPRLVKQYLDGDIIRSGAPY----PPCTGRFORSVCIYAGDVAVMLRQHLLANKFDPSEVDDAAIQCLESHLRRKALLGRGL-----600
gi|292628442|ref|XP_002666963.1|      .      *      *:* * :      *:*:*      :      * :      : :
PNNKFEQ-----SDMNAIARLVKWSYHEGDLNSGAPY----PPCTGMHRSVSVYAGDLKWIIVRQHLLANKFDPSEVDDVAIKMEAFLRYKAVYGRSLLVVRKSDPVL-----600
gi|71984095|ref|NP_492014.4|      .      *      *:* * :      *:*:*      :      * :      : :
FKEWISY---KNNVEINLTYPTDQWRY---YISRDIW---SKPNCHNYMKAGSCVFGIGDVPRLKSKALVAHKFYLKSEPEAYFCLLKEHRRRTCNPDL---TFDASKYSELPPVELSRGLAMPQLTHKNWIL-----600
gi|25149682|ref|NP_493135.2|      .      *      *:* * :      *:*:*      :      * :      : :
FEEWIYF---KENARANLTKPTDQWRY---YISRHQIW---FESGCHNHMKDGSVFGIGDVSNLLQAKALVAHKLYLTSEPEAYFCLLKEHRRRTLNPDS---TFDASKYSELPPVELSRGLAMPQLTHKNWIL-----600
gi|25149687|ref|NP_493134.2|      .      *      *:* * :      *:*:*      :      * :      : :
FNDFL-----TNGWGN---YVSRHQLW---VESECHNYMKDRSCVFGIGDVPNLMKSRALVAHKLYIESEPEAYFCLLKRHRRTINPDL---TSDSL-----600
gi|17507895|ref|NP_492015.1|      .      *      *:* * :      *:*:*      :      * :      : :
SKDWMFY---RDN---QNNIFNPTDQWRY---YISRDIW---DPELCHNYMKDSSCVFGIGDVPRLRSTKALVAHKFYLKSEPEAYFCLLKEHRRRTINPDL---TFDASKYSELPPVELSRGLAMPQLTHKNWIL-----600
gi|17534671|ref|NP_496345.1|      .      *      *:* * :      *:*:*      :      * :      : :
VRDILLW---RKNFKLRPPVENTVNSIGTYSYIGRYQVWG---WQKECFGKVKDFSCVFGVEDIEEIMTRPELVAHKLYLEFQPAAFMCLKEVRRRSLSPDAHLFSARSYSQMPTVELYQKAITQLINPNWLVRSFYNPQHEDFDKEVL-----600
gi|71982377|ref|NP_493164.2|      .      *      *:* * :      *:*:*      :      * :      : :
AKAWLHKNYRRTRGKLGKYGKQKIDNG--YYVSRVQYVNRAPVKCKGYIYRLSCVFGVYDLNPLNIRHVELVAHKLYFSWQPAAFMCLVENSROKSMRTPQDFSAEKRYENLENV-----600
.....460.....470.....480.....490.....500.....510.....520.....530.....540.....550.....560.....570.....580.....590.....600

```

