

Table S7: Alignment of SCN8A in vertebrate species. The glycine residue that is substituted by a valine (p.Gly1633Val) in affected Alpine Dachsbracke dogs is highly conserved in the SCN8A orthologs (shown in yellow) similar to the 'jolting' mutant in mice (p.Ala1317Thr; Kohrmann et al. 1996) (shown in green).

Protein Acc.	Gene	Organism	Identity to <i>H. sapiens</i> (%)	
			Protein	DNA
NP_055006.1	SCN8A	<i>H.sapiens</i>	100	100
XP_001141985.3	SCN8A	<i>P.troglodytes</i>	99.5	99.2
XP_001090295.1	SCN8A	<i>M.mulatta</i>	99.9	98.8
XP_850134.1	SCN8A	<i>C.lupus</i>	99.4	95.4
NP_001180031.1	SCN8A	<i>B.taurus</i>	99.5	94.4
NP_001070967.1	Scn8a	<i>M.musculus</i>	98.7	90.1
NP_062139.2	Scn8a	<i>R.norvegicus</i>	98.7	90.7
XP_003643160.1	SCN8A	<i>G.gallus</i>	94.2	83.9
NP_001038648.1	scn8ab	<i>D.rerio</i>	83.6	76.3
NP_571703.1	scn8aa	<i>D.rerio</i>	84.3	76.0
XP_004911965.1	LOC101731347	<i>X.tropicalis</i>	88.1	77.1
NP_055006.1	1	MAARLLAPPGPDSFKPFTPELANIERRIAESKLKKP--PKADGSHREDD	48	
XP_001141985.3	1	MAARLLAPPGPDSFKPFTPELANIERRIAESKLKKP--PKADGSHREDD	48	
XP_001090295.1	1	MAARLLAPPGPDSFKPFTPELANIERRIAESKLKKP--PKADGSHREDD	48	
XP_850134.1	1	MAARLLAPPGPDSFKPFTPELANIERRIAESKLKKP--PKAEGSHREDD	48	
NP_001180031.1	1	MAARLLAPPGPDSFKPFTPELANIERRIAESKLKKP--PKADGSHREDD	48	
NP_001070967.1	1	MAARLLAPPGPDSFKPFTPELANIERRIAESKLKKP--PKADGSHREDD	48	
NP_062139.2	1	MAARLLAPPGPDSFKPFTPELANIERRIAESKLKKP--PKADGSHREDD	48	
XP_003643160.1	1	MAARLLAPPGPDSFKPFTPELANIEKRIAEEKKKKR--PKQDSSHRDDD	48	
NP_001038648.1	1	MAAPLLAPPGPDSFKRFTLESLANIEKRIAEEKKKKPVKPRSDSSHRDDD	50	
NP_571703.1	1	MAAPLLAPPGPNSYKYFTRESLREIEKRIEEKAKPP--PKPDNSYRDDD	48	
XP_004911965.1		-----		
NP_055006.1	49	EDSKPKPNSDLEAGKSLPFIYGDIPQGLVAVPLEDFDPYYLTQKTFVVLN	98	
XP_001141985.3	49	EDSKPKPNSDLEAGKSLPFIYGDIPQGLVAVPLEDFDPYYLTQKTFVVLN	98	
XP_001090295.1	49	EDSKPKPNSDLEAGKSLPFIYGDIPQGLVAVPLEDFDPYYLTQKTFVVLN	98	
XP_850134.1	49	EDSKPKPNSDLEAGKSLPFIYGDIPQGLVAVPLEDFDPYYLTQKTFVVLN	98	
NP_001180031.1	49	EDSKPKPNSDLEAGKSLPFIYGDIPQGLVAVPLEDFDPYYLTQKTFVVLN	98	
NP_001070967.1	49	EDSKPKPNSDLEAGKSLPFIYGDIPQGLVAVPLEDFDPYYLTQKTFVVLN	98	
NP_062139.2	49	EDSKPKPNSDLEAGKSLPFIYGDIPQGLVAVPLEDFDPYYLTQKTFVVLN	98	
XP_003643160.1	49	EDSKPKPNSDLEAGKSLPFIYGDIPQGLVAVPLEDFDPYYMTQKTFVVLN	98	
NP_001038648.1	51	DDNKPKNPDLEAGKGVFPIYGDVPSNMLAVPLEDLDPFYLNKKTFIVLN	100	
NP_571703.1	49	DENKPKPNGDLEAGKSLPFIYGDIPPGMVATPLEDFDPFYINQKTFVVLN	98	
XP_004911965.1		-----		
NP_055006.1	99	RGKTLFRFSATPALYILSPFNLIIRRIAIAKILIHVSFMSIIMCTILTNCVF	148	
XP_001141985.3	99	RGKTLFRFSATPALYILSPFNLIIRRIAIAKILIHVSFMSIIMCTILTNCVF	148	
XP_001090295.1	99	RGKTLFRFSATPALYILSPFNLIIRRIAIAKILIHVSFMSIIMCTILTNCVF	148	
XP_850134.1	99	RGKTLFRFSATPALYILSPFNLIIRRIAIAKILIHVSFMSIIMCTILTNCVF	148	
NP_001180031.1	99	RGKTLFRFSATPALYILSPFNLIIRRIAIAKILIHVSFMSIIMCTILTNCVF	148	
NP_001070967.1	99	RGKTLFRFSATPALYILSPFNLIIRRIAIAKILIHVSFMSIIMCTILTNCVF	148	
NP_062139.2	99	RGKTLFRFSATPALYILSPFNLIIRRIAIAKILIHVSFMSIIMCTILTNCVF	148	
XP_003643160.1	99	RGKTLFRFSATPALYILSPFNLIIRRIAIAKILIHVSFMSIIMCTILTNCVF	148	
NP_001038648.1	101	KGKTIIFRFSATPSLYIISPFNLFRQIAIAKILIHVSFMSIIMCTILTNCVF	150	
NP_571703.1	99	KGKTIIFRFSATPALYIMISPFNLARRIAIAKILIHVSFMSIIMCTILTNCVF	148	
XP_004911965.1		-----		
NP_055006.1	149	MTFSNPPDWSKNVEYTFGTGIYTFESLVKIIARGFCIDGFTFLRDPWNWLD	198	
XP_001141985.3	149	MTFSNPPDWSKNVEYTFGTGIYTFESLVKIIARGFCIDGFTFLRDPWNWLD	198	
XP_001090295.1	149	MTFSNPPDWSKNVEYTFGTGIYTFESLVKIIARGFCIDGFTFLRDPWNWLD	198	
XP_850134.1	149	MTFSNPPDWSKNVEYTFGTGIYTFESLVKIIARGFCIDGFTFLRDPWNWLD	198	
NP_001180031.1	149	MTFSNPPDWSKNVEYTFGTGIYTFESLVKIIARGFCIDGFTFLRDPWNWLD	198	
NP_001070967.1	149	MTFSNPPDWSKNVEYTFGTGIYTFESLVKIIARGFCIDGFTFLRDPWNWLD	198	
NP_062139.2	149	MTFSNPPDWSKNVEYTFGTGIYTFESLVKIIARGFCIDGFTFLRDPWNWLD	198	
XP_003643160.1	149	MTFSNPPDWSKNVEYTFGTGIYTFESLVKIIARGFCIDGFTFLRDPWNWLD	198	
NP_001038648.1	151	MTFSNPPDWSKNVEYTFGTGIYTFESLVKIIARGFCIDGFTFLRDPWNWLD	200	
NP_571703.1	149	MTFSNPPDWSKNVEYTFGTGIYTFESLVKIIARGFCIDGFTFLRDPWNWLD	198	
XP_004911965.1		-----		

NP_055006.1 199 FSVIMMAYITEFVNLGNVSALRTFRVLRALKTISVIPGLKTI VGALIQSV 248
XP_001141985.3 199 FSVIMMAYVTEFVDLGNVSALRTFRVLRALKTISVIPGLKTI VGALIQSV 248
XP_001090295.1 199 FSVIMMAYITEFVNLGNVSALRTFRVLRALKTISVIPGLKTI VGALIQSV 248
XP_850134.1 199 FSVIMMAYITEFVNLGNVSALRTFRVLRALKTISVIPGLKTI VGALIQSV 248
NP_001180031.1 199 FSVIMMAYITEFVNLGNVSALRTFRVLRALKTISVIPGLKTI VGALIQSV 248
NP_001070967.1 199 FSVIMMAYITEFVNLGNVSALRTFRVLRALKTISVIPGLKTI VGALIQSV 248
NP_062139.2 199 FSVIMMAYVTEFVDLGNVSALRTFRVLRALKTISVIPGLKTI VGALIQSV 248
XP_003643160.1 199 FSVIMMAYVTEFVDLGNVSALRTFRVLRALKTISVIPGLKTI VGALIQSV 248
NP_001038648.1 201 FMVISMAYVTEFVDLGNVSALRTFRVLRALKTISVIPRLKTI VGALIQSV 250
NP_571703.1 199 FMVISMAYVTEFVDLGNVSALRTFRVLRALKTISVIPGLKTI VGALIQSV 248
XP_004911965.1 -----

NP_055006.1 249 KKLSDVMILTVFCLSVFALIGLQLFMGNLRNKC VVWP INFN ESYL- ENGT 297
XP_001141985.3 249 KKLSDVMILTVFCLSVFALIGLQLFMGNLRNKC VVWP INFN ESYL- ENGT 297
XP_001090295.1 249 KKLSDVMILTVFCLSVFALIGLQLFMGNLRNKC VVWP INFN ESYL- ENGT 297
XP_850134.1 249 KKLSDVMILTVFCLSVFALIGLQLFMGNLRNKC VVWP INFN ESYL- ENGT 297
NP_001180031.1 249 KKLSDVMILTVFCLSVFALIGLQLFMGNLRNKC VVWP INFN ESYL- ENGT 297
NP_001070967.1 249 KKLSDVMILTVFCLSVFALIGLQLFMGNLRNKC VVWP INFN ESYL- ENGT 297
NP_062139.2 249 KKLSDVMILTVFCLSVFALIGLQLFMGNLRNKC VVWP INFN ESYL- ENGT 297
XP_003643160.1 249 KKLSDVMILTVFCLSVFALIGLQLFMGNLRNKC VWP INVNETYL- DNGS 297
NP_001038648.1 251 KKLSDVMILTVFCLSVFALIGLQLFMGNLRKQCVIWPVNSTETYL- ANG S 299
NP_571703.1 249 KKLSDVMILTVFCLSVFALIGLQLFMGNLRKQCVIWPINITEMFPDVNGS 298
XP_004911965.1 -----

NP_055006.1 298 KGFDWEEYINNKTNFYTVPGMLEP L LCGNSSDAGQCPEGYQCMKAGRNP N 347
XP_001141985.3 298 KGFDWEEYINNKTNFYTVPGMLEP L LCGNSSDAGQCPEGYQCMKAGRNP N 347
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NP_001070967.1 298 RGFDWEEYINNKTNFYVMVPGMLEP L LCGNSSDAGQCPEGFQCMKAGRNP N 347
NP_062139.2 298 RGFDWEEYINNKTNFYVMVPGMLEP L LCGNSSDAGQCPEGFQCMKAGRNP N 347
XP_003643160.1 298 RGFDWEEYTNMNSNFYIIPGAPDPL LCGNSSDAGQCPEGYTCMKAGRNP N 347
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XP_004911965.1 -----

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XP_001141985.3 348 YGYTSFDTFSWAF LALFRLMTQDYWENLYQLTLRAAGKTYMIFFVLVIFV 397
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XP_850134.1 348 YGYTSFDTFSWAF LALFRLMTQDYWENLYQLTLRAAGKTYMIFFVLVIFV 397
NP_001180031.1 348 YGYTSFDTFSWAF LALFRLMTQDYWENLYQLTLRAAGKTYMIFFVLVIFV 397
NP_001070967.1 348 YGYTSFDTFSWAF LALFRLMTQDYWENLYQLTLRAAGKTYMIFFVLVIFV 397
NP_062139.2 348 YGYTSFDTFSWAF LALFRLMTQDYWENLYQLTLRAAGKTYMIFFVLVIFV 397
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NP_001038648.1 350 YGYTSFDSFGWAF LALFRLMTQDFWENLYQLTLRAAGKTYMIFFVLVIFV 399
NP_571703.1 349 YGYTSFDSFGWAF LALFRLMTQDFWENLYQLTLRAAGKTYMIFFVLVIFV 398
XP_004911965.1 1 -----MIFFVLVIFV 10

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XP_001090295.1 398 GSFYLVN LILAVVAMAYEEQNQATLEEA EQKEAEFKAMLEQLKKQEEAQ 447
XP_850134.1 398 GSFYLVN LILAVVAMAYEEQNQATLEEA EQKEAEFKAMLEQLKKQEEAQ 447
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NP_001070967.1 398 GSFYLVN LILAVVAMAYEEQNQATLEEA EQKEAEFKAMLEQLKKQEEAQ 447
NP_062139.2 398 GSFYLVN LILAVVAMAYEEQNQATLEEA EQKEAEFKAMLEQLKKQEEAQ 447
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NP_571703.1 399 GSFYLVN LILAVVAMAYEEQNQATMEEA ERKEAEFKAMLEQLKKQEEAQ 448
XP_004911965.1 11 GSFYLVN LILAVVAMAYEEQNQATLEEA ERKENEFKAMLEQM KRMQEEAQ 60

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XP_001141985.3 448 AAAMATSAGTVSEDAIEEEGEEGGSPRS SSE ISKLSSKSAKERRNRKK 497
XP_001090295.1 448 AAAMATSAGTVSEDAIEEEGEEGGSPRS SSE ISKLSSKSAKERRNRKK 497
XP_850134.1 448 AAAMATSAGTVSEDAIEEEGEEGAGSPRS SSE ISKLSSKSAKERRNRKK 497
NP_001180031.1 448 AAAMATSAGTVSEDAIEEEGEDGAGSPRS SSE ISKLSSKSAKERRNRKK 497
NP_001070967.1 448 AAAMATSAGTVSEDAIEEEGEDGVGSPRS SSEL SKLSSKSAKERRNRKK 497
NP_062139.2 448 AAAMATSAGTVSEDAIEEEGEDGVGSPRS SSEL SKLSSKSAKERRNRKK 497
XP_003643160.1 448 AAAMVTSAGTVSEDAVEDDG- -GGRMSRS SSE ISKLSSKSAKERRNRKK 495
NP_001038648.1 450 ANAMATSAGTVSEDAVEDDG- -GHLRS SSEVSKLSSKSAKERRNRKK 497
NP_571703.1 449 ANAMATSAGTVSEDVVEDDGDGEGN LSCSS SEMSKLSSKSAKERRNRKK 498
XP_004911965.1 61 AAANATSAGTVTEDAVEDEGE- ARMSHTSSEFSKPSKSAKERRNRKK 109

NP_055006.1 498 RKQKELSEGE EKGDP EKVFKSE SEDGMRRKAFRLPDNRIGRKFSIMNQSL 547
XP_001141985.3 498 RKQKELSEGE EKGDP EKVFKSE SEDGMRRKAFRLPDNRIGRKFSIMNQSL 547
XP_001090295.1 498 RKQKELSEGE EKGDP EKVFKSE SEDGMRRKAFRLPDNRIGRKFSIMNQSL 547
XP_850134.1 498 RKQKELSEGE EKGDP EKVFKSE SEDGMRRKGFRLPDNRIGRKFSIMNQSL 547
NP_001180031.1 498 RKQKELSEGE EKGDP EKVFKSE SEDGMRRKGFRLPDNRIGRKFSIMNQSL 547
NP_001070967.1 498 RKQKELSEGE EKGDP EKVFKSE SEDGMRRKAFRLPDNRIGRKFSIMNQSL 547
NP_062139.2 498 RKQKELSEGE EKGDP EKVFKSE SEDGMRRKAFRLPDNRIGRKFSIMNQSL 547
XP_003643160.1 496 RKDKELSEGE EKGDN EKVFKSE SEDGMRRKAFRLPDNRIGRKFSIMNQSL 545
NP_001038648.1 498 WRKEQ- -E- -EKGDS EKVFKSE SDGSKRSRFRFRDNR LGRKASIMNQSL 543
NP_571703.1 499 WRQKE- -QDKEKGDSEK FVKSE SDDGSR- -RFRFPDNR LGRRSSIMNQSL 545
XP_004911965.1 110 RKQKELSEGE EKGDS EKVFKSE SEDGVKRRGFWYPDNR LGRRFSSIMNQSL 159

NP_055006.1	548	LSIPGSPFLSRHNSKSSIFSFRGPGFRDPGSENEFADDEHSTVEESEGR	597
XP_001141985.3	548	LSIPGSPFLSRHNSKSSIFSFRGPGFRDPGSENEFADDEHSTVEESEGR	597
XP_001090295.1	548	LSIPGSPFLSRHNSKSSIFSFRGPGFRDPGSENEFADDEHSTVEESEGR	597
XP_850134.1	548	LSIPGSPFLSRHNSKSSIFSFRGPGFRDPGSENEFADDEHSTVEESEGR	597
NP_001180031.1	548	LSIPGSPFLSRHNSKSSIFSFRGPGFRDPGSENEFADDEHSTVEESEGR	597
NP_001070967.1	548	LSIPGSPFLSRHNSKSSIFSFRGPGFRDPGSENEFADDEHSTVEESEGR	597
NP_062139.2	548	LSIPGSPFLSRHNSKSSIFSFRGPGFRDPGSENEFADDEHSTVEESEGR	597
XP_003643160.1	546	LSIPGSPFLSRHNSKSSIFSFK--GRFRDPGSENEFADDEHSTVEESEGR	593
NP_001038648.1	544	LSIPGSPFMSRR---SSIFS-----KGSSENEFADDEHSTVEESED	582
NP_571703.1	546	LSIPGSPFMSRRNSKSSIFSRC-----KDGSENEFADDEHSTVEEYDER	590
XP_004911965.1	160	LSIPGSPYLSRHNSKSSIFSFR--GRFRDPVSENEFADDEHSTVEESEGR	207

NP_055006.1	598	RDSLFIPIRARERRSSSYSGYSGYSGQSRSSRIFFSLRRSVKRNSTVDCNG	647
XP_001141985.3	598	RDSLFIPIRARERRSSSYSGYSGYSGQSRSSRIFFSLRRSVKRNSTVDCNG	647
XP_001090295.1	598	RDSLFIPIRARERRSSSYSGYSGYSGQSRSSRIFFSLRRSVKRNSTVDCNG	647
XP_850134.1	598	RDSLFIPIRARERRSSSYSGYSGYSGQSRSSRIFFSLRRSVKRNSTVDCNG	647
NP_001180031.1	598	RDSLFIPIRARERRSSSYSGYSGYSGQSRSSRIFFSLRRSVKRNSTVDCNG	647
NP_001070967.1	598	RDSLFIPIRARERRSSSYSGYSGYSGQSRSSRIFFSLRRSVKRNSTVDCNG	647
NP_062139.2	598	RDSLFIPIRARERRSSSYSGYSGYSGQSRSSRIFFSLRRSVKRNSTVDCNG	647
XP_003643160.1	594	RDSLFIPIRGRDRSSSYSGYSGYSGQSRSSRIFFPNLRNRIKRNSTVDCNG	643
NP_001038648.1	583	RGSFLVFP---YRRSSYSGYSGQSSRINPLAPHP---GCKRNSTVDCNG	624
NP_571703.1	591	RDSFLSP---QRRSSYTGFG-----KRNSTVDCNG	618
XP_004911965.1	208	RDSLFIPVRGHDRNSYN--SGYSGQSRSSRIQLNLRNPNKRNSTVDCNG	255

NP_055006.1	648	VVSLIGPGGSHI--GGRLLPE-----ATTEVEIKKKGPGSLLVSM	685
XP_001141985.3	648	VVSLIGPGGSHI--GGRLLPE-----ATTEVEIKKKGPGSLLVSM	685
XP_001090295.1	648	VVSLIGPGGSHI--GGRLLPE-----ATTEVEIRKKGPGSLLVSM	685
XP_850134.1	648	VVSLIGPGGSHI--GGRLLPE-----ATTEVEIKKKGPGSLLVSM	685
NP_001180031.1	648	VVSLIGPGGSHI--GGRLLPE-----ATTEVEIKKKGPGSLLVSM	685
NP_001070967.1	648	VVSLI--GPGGSHI--GRLLE-----ATTEVEIKKKGPGSLLVSM	683
NP_062139.2	648	VVSLI--GPGGSHI--GRLLE-----ATTEVEIKKKGPGSLLVSM	683
XP_003643160.1	644	VVSLIGPPSSMPGGRLLPE-----GTTEIEIKKKGPGSLLVSM	682
NP_001038648.1	625	VVSLI--GPG---P--GRLLE-----TTEVEGKRKHGSLMVS	657
NP_571703.1	619	VVSLI--GPG---PGGRLLPE-----PTTDLEIKKKLSGSLMVS	653
XP_004911965.1	256	VVSLIGPGGSPNIPGGRLLPEVKIDKAATDDSPTEVEVKRKP SGSLRVSM	305

NP_055006.1	686	DQL--ASYGRKDRINSIMSVVNTLVEELEEESQRKCPPCWYKFANTFLIWE	734
XP_001141985.3	686	DQL--ASYGRKDRINSIMSVVNTLVEELEEESQRKCPPCWYKFANTFLIWE	734
XP_001090295.1	686	DQL--ASYGRKDRINSIMSVVNTLVEELEEESQRKCPPCWYKFANTFLIWE	734
XP_850134.1	686	DQL--ASYGRKDRINSILSVVNTLVEELEEESQRKCPPCWYKFANTFLIWE	734
NP_001180031.1	686	DQL--ASYGRKDRINSILSVVNTLVEELEEESQRKCPPCWYKFANTFLIWE	734
NP_001070967.1	684	EQL--ASYGRKDRINSIMSVVNTLVEELEEESQRKCPPCWYKFANTFLIWE	732
NP_062139.2	684	DQL--ASYGRKDRINSIMSVVNTLVEELEEESQRKCPPCWYKFANTFLIWE	732
XP_003643160.1	683	DQVNASYGRKDRNTSVMTGLTNTLVEELEEESQRKCPPCWYKFANTFLIWE	732
NP_001038648.1	658	DQLNTSFSRKERANSAMTVVNTLVEELEEESQRKCPPCWYKFANTFLIWE	707
NP_571703.1	654	EQLNTSFSRKERANSVMSALTNTLVEELEEESQRKCPPCWYKFANTFLIWE	703
XP_004911965.1	306	DQLTASFGRK--RANSILSVVTQTLVEELEEESQRKCPPCWYKFADTYLIWT	354

NP_055006.1	735	CHPYWIKLKEIVNLIIVMDPPVDLAIITICIVLNTLFMAMEHHMPMPQFEHV	784
XP_001141985.3	735	CHPYWIKLKEIVNLIIVMDPPVDLAIITICIVLNTLFMAMEHHMPMPQFEHV	784
XP_001090295.1	735	CHPYWIKLKEIVNLIIVMDPPVDLAIITICIVLNTLFMAMEHHMPMPQFEHV	784
XP_850134.1	735	CHPYWIKLKEIVNLIIVMDPPVDLAIITICIVLNTLFMAMEHHMPMPQFEHV	784
NP_001180031.1	735	CHPYWIKLKEIVNLIIVMDPPVDLAIITICIVLNTLFMAMEHHMPMPQFEHV	784
NP_001070967.1	733	CHPYWIKLKEIVNLIIVMDPPVDLAIITICIVLNTLFMAMEHHMPMPQFEHV	782
NP_062139.2	733	CHPYWIKLKEIVNLIIVMDPPVDLAIITICIVLNTLFMAMEHHMPMPQFEHV	782
XP_003643160.1	733	CHPYWIKLKEIVNLIIVMDPPVDLAIITICIVLNTLFMAMEHHMPTEFEHV	782
NP_001038648.1	708	CCPIWIKIKEIVNLIIVMDPPVDLAIITICIVLNTLFMAMEHYPMTPRFEV	757
NP_571703.1	704	CGPLWMSIKEIVNLIIVMDPPVDLAIITICIVLNTLFMAMEHYPMTPQFEHV	753
XP_004911965.1	355	CCPLWIRIKTIVNMIIVMDPPVDLTITICIVLNTLFMAMEHYPMTPHFENV	404

NP_055006.1	785	LAVGNLVFTGIFTAEMFLKLIAMDPIYFQEGWNIFDGFIVSLSLMELSL	834
XP_001141985.3	785	LAVGNLVFTGIFTAEMFLKLIAMDPIYFQEGWNIFDGFIVSLSLMELSL	834
XP_001090295.1	785	LAVGNLVFTGIFTAEMFLKLIAMDPIYFQEGWNIFDGFIVSLSLMELSL	834
XP_850134.1	785	LAVGNLVFTGIFTAEMFLKLIAMDPIYFQEGWNIFDGFIVSLSLMELGL	834
NP_001180031.1	785	LAVGNLVFTGIFTAEMFLKLIAMDPIYFQEGWNIFDGFIVSLSLMELSL	834
NP_001070967.1	783	LAVGNLVFTGIFTAEMFLKLIAMDPIYFQEGWNIFDGFIVSLSLMELGL	832
NP_062139.2	783	LAVGNLVFTGIFTAEMFLKLIAMDPIYFQEGWNIFDGFIVSLSLMELSL	832
XP_003643160.1	783	LSVGNLVFTGIFTAEMFLKLIAMDPIYFQEGWNIFDGFIVSLSLMELSL	832
NP_001038648.1	758	LSVGNLVFTGIFTAEMFAKLIAMDPIYFQEGWNIFDGFIVSLSLVELGL	807
NP_571703.1	754	LSVGNLVFTGIFTAEMFAKLAMDPIYFQEGWNIFDGFIVSLSLMELGL	803
XP_004911965.1	405	LAVGNLVFTGIFTAEMFLKLIAMDPIYFQEGWNIFDGFIVSLSLMELGL	454

NP_055006.1	835	ADVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	884
XP_001141985.3	835	ADVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	884
XP_001090295.1	835	ADVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	884
XP_850134.1	835	ADVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	884
NP_001180031.1	835	ADVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	884
NP_001070967.1	833	ADVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	882
NP_062139.2	833	ADVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	882
XP_003643160.1	833	ANVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	882
NP_001038648.1	808	ADVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	857
NP_571703.1	804	ANVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	853
XP_004911965.1	455	QDVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVLA	504

NP_055006.1	885	IVFIFAVVGMQLFGKSYKECVCKINQDCELPRWHMHDFHHSFLIVFRVLC	934
XP_001141985.3	885	IVFIFAVVGMQLFGKSYKECVCKINQDCELPRWHMHDFHHSFLIVFRVLC	934
XP_001090295.1	885	IVFIFAVVGMQLFGKSYKECVCKINQDCELPRWHMHDFHHSFLIVFRVLC	934
XP_850134.1	885	IVFIFAVVGMQLFGKSYKECVCKINQDCELPRWHMHDFHHSFLIVFRVLC	934
NP_001180031.1	885	IVFIFAVVGMQLFGKSYKECVCKINQDCELPRWHMHDFHHSFLIVFRVLC	934
NP_001070967.1	883	IVFIFAVVGMQLFGKSYKECVCKISQECKLPRWHMNDFFHHSFLIVFRVLC	932
NP_062139.2	883	IVFIFAVVGMQLFGKSYKECVCKINQECKLPRWHMNDFFHHSFLIVFRVLC	932
XP_003643160.1	883	IVFIFAVVGMQLFGKSYKECVCKINPECELPRWHMHDFHHSFLIVFRVLC	932
NP_001038648.1	858	IVFIFAVVGMQLFGKSYKDCVCKIAESCELPRWHMNDFFHHSFLIVFRVLC	907
NP_571703.1	854	IVFIFAVVGMQLFGKSYKDCVCKIAQDCELPRWHMNDFFHHSFLIVFRVLC	903
XP_004911965.1	505	IVFIFAVVGMQLFGKSYKDCVCKINPECVLPRWHMNDFFHHSFLIVFRVLC	554

NP_055006.1	935	GEWIETMWDCMEVAGQAMCLIVFMMVMVIGNLVVLNLFALLLLSSFSADN	984
XP_001141985.3	935	GEWIETMWDCMEVAGQAMCLIVFMMVMVIGNLVVLNLFALLLLSSFSADN	984
XP_001090295.1	935	GEWIETMWDCMEVAGQAMCLIVFMMVMVIGNLVVLNLFALLLLSSFSADN	984
XP_850134.1	935	GEWIETMWDCMEVAGQAMCLIVFMMVMVIGNLVVLNLFALLLLSSFSADN	984
NP_001180031.1	935	GEWIETMWDCMEVAGQAMCLIVFMMVMVIGNLVVLNLFALLLLSSFSADN	984
NP_001070967.1	933	GEWIETMWDCMEVAGQAMCLIVFMMVMVIGNLVVLNLFALLLLSSFSADN	982
NP_062139.2	933	GEWIETMWDCMEVAGQAMCLIVFMMVMVIGNLVVLNLFALLLLSSFSADN	982
XP_003643160.1	933	GEWIETMWDCMEVAGQAMCLIVFMMVMVIGNLVVLNLFALLLLSSFSADN	982
NP_001038648.1	908	GEWIETMWDCMEVAGQSMCLIVFMMVMVIGNLVVLNLFALLLLSSFSADN	957
NP_571703.1	904	GEWIETMWDCMEVAGQAMCLIVFMMVMVIGNLVVLNLFALLLLSSFSADN	953
XP_004911965.1	555	GEWIETMWDCMEVAGQAMCIIVFMMVMVIGNLVVLNLFALLLLSSFSADN	604

NP_055006.1	985	LAATDDDGEMNNLQISVIRIKKGVAWTKLVHAFMQAHFKQR-EADEVKP	1033
XP_001141985.3	985	LAATDDDGEMNNLQISVIRIKKGVAWTKLVHAFMQAHFKQR-EADEVKP	1033
XP_001090295.1	985	LAATDDDGEMNNLQISVIRIKKGVAWTKLVHAFMQAHFKQR-EADEVKP	1033
XP_850134.1	985	LAATDDDGEMNNLQISVIRIKKGVAWTKLVHAFMQAHFKQR-EADEVKP	1033
NP_001180031.1	985	LAATDDDGEMNNLQISVIRIKKGVAWTKLVHAFMQAHFKQR-EADEVKP	1033
NP_001070967.1	983	LAATDDDGEMNNLQISVIRIKKGVAWTKLVHAFMQAHFKQR-EADEVKP	1031
NP_062139.2	983	LAATDDDGEMNNLQISVIRIKKGVAWTKLVHAFMQAHFKQR-EADEVKP	1031
XP_003643160.1	983	LAATDDDGEMNNLQISVIRIKKGIAWTKAKVREFMQAHFKQR-EADEVKP	1031
NP_001038648.1	958	LAATDDDGEMNNLQISVIRIKKGIAWFKIHVRLLVAHVKKKPLEDEDKP	1007
NP_571703.1	954	LAASDDDGEMNNLQIAVIRIKKGIAWVKAKVRELVNIILGRK-VTDEAKP	1002
XP_004911965.1	605	LAATDDDGEMNNLQISVIRIKKGIAWIKLKAHDFMQKHFKKK-DADEVKP	653

NP_055006.1	1034	LDELYEKKANCIANHTGADI-HRNGDFQKNGNGTTSIGIGSSVEKYIIDED	1082
XP_001141985.3	1034	LDELYEKKANCIANHTGADI-HRNGDFQKNGNGTTSIGIGSSVEKYIIDED	1082
XP_001090295.1	1034	LDELYEKKANCIANHTGADI-HRNGDFQKNGNGTTSIGIGSSVEKYIIDED	1082
XP_850134.1	1034	LDELYEKKANCIANHTGADI-HRNGDFQKNGNGTTSIGIGSSVEKYIIDED	1082
NP_001180031.1	1034	LDELYEKKANCIANHTGADI-HRNGDFQKNGNGTTSIGIGSSVEKYIIDED	1082
NP_001070967.1	1032	LDELYEKKANCIANHTGVDI-HRNGDFQKNGNGTTSIGIGSSVEKYIIDED	1080
NP_062139.2	1032	LDELYEKKANCIANHTGVDI-HRNGDFQKNGNGTTSIGIGSSVEKYIIDED	1080
XP_003643160.1	1032	LDELYDKKVNCIANHTGADI-HRDIDYQKNGNGTTSIGIGSSVEKYIIDED	1080
NP_001038648.1	1008	LDDMYDKKLNLMGNHTGVEIKCGDLNYPKNGNGTTSIGIGSSVGKYMIDEE	1057
NP_571703.1	1003	LDDMYDRKLNCIANHTGVDI-SRDLDYQKNGNGTTSIGIGSSVGKYMIDDD	1051
XP_004911965.1	654	LDEMYEKKMNCLANNTGADI-HRDMYPKNGNGTTSIGIGSSVEKYMIDED	702

NP_055006.1	1083	HMSFINNPNTVTRVPIAVGESDFENLNTEDVSSSEDPEGSKDKLDDTSSS	1132
XP_001141985.3	1083	HMSFINNPNTVTRVPIAVGESDFENLNTEDVSSSEDPEGSKDKLDDTSSS	1132
XP_001090295.1	1083	HMSFINNPNTVTRVPIAVGESDFENLNTEDVSSSEDPEGSKDKLDDTSSS	1132
XP_850134.1	1083	HMSFINNPNTVTRVPIAVGESDFENLNTEDVSSSEDPEGSKDKLDDTSSS	1132
NP_001180031.1	1083	HMSFINNPNTVTRVPIAVGESDFENLNTEDVSSSEDPEGSKDKLDDTSSS	1132
NP_001070967.1	1081	HMSFINNPNTVTRVPIAVGESDFENLNTEDVSSSEDPEGSKDKLDDTSSS	1130
NP_062139.2	1081	HMSFINNPNTVTRVPIAVGESDFENLNTEDVSSSEDPEGSKDKLDDTSSS	1130
XP_003643160.1	1081	HMSFINNPNTVTRVPIAVGESDFENLNTEDFSSDTPDGSKDKLDDTSSS	1130
NP_001038648.1	1058	PMSFIHNPNTVTRVPIAVGGSDFENLNTEDFSSSESDVENSKD-LDDTSSS	1106
NP_571703.1	1052	HMSFIHNPNTVTCVPIAVGESDFENLNTEDFSSSESEAGSKE-LDDISSS	1100
XP_004911965.1	703	HMSFIHNPNTVTKVPIAVGESDFENLNTEDFSSASDEEGSKDKLDDTSSS	752

NP_055006.1	1133	EGSTIDIKPEVEE-VPVEQPPEEYLDPDACFTEGCVQRFKCCQVNIIEGLG	1181
XP_001141985.3	1133	EGSTIDIKPEVEE-VPVEQPPEEYLDPDACFTEGCVQRFKCCQVNIIEGLG	1181
XP_001090295.1	1133	EGSTIDIKPEVEE-VPVEQPPEEYLDPDACFTEGCVQRFKCCQVNIIEGLG	1181
XP_850134.1	1133	EGSTIDIKPEVEE-VPVEQPPEEYLDPDACFTEGCVQRFKCCQVNIIEGLG	1181
NP_001180031.1	1133	EGSTIDIKPEVEE-VPVEQPPEEYLDPDACFTEGCVQRFKCCQVNIIEGLG	1181
NP_001070967.1	1131	EGSTIDIKPEVEE-VPVEQPPEEYLDPDACFTEGCVQRFKCCQVNIIEGLG	1179
NP_062139.2	1131	EGSTIDIKPEVEE-VPVEQPPEEYLDPDACFTEGCVQRFKCCQVNIIEGLG	1179
XP_003643160.1	1131	EGSTIDIKPEVEE-VPVEAPEEYLDPDACFTEGCMQRKCCQVNIIEGLG	1179
NP_001038648.1	1107	EGSTIDIKPDEEEMAVVEVVEEYLDPEACWTDACVARYKCCDVPITEGWG	1156
NP_571703.1	1101	EGSTIDIKPEVEEAVVETVEEYVDPEACWTEACIARYKCCDVPITEGWG	1150
XP_004911965.1	753	EGSTIDIKPEAEE-VPVEQPPEEYLDPDNCFTEGCVARFKCCQVSVIEGLG	801

NP_055006.1	1182	KSWWILRKTCFLIVEHNWFETFIIFMILLSSGALAFEDIYIEQRKTIRTI	1231
XP_001141985.3	1182	KSWWILRKTCFLIVEHNWFETFIIFMILLSSGALAFEDIYIEQRKTIRTI	1231
XP_001090295.1	1182	KSWWILRKTCFLIVEHNWFETFIIFMILLSSGALAFEDIYIEQRKTIRTI	1231
XP_850134.1	1182	KSWWILRKTCFLIVEHNWFETFIIFMILLSSGALAFEDIYIEQRKTIRTI	1231
NP_001180031.1	1182	KSWWILRKTCFLIVEHNWFETFIIFMILLSSGALAFEDIYIEQRKTIRTI	1231
NP_001070967.1	1180	KSWWILRKTCFLIVEHNWFETFIIFMILLSSGALAFEDIYIEQRKTIRTI	1229
NP_062139.2	1180	KSWWILRKTCFLIVEHNWFETFIIFMILLSSGALAFEDIYIEQRKTIRTI	1229
XP_003643160.1	1180	KSWWTLRKTCFLIVEHNWFETFIIFMILLSSGALAFEDIYIEQRKTIRTI	1229
NP_001038648.1	1157	KYWWFLRKTCYFLIVEHNWFETLIIFMILLSSGALAFEDVYIEQRKTIQII	1206
NP_571703.1	1151	KNWWFLRKTCYFLIVEHNWFETLIIFMILLSSGALAFEDVYIEQRKTIRII	1200
XP_004911965.1	802	KSWWTLRKTCFLIVEHNWFETFIIFMILLSSGALAFEDVYIEQRKTIRTI	851

NP_055006.1	1232	LEYADKVFTYIFILEMLLKWTAYGFVKFFFTNAWCWLDFLIVAVSLVSLIA	1281
XP_001141985.3	1232	LEYADKVFTYIFILEMLLKWTAYGFVKFFFTNAWCWLDFLIVAVSLVSLIA	1281
XP_001090295.1	1232	LEYADKVFTYIFILEMLLKWTAYGFVKFFFTNAWCWLDFLIVAVSLVSLIA	1281
XP_850134.1	1232	LEYADKVFTYIFILEMLLKWTAYGFVKFFFTNAWCWLDFLIVAVSLVSLIA	1281
NP_001180031.1	1232	LEYADKVFTYIFILEMLLKWTAYGFVKFFFTNAWCWLDFLIVAVSLVSLIA	1281
NP_001070967.1	1230	LEYADKVFTYIFILEMLLKWTAYGFVKFFFTNAWCWLDFLIVAVSLVSLIA	1279
NP_062139.2	1230	LEYADKVFTYIFILEMLLKWTAYGFVKFFFTNAWCWLDFLIVAVSLVSLIA	1279
XP_003643160.1	1230	LEYADKVFTYIFILEMLLKWCAYGFVKFFFTNAWCWLDFLIVAVSLVSLIA	1279
NP_001038648.1	1207	LEYADRVFTYIFILEMLLKWVAYGFVKYFTNAWCWLDFFIVDVSIVSLIA	1256
NP_571703.1	1201	LEYADMVFTYIFILEMLLKWVAYGFVKYFTNAWCWLDFFIVDVSIVSLIA	1250
XP_004911965.1	852	LEYADKVFTYIFILEMLLKWLAYGFVKFFFTNAWCWLDFLIVDVSIVSLIA	901

NP_055006.1	1282	NALGYSELGAIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVL	1331
XP_001141985.3	1282	NALGYSELGAIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVL	1331
XP_001090295.1	1282	NALGYSELGAIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVL	1331
XP_850134.1	1282	NALGYSELGAIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVL	1331
NP_001180031.1	1282	NALGYSELGAIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVL	1331
NP_001070967.1	1280	NALGYSELGAIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVL	1329
NP_062139.2	1280	NALGYSELGAIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVL	1329
XP_003643160.1	1280	NALGYSELGAIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVL	1329
NP_001038648.1	1257	NALGYSDLGPIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVP	1306
NP_571703.1	1251	NALGYSDLGPIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVL	1300
XP_004911965.1	902	NALGYSELGAIKSLRTLRLRPLRLALSRFEGMRVVVNALVGAIPSIMNVL	951

NP_055006.1	1332	LVCLIFWLIFSIMGVNLFAGKYHYCFNETSEIRFEIEDVNNKTECEKLME	1381
XP_001141985.3	1332	LVCLIFWLIFSIMGVNLFAGKYHYCFNETSEIRFEIEDVNNKTECEKLME	1381
XP_001090295.1	1332	LVCLIFWLIFSIMGVNLFAGKYHYCFNETSEIRFEIEDVNNKTECEKLME	1381
XP_850134.1	1332	LVCLIFWLIFSIMGVNLFAGKYHYCFNETSEIRFDIEDVNNKTECEKLME	1381
NP_001180031.1	1332	LVCLIFWLIFSIMGVNLFAGKYHYCFNETSEIRFEIEDVNNKTECEKLME	1381
NP_001070967.1	1330	LVCLIFWLIFSIMGVNLFAGKYHYCFNETSEIRFEIEDVNNKTDCEKLME	1379
NP_062139.2	1330	LVCLIFWLIFSIMGVNLFAGKYHYCFNETSEIRFEIDVNNKTDCEKLME	1379
XP_003643160.1	1330	LVCLIFWLIFSIMGVNLFAGKYHYCFNETSEERFEIEIVNNKTDCEALMP	1379
NP_001038648.1	1307	LVCLIFWLIFSIMGVNLFAGKYHYCFNETSEIRFEIEIVNNKTECFALIN	1356
NP_571703.1	1301	LVCLIFWLIFSIMGVNMFGAGKYHYCFNETSEIRFEIEIVNNKTECFALIE	1350
XP_004911965.1	952	LVCLIFWLIFSIMGVNLFAGKYHYCFNETSEIRFEIEIVNNKTECFALIE	1001

NP_055006.1	1382	GNNTEIRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRKPDQ	1431
XP_001141985.3	1382	GNNTEIRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRKPDQ	1431
XP_001090295.1	1382	GNNTEIRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRKPDQ	1431
XP_850134.1	1382	GNNTEIRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRKPDQ	1431
NP_001180031.1	1382	GNNTEIRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRKPDQ	1431
NP_001070967.1	1380	GNNTEIRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRKPDQ	1429
NP_062139.2	1380	GNSTEIRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRKPDQ	1429
XP_003643160.1	1380	PNSTEIRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRKQEEQ	1429
NP_001038648.1	1357	ANYTEVRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRKVEDQ	1406
NP_571703.1	1351	QNYTEVRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRRVEDQ	1400
XP_004911965.1	1002	NNYTEVRWKNVKINFDNVGAGYLALLQVATFKGWMDIMYAAVDSRKVHQQ	1051

NP_055006.1	1432	PKYEDNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1481
XP_001141985.3	1432	PKYEDNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1481
XP_001090295.1	1432	PKYEDNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1481
XP_850134.1	1432	PKYEDNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1481
NP_001180031.1	1432	PKYEDNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1481
NP_001070967.1	1430	PDYEGNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1479
NP_062139.2	1430	PDYEGNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1479
XP_003643160.1	1430	PKYEDNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1479
NP_001038648.1	1407	PLYEDNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1456
NP_571703.1	1401	PKYEDNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1450
XP_004911965.1	1052	PKYEDNIYMYIYFVIFIIFGSFFTLNLFIGVIIDNFNQKKKFGGQDIFM	1101

NP_055006.1	1482	TEEQKKYYNAMKKLGSKKPQKPIPRPLNKIQGIVDFVTTQQAQFDIVIMML	1531
XP_001141985.3	1482	TEEQKKYYNAMKKLGSKKPQKPIPRPL-----	1508
XP_001090295.1	1482	TEEQKKYYNAMKKLGSKKPQKPIPRPLNKIQGIVDFVTTQQAQFDIVIMML	1531
XP_850134.1	1482	TEEQKKYYNAMKKLGSKKPQKPIPRPLNKIQGIIIFDFVTTQQAQFDIVIMML	1531
NP_001180031.1	1482	TEEQKKYYNAMKKLGSKKPQKPIPRPLNKIQGIVDFVTTQQAQFDIVIMML	1531
NP_001070967.1	1480	TEEQKKYYNAMKKLGSKKPQKPIPRPLNKIQGIVDFVTTQQAQFDIVIMML	1529
NP_062139.2	1480	TEEQKKYYNAMKKLGSKKPQKPIPRPLNKIQGIVDFVTTQQAQFDIVIMML	1529
XP_003643160.1	1480	TEEQKKYYNAMKKLGSKKPQKPIPRPLNRIQGAIVDFVTTQQAQFDIVIMML	1529
NP_001038648.1	1457	PEEQKKYYNAMKKLGSKKPQKPIPRPLNKIQGMVDFVTTQQAQFDISIMML	1506
NP_571703.1	1451	TEEQKKYYNAMKKLGSKKPQKPIPRPQNKLQGMVDFVTTQQAQFDISIMIL	1500
XP_004911965.1	1102	TEEQKKYYNAMKKLGSKKPQKPIPRPLNKFQGAIFDIITQQAQFDIVIMIL	1151

NP_055006.1	1532	ICLNMVTMMVETDTQSKQMENILYWINLVFVIFFTCECVLKMFAIRHYFF	1581
XP_001141985.3	1509	-CL-----DGKRREVSPI SITXLLFLFL-----	1532
XP_001090295.1	1532	ICLNMVTMMVETDTQSKQMENILYWINLVFVIFFTCECVLKMFAIRHYFF	1581
XP_850134.1	1532	ICLNMVTMMVETDTQSKQMENILYWINLVFVIFFTCECVLKMFAIRHYFF	1581
NP_001180031.1	1532	ICLNMVTMMVETDTQSKQMENILYWINLVFVIFFTCECVLKMFAIRHYFF	1581
NP_001070967.1	1530	ICLNMVTMMVETDTQSKQMENILYWINLVFVIFFTCECVLKMFAIRHYFF	1579
NP_062139.2	1530	ICLNMVTMMVETDTQSKQMENILYWINLVFVIFFTCECVLKMFAIRHYFF	1579
XP_003643160.1	1530	ICLNMVTMMVETDTQSKQMEDILYWINLVFVIFFTCECVLKMFAIRHYFF	1579
NP_001038648.1	1507	ICLNMVTMMVETDDQSDQETENILYWINFVIVAFVTGEFVLKLFALRHYFF	1556
NP_571703.1	1501	ICLNMVTMMVETDDQSQETENILYWINFIVAFVTSEFVLKLFALRHYFF	1550
XP_004911965.1	1152	ICLNMVTMMVETDDQSDYTDNVLYWINVVFVFTTECEVLKLCALRHYFF	1201

NP_055006.1	1582	TIGWNIFDFVTVVILSVGMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1631
XP_001141985.3	1533	-----GMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1565
XP_001090295.1	1582	TIGWNIFDFVTVVILSVGMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1631
XP_850134.1	1582	TIGWNIFDFVTVVILSVGMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1631
NP_001180031.1	1582	TIGWNIFDFVTVVILSVGMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1631
NP_001070967.1	1580	TIGWNIFDFVTVVILSVGMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1629
NP_062139.2	1580	TIGWNIFDFVTVVILSVGMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1629
XP_003643160.1	1580	TIGWNIFDFVTVVILSVGMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1629
NP_001038648.1	1557	TNGWNVDFCVTVVILSVGMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1606
NP_571703.1	1551	TNGWNVDFCVTVVILSVGMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1600
XP_004911965.1	1202	TIGWNIFDFVTVVILSVGMFLADIIIEKYFVSPTLFRVIRLARIGRILRLI	1251

NP_055006.1	1632	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKHEAG	1681
XP_001141985.3	1566	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKHEAG	1615
XP_001090295.1	1632	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKHEAG	1681
XP_850134.1	1632	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKHEAG	1681
NP_001180031.1	1632	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKHEAG	1681
NP_001070967.1	1630	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKHEAG	1679
NP_062139.2	1630	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKHEAG	1679
XP_003643160.1	1630	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKHEAG	1679
NP_001038648.1	1607	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKREIG	1656
NP_571703.1	1601	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKRESG	1650
XP_004911965.1	1252	KGAKGIRTLFLALMMSLPALFNIGLLFLVMFIFSIFGMSNFAYVKHEAG	1301

NP_055006.1	1682	IDDMFNFTFGNSMICLFQITTSAGWDGLLLPILNRPPDCSLDKHEHPGSG	1731
XP_001141985.3	1616	IDDMFNFTFGNSMICLFQITTSAGWDGLLLPILNRPPDCSLDKHEHPGSG	1665
XP_001090295.1	1682	IDDMFNFTFGNSMICLFQITTSAGWDGLLLPILNRPPDCSLDKHEHPGSG	1731
XP_850134.1	1682	IDDMFNFTFGNSMICLFQITTSAGWDGLLLPILNRPPDCSLDKHEHPGSG	1731
NP_001180031.1	1682	IDDMFNFTFGNSMICLFQITTSAGWDGLLLPILNRPPDCSLDKHEHPGSG	1731
NP_001070967.1	1680	IDDMFNFTFGNSMICLFQITTSAGWDGLLLPILNRPPDCSLDKHEHPGSG	1729
NP_062139.2	1680	IDDMFNFTFGNSMICLFQITTSAGWDGLLLPILNRPPDCSLDKHEHPGSG	1729
XP_003643160.1	1680	IDDMFNFTFGNSMICLFQITTSAGWDGLLLPILNRPPDCSLDKHEHPGSG	1729
NP_001038648.1	1657	IDDMYNFTFGNSMICLFMITTSAGWDGLLLPILNYPDCDPNKENPGTT	1706
NP_571703.1	1651	IDDMYNFTFGNSMICLFMITTSAGWDGLLLPILNYPDCDPTKENPGTS	1700
XP_004911965.1	1302	IDDMFNFTFGNSMICLFQITTSAGWDGLLLPILNRPPDCDAHKENPGSQ	1351

NP_055006.1	1732	FKGDCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLS	1781
XP_001141985.3	1666	FKGDCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLS	1715
XP_001090295.1	1732	FKGDCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLS	1781
XP_850134.1	1732	FKGDCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLS	1781
NP_001180031.1	1732	FKGDCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLS	1781
NP_001070967.1	1730	FKGDCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLS	1779
NP_062139.2	1730	FKGDCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLS	1779
XP_003643160.1	1730	FKGDCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLS	1779
NP_001038648.1	1707	VKGNCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLC	1756
NP_571703.1	1701	VKGNCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLC	1750
XP_004911965.1	1352	VKGDCGNPSVGIFFFVSYIIISFLIVVNMYIAIILENFSVATEESADPLS	1401

NP_055006.1	1782	EDDFETFYIEWEKFDPDATQFIEYCKLADFADALEHPLRVKPKNTIELIA	1831
XP_001141985.3	1716	EDDFETFYIEWEKFDPDATQFIEYCKLADFADALEHPLRVKPKNTIELIA	1765
XP_001090295.1	1782	EDDFETFYIEWEKFDPDATQFIEYCKLADFADALEHPLRVKPKNTIELIA	1831
XP_850134.1	1782	EDDFETFYIEWEKFDPDATQFIEYCKLADFADALEHPLRVKPKNTIELIA	1831
NP_001180031.1	1782	EDDFETFYIEWEKFDPDATQFIEYCKLADFADALEHPLRVKPKNTIELIA	1831
NP_001070967.1	1780	EDDFETFYIEWEKFDPDATQFIEYCKLADFADALEHPLRVKPKNTIELIA	1829
NP_062139.2	1780	EDDFETFYIEWEKFDPDATQFIEYCKLADFADALEHPLRVKPKNTIELIA	1829
XP_003643160.1	1780	EDDFETFYIEWEKFDPDATQFIEYCKLADFADALEHPLRVKPKNTIELIA	1829
NP_001038648.1	1757	EDDFESFYIEWEKFDPDASQFITPAKLPDFADTLEHPLRVKPKNTIELIA	1806
NP_571703.1	1751	EDDFESFYIEWEKFDPDASQFITPAKLPDFADTLEHPLRVKPKNTIELIA	1800
XP_004911965.1	1402	EDDFETFYIEWEKFDPDATQFIQFSKLPDFADALEHPLRIPKPKNTIELIA	1451

NP_055006.1	1832	MDLPMVSGDRIHCLDILFAFTKRVLGDSGELDILRQQMEERFVASNP SKV	1881
XP_001141985.3	1766	MDLPMVSGDRIHCLDILFAFTKRVLGDSGELDILRQQMEERFVASNP SKV	1815
XP_001090295.1	1832	MDLPMVSGDRIHCLDILFAFTKRVLGDSGELDILRQQMEERFVASNP SKV	1881
XP_850134.1	1832	MDLPMVSGDRIHCLDILFAFTKRVLGDSGELDILRQQMEERFVASNP SKV	1881
NP_001180031.1	1832	MDLPMVSGDRIHCLDILFAFTKRVLGDSGELDILRQQMEERFVASNP SKV	1881
NP_001070967.1	1830	MDLPMVSGDRIHCLDILFAFTKRVLGDSGELDILRQQMEERFVASNP SKV	1879
NP_062139.2	1830	MDLPMVSGDRIHCLDILFAFTKRVLGDSGELDILRQQMEERFVASNP SKV	1879
XP_003643160.1	1830	MDLPMVSGDRIHCLDILFAFTKRVLGDSGELDILRQQMEERFVASNP SKV	1879
NP_001038648.1	1807	MDLPMVSGDRIHCLDILFAFTKRVLGDSGDLMMRQQMEERFVAANP SKV	1856
NP_571703.1	1801	MDLPMVSGDRIHCLDILFAFTKRVLGDSGDLMMRQQMEERFVAANP SKV	1850
XP_004911965.1	1452	MDLPMVSGDRIHCLDILFAFTKRVLGESGELDILRQQMEERFVASNP SKV	1501

NP_055006.1	1882	SYEPITTTLLRRKQEEVS AVVLQRAYRGHLARRGFICKK-TTSNKLENGGT	1930
XP_001141985.3	1816	SYEPITTTLLRRKQEEVS AVVLQRAYRGHLARRGFICKK-TTSNKLENGGT	1864
XP_001090295.1	1882	SYEPITTTLLRRKQEEVS AVVLQRAYRGHLARRGFICKK-TTSNKLENGGT	1930
XP_850134.1	1882	SYEPITTTLLRRKQEEVS AVVLQRAYRGHLARRGFICKK-TTSNKLENGGT	1930
NP_001180031.1	1882	SYEPITTTLLRRKQEEVS AVVLQRAYRGHLARRGFICKK-TTSNKLENGGT	1930
NP_001070967.1	1880	SYEPITTTLLRRKQEEVS AVVLQRAYRGHLARRGFICRK-ITSNKLENGGT	1928
NP_062139.2	1880	SYEPITTTLLRRKQEEVS AVVLQRAYRGHLARRGFICRK-MASNKLENGGT	1928
XP_003643160.1	1880	SYEPITTTLLRRKQEEVS AVVLQRAYRSLARRGFISRR-PLPTKMENGGT	1928
NP_001038648.1	1857	SYEPITTTLLRRKQEEVSAIVIQRSYRSHLASRGFICKRRPANNKLENGGG	1906
NP_571703.1	1851	SFEPITTTLLRRKQEHMSAGVIQRAFRAHLIRKGFICKRLLSSSRLENGGT	1900
XP_004911965.1	1502	SYEPITTTLLRRKQEDVSAVVIQYAYRHLVKRGFISRK-RSTGKMENGGT	1550

NP_055006.1	1931	HREKKESTPSTASLPSYDSVTKEPEKEKQQ--RAEEGRERAKRQKEVRES	1978
XP_001141985.3	1865	HREKKESTPSTASLPSYDSVTKEPEKEKQQ--RAEEGRERAKRQKEVRES	1912
XP_001090295.1	1931	HREKKESTPSTASLPSYDSVTKEPEKEKQQ--RAEEGRERTKRQKEVRES	1978
XP_850134.1	1931	HREKKESTPSTASLPSYDSVTKEPEKEKQQ--RAEEGRERAKRQKEVRES	1978
NP_001180031.1	1931	HREKKESTPSTASLPSYDSVTKEPEKEKQQ--RAEEGRERAKRQKEVRES	1978
NP_001070967.1	1929	HREKKESTPSTASLPSYDSVTKEPEKEKQQ--RAEEGRERAKRQKEVRES	1976
NP_062139.2	1929	HRDKKESTPSTASLPSYDSVTKEPEKEKQQ--RAEEGRERAKRQKEVRES	1976
XP_003643160.1	1929	NREKKEGTPSTASLPSYDSVTKEPEKEKQQ--RAEEGRERAKRQKDVRES	1976
NP_001038648.1	1907	NQEKKEGTPSTASLPSYDSVTKEPEKEKQDDNNEGKGRKEKGRNQKDVRES	1956
NP_571703.1	1901	NQDKKEGTPSTASLPSYDSVTKEPEKEKLEE-SDSKGK--KGKNQKDVRES	1947
XP_004911965.1	1551	NMDKKEGTPSTASLPSYDSVTKEPEKEKQEE--RIEDAIRERAKKQKSVRES	1598

NP_055006.1	1979	KC	1980
XP_001141985.3	1913	KC	1914
XP_001090295.1	1979	KC	1980
XP_850134.1	1979	KC	1980
NP_001180031.1	1979	KC	1980
NP_001070967.1	1977	KC	1978
NP_062139.2	1977	KC	1978
XP_003643160.1	1977	KC	1978
NP_001038648.1	1957	KC	1958
NP_571703.1	1948	KF	1949
XP_004911965.1	1599	KC	1600