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 KSR3-Priapulul-caudatus/1-533 -----
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 KSR1-Paracentrotus-lividus/1-848 219 -- L P P M P T P P H T P T - F S K R - - - G K G K G T P P P S K - R L N N H - L P L P A P S N W N S V - - - 262
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 KSR1-Saccoglossus-kowaleskii/1-898 215 --- I W K I S P P P T P S S M V K K - - - G K M P S K G T P P P - K K K - L V V P E N N L K R S K S D E T 260
 KSR1-Branchiostoma-floridae/1-865 204 ----- D T H D - R T L - - - - - Y P S T G D S E T 219
 KSR1-Capitella-teleta/1-536
 KSR1-Rhipicephalus-sanguineus/1-864 222 ----- G S P S - G S L - I A L P D A L P P L T K S R S H 244
 KSR1-Limulus-polyphemus/1-603
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 KSR2-Danio-erio/1-966 272 P L V V N T M T P P G T P Q V R R R - - - N K L K A P G T P P P A S - R K L I H L L P G - F T A L H R S K S H 321
 KSR1-Homo-sapiens/1-923 264 A L - H S F I T P P T P Q L R R H - - - T K L K P P R T P P P P S - R K V F Q L L P S - F P T L T R S K S H 312
 KSR1-Danio-erio/1-898 185 R L H G H T S T P P I T P S R R R - - - H R L K P P C T P P P P S - R K V L H L L P N - I - T L T R S K S H 233
 KSR3-Clytia-hemispherica/1-517
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 KSR3-Rhipicephalus-sanguineus/1-675 1 M V - - V L C L V Y - - - - - - - - - - - S R P V - R P D S - - - 16
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 KSR3-Acropora-millepora/1-634
 KSR3-Priapulus-caudatus/1-533
 KSR3-Saccoglossus-kowaleskii/1-591 1 - - - - - - - - - - - - - - - M S - T E A D A D S M - Q 11
 KSR3-Ptychodera-flava/1-629 1 - - - - - M L F R S - H N I F A S R V A - I E A G K T S L - P - 23
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 KSR3-Capitella-teleta/1-642
 KSR3-Eucidaris-tribuloides/1-545 1 - - - - - - - - - - - - - - - M - Q P K E - - - - - 5
 KSR3-Strongylocentrotus-purpuratus/1-602 1 - - - - - - - - - - - - - - - M - Q P K E - - - - - 5
 KSR3-Paracentrotus-lividus-RNAseq/1-600 1 - - - - - - - - - - - - - - - M - Q P K E - - - - - 5
 KSR3-Notospermus-geniculatus/1-691 1 - M - Q - 2
 KSR3-Aplysia-californica/1-405
 KSR3-Amphiura-filiformis-partial/1-642
 KSR3-Platynereis-dumerilii/1-704
 KSR3-Patiria-miniata/1-779 12 R L - - S W C V V D - - - - - - - - - - - Q V T P F R Q - H H I F H V L R M - F P E E R I H L - Q 44
 KSR3-Anneissia-japonica/1-590
 KSR3-Parastichopus-parvimensis-partial/1-330

<i>BRAF-Capitella-teleta/1-419</i>	180	-----	QKQTCIQV-----	187
<i>BRAF-Priapulus-caudatus/1-368</i>	149	-----	QQRTSVSV-----	156
<i>CRAF-Homo-sapiens/1-648</i>	65	-----	KQRTVVNV-----	72
<i>ARAF-Homo-sapiens/1-606</i>	28	-----	KQRTVVTV-----	35
<i>RAF-Caenorhabditis-elegans/1-813</i>	94	-----	DQHSRVEV-----	101
<i>Raf-Rhipicephalus-sanguineus/1-803</i>	147	-----	QQRRTVQV-----	154
<i>BRAF-Limulus-caudatus/1-781</i>	149	-----	QQRSTVQV-----	156
<i>RAF-Ramazzottius-variornatus/1-885</i>	235	-----	NQKTTVEA-----	242
<i>RAF-Schmidtea-mediterranea/1-737</i>	133	-----	NQMTSVEV-----	140
<i>RAF-Amphimedon-queenslandica/1-904</i>	157	-----	QQR T I V P I-----	164
<i>RAF-Clytia-hemispherica/1-792</i>	184	-----	NQRTMIKY-----	191
<i>BRAF-Crassostrea-gigas/1-688</i>	111	-----	EQFSLVKI-----	118
<i>RAF-Nematostella-vectensis/1-730</i>	139	-----	QQR T M I K C-----	146
<i>RAF-Acropora-millepora/1-729</i>	135	-----	QQYTVLKC-----	142
<i>BRAF-Homo-sapiens/1-766</i>	164	-----	KQRTVVPA-----	171
<i>BRAF-Danio-erio/1-777</i>	174	-----	KQRTVVPA-----	181
<i>BRAF-Eucidaris-tribuloides-partial/1-725</i>	136	-----	QQR T S V L A-----	143
<i>BRAF-Strongylocentrotus-purpuratus/1-803</i>	125	-----	QQR T S V L A-----	132
<i>BRAF-Paracentrotus-lividus-RNAseq/1-746</i>	156	-----	QQR T S V L A-----	163
<i>BRAF-Paracentrotus-lividus-contigEST/1-716</i>	126	-----	QQR T S V L A-----	133
<i>BRAF-Saccoglossus-kowaleskii/1-733</i>	91	-----	QQR T T V V A-----	98
<i>RAF-Parastichopus-parvimensis/1-747</i>	111	-----	KQRTSVLA-----	118
<i>BRAF-Branchiostoma-floridae/1-831</i>	143	-----	HQRTRVQC-----	150
<i>BRAF-Trichoplax-adherens-partial/1-325</i>				
<i>BRAF-Patiria-miniata-partial/1-819</i>	210	-----	LMSHYRSHLKVLC-----	222
<i>KSR1-Caenorhabditis-elegans/1-771</i>				
<i>KSR2-Caenorhabditis-elegans/1-550</i>				
<i>KSR1-Amphimedon-queenslandica/1-1246</i>	386	YYNGHAPPTRTGSHPSIIHNSIANSNQS LANSTSTKSHPQVRR LMA GNYNFSR-SI	440	
<i>KSR1-Patiria-miniata/1-787</i>	292	E-----	ASLPHRIDIEGGGS-----	307
<i>KSR1-Anneissia-japonica/1-885</i>	270	-----	PSRTQVRV-----	279
<i>KSR1-Parastichopus-parvimensis/1-879</i>	282	-----	EVSPHKVDM SVV-----	302
<i>KSR1-Eucidaris-tribuloides/1-873</i>	260	-----	ST-----	264
<i>KSR1-Strongylocentrotus-purpuratus/1-869</i>	266	-----	N-----	268
<i>KSR1-Paracentrotus-lividus/1-848</i>	263	-----	D-----	265
<i>KSR1-Trichoplax-adherens/1-966</i>	272	I-----	NAGLLENNHNVD EATV-----	295
<i>KSR1-Schmidtea-mediterranea/1-954</i>	313	S-----	EEILTDLPNNIVNRST-----	342
<i>KSR1-Priapulus-caudatus-partial/1-248</i>	1	-----	-----	7
<i>KSR1-Clytia-hemispherica/1-881</i>	224	D-----	ANVQQR IHR GST-----	244
<i>KSR1-Nematostella-vectensis-partial/1-917</i>	262	E-----	ANICNR IISDVT-----	281
<i>KSR1-Acropora-millepora/1-957</i>	320	E-----	VNL AHR I H I T - N-----	338
<i>KSR1-Drosophila-melanogaster/1-966</i>	278	S-----	SS-----	285
<i>KSR1-Crassostrea-gigas/1-859</i>	269	Y-----	TNLHTNLH I KVV-----	289
<i>KSR1-Saccoglossus-kowaleskii/1-898</i>	261	-----	SLL-YK VNS-----	270
<i>KSR1-Branchiostoma-floridae/1-865</i>	220	Y-----	ISEDEEFPLSP-----	233
<i>KSR1-Capitella-teleta/1-536</i>				
<i>KSR1-Rhipicephalus-sanguineus/1-864</i>	245	E-----	AHLENRLDLGP-----	258
<i>KSR1-Limulus-polyphemus/1-603</i>				
<i>KSR3-Ramazzottius-variornatus-partial/1-451</i>				
<i>KSR2-Homo-sapiens/1-950</i>	315	E-----	FQLCHR VDEAHTPKAKKKSKPL-----	337
<i>KSR2-Danio-erio/1-966</i>	322	E-----	FQLGNRIDDAQTPKAKKKNKPL-----	344
<i>KSR1-Homo-sapiens/1-923</i>	313	E-----	SQ L GNR I DDV S SMR-----	327
<i>KSR1-Danio-erio/1-898</i>	234	E-----	SQ L GHR I EDTPTNKCVKKNKLF-----	256
<i>KSR3-Clytia-hemispherica/1-517</i>				
<i>KSR3-Schmidtea-mediterranea/1-666</i>	1	-----	MVDLNQ-----	11
<i>KSR3-Rhipicephalus-sanguineus/1-675</i>				
<i>KSR3-Limulus-polyphemus/1-686</i>				
<i>KSR3-Limulus-polyphemus-isoformB/1-671</i>				
<i>KSR3-Lingula-anatina/1-626</i>	1	-----	MDENR-----	5
<i>KSR3-Crassostrea-gigas/1-585</i>				
<i>KSR3-Nematostella-vectensis/1-640</i>				
<i>KSR3-Acropora-millepora/1-634</i>				
<i>KSR3-Priapulus-caudatus/1-533</i>				
<i>KSR3-Saccoglossus-kowaleskii/1-591</i>	12	T-----	L-----	18
<i>KSR3-Ptychodera-flava/1-629</i>	24	L-----	AKLAQICQIAE-----	35
<i>KSR3-Trichoplax-adherens/1-510</i>				
<i>KSR3-Capitella-teleta/1-642</i>				
<i>KSR3-Eucidaris-tribuloides/1-545</i>	6	-----	HLALIMEQLQ-----	15
<i>KSR3-Strongylocentrotus-purpuratus/1-602</i>	6	-----	HIALIMEQLQ-----	15
<i>KSR3-Paracentrotus-lividus-RNAseq/1-600</i>	6	-----	HIALIMEQLH-----	15
<i>KSR3-Notospermus-geniculatus/1-691</i>	3	T-----	ARMTAADD SVR-----	19
<i>KSR3-Aplysia-californica/1-405</i>				
<i>KSR3-Amphiura-filliformis-partial/1-642</i>				
<i>KSR3-Platynereis-dumerilii/1-704</i>	1	-----	MDV LQ-----	5
<i>KSR3-Patiria-miniata/1-779</i>	45	T-----	ADIATIMDILT-----	56
<i>KSR3-Anneissia-japonica/1-590</i>	1	-----	MEVFT-----	5
<i>KSR3-Parastichopus-parvimensis-partial/1-330</i>				

BRAF-Capitella-teleta/1-419 206 LV P E --- NCVVYKMN--- S P H K V P W D T D C G --- L -- L A G L Q L S V E L 240
 BRAF-Priapulus-caudatus/1-368 175 L T P E --- M C R V C V R G --- T R A W V S W D V D L T --- E - L E S L E I E I E L 209
 CRAF-Homo-sapiens/1-648 91 L Q P E --- C C A V F R L L H E H K G K K A R L D W N T D A A --- S - L I G E E L Q V D F 130
 ARAF-Homo-sapiens/1-606 54 L N Q D --- C C V V Y R L I K --- G R K T V T A W D T A I A --- P - L D G E E L I V E V 90
 RAF-Caenorhabditis-elegans/1-813 120 I T P Q --- L C H V N A S S --- D P K Q E S I E L S L T M E E I --- A S R L P G N E L W V H S 160
 Raf-Rhipicephalus-sanguineus/1-803 173 L T T E --- M C V V F K C S --- T R A V V D W N E D V S --- H - I E D D D I Q V E I 207
 BRAF-Limulus-caudatus/1-781 175 L T P H --- M C V V Y R C N --- P R V R I E W D T D I T --- S - L E G E E I T V E I 209
 RAF-Ramazzottius-variornatus/1-885 261 L V P S --- K C R V F K F D L K D T N K R I A V K W T D D V A --- S - I E G D R I V V E E 300
 RAF-Schmidtea-mediterranea/1-737 159 L D P K --- K L K A Y L K G --- K S I P W N T D A M --- R V A A T G E T I S V R Y 193
 RAF-Amphimedon-queenslandica/1-904 183 L T P N --- T C I V Y A E S --- P R L L I E W D T D T T --- Q - L S G K E V F V E Y 217
 RAF-Clytia-hemispherica/1-792 210 L T T D --- S Y R V Y N K A --- N R E L I A W D S D V S --- L - L D G A E V I V E M 244
 BRAF-Crassostrea-gigas/1-688 137 L S P E --- N C N V Y D S T --- T K M P I S W D I D M A --- N - L A G K D I N V C E 171
 RAF-Nematostella-vectensis/1-730 165 I A I E --- T C L I F H C G --- T R D I I S W D T H L F --- E - L E G E E I S V E M 199
 RAF-Acropora-millepora/1-729 161 L T P E --- A C L I C D C Y --- S R N I V G W D T D L S --- S F - V E D V E L S V E R 196
 BRAF-Homo-sapiens/1-766 190 L I P E --- C C A V Y R I Q --- D G E K K P I G W D T D I S --- W - L T G E E L H V E V 226
 BRAF-Danio-erio/1-777 200 L I P E --- C C A V Y R V Q --- D G E K K P I G W D T D I S --- W - L T G E E L H V E V 236
 BRAF-Eucidaris-tribuloides-partial/1-725 162 L T P E --- M C V V Y K R E --- P R V L V S W D T D M M --- Y - L A G E E I S V E L 196
 BRAF-Strongylocentrotus-purpuratus/1-803 151 L T P E --- M C I V Y R V N --- P R M A L S W D T D M M --- Y - L A G E E I S V E L 185
 BRAF-Paracentrotus-lividus-RNAseq/1-746 182 L T P E --- M C I V Y R T N --- P R M A L S W E T D M M --- Y - L A G E E I S V E L 216
 BRAF-Paracentrotus-lividus-contigEST/1-716 152 L T P E --- M C I V Y R T N --- P R M A L S W E T D M M --- Y - L A G E E I S V E L 186
 BRAF-Saccoglossus-kowaleskii/1-733 117 Y S S E --- T C L V F R K D --- T G C P V D W D T D M S --- W - L E G E E L L V Q V 151
 RAF-Parastichopus-parvimensis/1-747 137 L T P E --- M C V V Y K F N --- D D K K T Q I S W D T D M M --- Y - L S G E E I T V E L 173
 BRAF-Branchiostoma-floridae/1-831 169 V S A E --- T C R V F R I S --- P R V M V E W D T D M S --- W - L E G E E I S V E I 203
 BRAF-Trichoplax-adherens-partial/1-325
 BRAF-Patiria-miniata-partial/1-819 241 L T V E --- M C N V Y K R Q --- P R H P V A W D T D M M --- Y - L A G E E --- 270
 KSR1-Caenorhabditis-elegans/1-771 170 I --- V T P S P K F --- N V P S L S --- V T S --- A - K M I --- 190
 KSR2-Caenorhabditis-elegans/1-550 49 S --- V T S S N P I --- N A P P P T --- A T S --- S S S V L --- 70
 KSR1-Amphimedon-queenslandica/1-1246 485 L P L --- I Q C S V E Q S E F --- P S S S V K --- S H S V P R --- L A N L --- 513
 KSR1-Patiria-miniata/1-787 348 --- --- M S P H --- --- K G M F N --- 356
 KSR1-Anneissia-japonica/1-885 305 --- G Q --- T S P R K --- S S --- P --- 314
 KSR1-Parastichopus-parvimensis/1-879 333 R R N S H --- S S P F R --- T D P N R L --- D --- S P M V L --- 354
 KSR1-Eucidaris-tribuloides/1-873 305 --- R A N --- H S P S R --- K I - S P G --- S --- V G M L P --- 323
 KSR1-Strongylocentrotus-purpuratus/1-869 305 --- L S S --- P C R --- S E E R L T --- D --- I G V --- 320
 KSR1-Paracentrotus-lividus/1-848 299 --- L P S --- P S R --- S E E R L T --- D --- I G L --- 314
 KSR1-Trichoplax-adherens/1-966 328 M R T T D K N I Q C R L P L Q A A --- M L S G S C --- E A L --- L H D S Q N C T N D I 364
 KSR1-Schmidtea-mediterranea/1-954 375 L K V N D G --- N C L T N Q Q --- F Q P S V F Q F N Q D N L A V I N Y G M I E K E R R S S Y E E K L M --- 421
 KSR1-Priapulus-caudatus-partial/1-248 40 G Q S G H S --- S P S V S S P A R --- S P P G G --- 59
 KSR1-Clytia-hemispherica/1-881 263 I I T I --- --- P P S T --- D G E T D S D H S 279
 KSR1-Nematostella-vectensis-partial/1-917 295 L T I --- --- --- E I P K --- A E S G D Q L S V L S 312
 KSR1-Acropora-millepora/1-957 354 M T I --- --- --- Q I P K --- S V S G D I C --- 367
 KSR1-Drosophila-melanogaster/1-966 312 --- E Q --- L A R N R L P T D --- P S P D S H --- S S T --- S S D I F V D P 339
 KSR1-Crassostrea-gigas/1-859 316 L T L E N T --- H V V R R P S N --- E D P Y P S --- P S Q --- T S P S C L --- 344
 KSR1-Saccoglossus-kowalevskii/1-898 309 A S S G Q S --- S P R K N S P A R --- T P P T P H --- --- H F I H D --- 334
 KSR1-Branchiostoma-floridae/1-865 260 L R V I Q --- K K M K T P G T --- P P P S K S --- N L Q L P E Y Q L N P L T R S R S H E A Q L T H R 303
 KSR1-Capitella-teleta/1-536
 KSR1-Rhipicephalus-sanguineus/1-864 285 L E L A N --- C S P L S P S R --- S P P F V S --- P D Q Q --- G D A C F V --- 313
 BRAF-Limulus-polyphemus/1-603
 KSR3-Ramazzottius-variornatus-partial/1-451
 KSR2-Homo-sapiens/1-950 368 F F V G H --- A --- P F L P S --- T --- P P V H T 384
 KSR2-Danio-erio/1-966 375 F F F P --- --- N F V P S --- T --- P P V H S 389
 KSR1-Homo-sapiens/1-923
 KSR1-Danio-erio/1-898 284 A P A T A --- P --- Y T L P G --- T --- P T L Q E 300
 KSR3-Clytia-hemispherica/1-517
 KSR3-Schmidtea-mediterranea/1-666
 KSR3-Rhipicephalus-sanguineus/1-675
 KSR3-Limulus-polyphemus/1-686
 KSR3-Limulus-polyphemus-isoformB/1-671
 KSR3-Lingula-anatina/1-626
 KSR3-Crassostrea-gigas/1-585
 KSR3-Nematostella-vectensis/1-640
 KSR3-Acropora-millepora/1-634
 KSR3-Priapulus-caudatus/1-533
 KSR3-Saccoglossus-kowaleskii/1-591
 KSR3-Ptychodera-flava/1-629
 KSR3-Trichoplax-adherens/1-510
 KSR3-Capitella-teleta/1-642
 KSR3-Eucidaris-tribuloides/1-545
 KSR3-Strongylocentrotus-purpuratus/1-602
 KSR3-Paracentrotus-lividus-RNAseq/1-600
 KSR3-Notospermus-geniculatus/1-691
 KSR3-Aplysia-californica/1-405
 KSR3-Amphiura-filliformis-partial/1-642
 KSR3-Platynereis-dumerilii/1-704
 KSR3-Patiria-miniata/1-779
 KSR3-Anneissia-japonica/1-590
 KSR3-Parastichopus-parvimensis-partial/1-330

BRAF-Capitella-teleta/1-419
 BRAF-Priapulus-caudatus/1-368
 CRAF-Homo-sapiens/1-648
 ARAF-Homo-sapiens/1-606
 RAF-Caenorhabditis-elegans/1-813
 Raf-Rhipicephalus-sanguineus/1-803
 BRAF-Limulus-caudatus/1-781
 RAF-Ramazzottius-variornatus/1-885
 RAF-Schmidtea-mediterranea/1-737
 RAF-Amphimedon-queenslandica/1-904
 RAF-Clytia-hemispherica/1-792
 BRAF-Crassostrea-gigas/1-688
 RAF-Nematostella-vectensis/1-730
 RAF-Acropora-millepora/1-729
 BRAF-Homo-sapiens/1-766
 BRAF-Danio-erio/1-777
 BRAF-Eucidaris-tribuloides-partial/1-725
 BRAF-Strongylocentrotus-purpuratus/1-803
 BRAF-Paracentrotus-lividus-RNAseq/1-746
 BRAF-Paracentrotus-lividus-contigEST/1-716
 BRAF-Saccoglossus-kowaleskii/1-733
 RAF-Parastichopus-parvimensis/1-747
 BRAF-Branchiostoma-floridae/1-831
 BRAF-Trichoplax-adherens-partial/1-325
 BRAF-Patiria-miniata-partial/1-819
 KSR1-Caenorhabditis-elegans/1-771
 KSR2-Caenorhabditis-elegans/1-550
 KSR1-Amphimedon-queenslandica/1-1246
 KSR1-Patiria-miniata/1-787
 KSR1-Anneissia-japonica/1-885
 KSR1-Parastichopus-parvimensis/1-879
 KSR1-Eucidaris-tribuloides/1-873
 KSR1-Strongylocentrotus-purpuratus/1-869
 KSR1-Paracentrotus-lividus/1-848
 KSR1-Trichoplax-adherens/1-966
 KSR1-Schmidtea-mediterranea/1-954
 KSR1-Priapulus-caudatus-partial/1-248
 KSR1-Clytia-hemispherica/1-881
 KSR1-Nematostella-vectensis-partial/1-917
 KSR1-Acropora-millepora/1-957
 KSR1-Drosophila-melanogaster/1-966
 KSR1-Crassostrea-gigas/1-859
 KSR1-Saccoglossus-kowaleskii/1-898
 KSR1-Branchiostoma-floridae/1-865
 KSR1-Capitella-teleta/1-536
 KSR1-Rhipicephalus-sanguineus/1-864
 KSR1-Limulus-polyphemus/1-603
 KSR3-Ramazzottius-variornatus-partial/1-451
 KSR2-Homo-sapiens/1-950
 KSR2-Danio-erio/1-966
 KSR1-Homo-sapiens/1-923
 KSR1-Danio-erio/1-898
 KSR3-Clytia-hemispherica/1-517
 KSR3-Schmidtea-mediterranea/1-666
 KSR3-Rhipicephalus-sanguineus/1-675
 KSR3-Limulus-polyphemus/1-686
 KSR3-Limulus-polyphemus-isoformB/1-671
 KSR3-Lingula-anatina/1-626
 KSR3-Crassostrea-gigas/1-585
 KSR3-Nematostella-vectensis/1-640
 KSR3-Acropora-millepora/1-634
 KSR3-Priapulus-caudatus/1-533
 KSR3-Saccoglossus-kowaleskii/1-591
 KSR3-Ptychodera-flava/1-629
 KSR3-Trichoplax-adherens/1-510
 KSR3-Capitella-teleta/1-642
 KSR3-Eucidaris-tribuloides/1-545
 KSR3-Strongylocentrotus-purpuratus/1-602
 KSR3-Paracentrotus-lividus-RNAseq/1-600
 KSR3-Notospermus-geniculatus/1-691
 KSR3-Aplysia-californica/1-405
 KSR3-Amphiura-filiformis-partial/1-642
 KSR3-Platynereis-dumerilli/1-704
 KSR3-Patiria-miniata/1-779
 KSR3-Anneissia-japonica/1-590
 KSR3-Parastichopus-parvimensis-partial/1-330

319 AENVSAAG-----LLSPPTSHPR-----G 337
 281 AHNDKALGMGA-----LASPSNVARSPSPSPVRRSAP 312
 197 PNSTIGDSG-----VPALEPSL-TMRRMRRESVSRMPV 226
 157 SVQDLSGGS-----RQHEAP--SNRPLNELLPQGP 185
 235 GIA SQVE-GPDRSVAEIVLAN-LAPTS---GQSPAATPD-SSHPDLTSLIKRTGG 282
 279 AMPDMVGG-PQYE-SCV-----YPPFMP--PGG-GGEPVLSPT 312
 280 AMNNTASNMLQTT-GDS-----YSPYASN-----YQY-QRQP--AVT 312
 371 AKMFL-AN-DAN-GEA-----FLPYGL----- 389
 256 -----NYGGESSAGYSNKP-----NTS 272
 288 SQHP--KPD--D-----SPQ-----PSSP-----VPH 306
 316 AKQNP-----N----- 321
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 291 VSKFF-EHHP-IPQ-EEASLAET-----ALTS-GSSPSAPASDSIGPQILTS--PSP 336
 301 ASKFL-VHHP-ITQ-EEVSEGT-----TPISEMCP-SLPPSESTGSLCHPT--VSP 346
 267 ALRRDDE-----GPPYDP-----FPEP-D--SP 286
 257 ALRKEEDY-----NDYPDT-----FP--D--EP 275
 288 ALRKEEDY-----DYDP-----FP--D--EP 305
 258 ALRKEEDY-----DYDP-----FP--D--EP 275
 219 CLKGTGAEMPSDS-RSVFLDSDTEQ-----NDPGY--GKGMTLP--G 256
 244 GMA-----EGKD---D-SRKNAGPYGEMDEAEEN---ESPVTTP--S 282
 274 PIQSLLAQNSN---DVFIQPTTSSQPGGS-MQGGSLRTPSTGQSYLSTQPI--PT 321
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 322 ----LLMKNVD---E-D-----EDPYG-----EEPES----- 340
 297 SV----- 298
 173 TA----- 174
 610 MMSPSH-----ESVYQVNKTGHLTSSGEY---G---S 635
 425 -----P-----L---L---I 428
 428 THQGYA-----SPSP-----I---F---H 440
 444 ENPVPN----- 449
 427 EAVNID-----NS-----L---G---R 437
 418 NSGRTA-----SP-----I---M---S 428
 413 EQARTE-----KP----- 420
 463 LHDNLN-----LSQD-----T---S---K 475
 516 -----KSP-----A---D---R 522
 150 FFSGG-----EENPSVP-----A---A---A 165
 369 DNE SRA-----QVDD-----R---K---K 381
 404 RRYEY-----RSLP-----I---I---K 416
 461 RRAWEY-----RSLP-----S---T---R 473
 432 EQ-CGY-----ASLP-----H---V---H 443
 413 KHRDGS-----PSP-----A---E---R 425
 430 TN-PAM-----RQAA-----A---E---A 441
 392 QG-TAQ-----WQN-----G---S--- 403
 51 R S-GNE-----SPN-----I---L---R 61
 395 QK-GGM-----QSPN-----H---A---A 406
 132 KN-EGN-----YSP-----L---N---Q 143
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 471 RTES-----VPCDINN--P-----LRK 485
 490 RTES-----VPCDINN--P-----L 502
 403 RTES-----VPSDINN--P-----VDR 417
 384 RTES-----VPSDINN--P-----VDR 398
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 91 LMND-K-----PPLSFLDPSSKNP-----L---SSTS-S 114
 124 VCHE-V-----LTVSP-LMDQ-PFLFSSGDH-----G---T-LASA 152
 85 EKSA-F-----SPTATENN-----L---P-RSSF 104
 81 EKT-D-V-----ISLDTTESN-----E---P-RMSA 100
 92 QANE-I-----NSNMDLSVLQSL-----NN---L----- 111
 57 TTNE-T-----PVI-FHSRPHRPL-----I-RRS-----LKR 80
 72 FGKD-V-----KRP-S-DTGRGLA-----QMR 91
 75 NARE-K-----SIHQANVEHLV-----RKR 95
 67 QTHE-V-----NRNKLPSI-----Y 80
 89 -----QRLR-PCRALLVEDKQFV-----A---EDR 109
 106 ---R-A-----SQR-LRQWP-SVERRRKNS-----A---KA 128
 ----- 73
 73 QTT-P-D-----DQDLC-SAKHALQ--HQES---Y---CK 96
 86 -----QTAQRNLDIQT--SHDA---S---GK 104
 86 -----NVVPTCHAALAEASRRH--Q---S-AN 106
 86 -----NSVP-SCHTALE-ASRRQ--Q---SVN 105
 123 QANE-V-----NSNV-----VVV-PDDGRH-----Y---CHH 144
 ----- 90
 90 -----TQRSQ-GEFLT-PQHRRH-----H---HQRSGP 112
 97 QANE-V-----NSNL-----LLVP-CHGR-----G---HSYSEK 121
 141 LAHQ-A-----EPSYEP-MSTSTP-QHRE-----G---LSR 167
 90 -----E-Q-----PQTFCTCVQKPRPILHRQ-----H---SVT 113

BRAF-Capitella-teleta/1-419	338	GG	-----SH	PQ	---A	IPRR	-----ARSSAQ	IPQRE	359
BRAF-Priapulul-caudatus/1-368	313		-----				-----	PRSSQTAPLAHRE	328
CRAF-Homo-sapiens/1-648	227	SS	-----				-----	QHRY--STPHAF	255
ARAF-Homo-sapiens/1-606	186	SP	-----				-----	RTQH--CDPEHF	210
RAF-Caenorhabditis-elegans/1-813	283	VK	-----				-----	RHPM--AVSPQ	308
Raf-Rhipicephalus-sanguineus/1-803	313		-----				-----	SAPLS--VPR	330
BRAF-Limulus-caudatus/1-781	313		-----				-----	SPKN--VPR	330
RAF-Ramazzottius-variornatus/1-885	390		-----				-----	PSV	402
RAF-Schmidtea-mediterranea/1-737	273		-----				-----	PLS	285
RAF-Amphimedon-queenslandica/1-904	307	SP	-----				-----	TVPL--LVPTK	335
RAF-Clytia-hemispherica/1-792	322		-----				-----	SNT--NIP	337
BRAF-Crassostrea-gigas/1-688	249		-----				-----	ADA--GFS	264
RAF-Nematostella-vectensis/1-730	277		-----				-----	D--DAETT	290
RAF-Acropora-millepora/1-729	275		-----				-----	VA--NVS	289
BRAF-Homo-sapiens/1-766	337	SK	-----				-----	SIP	361
BRAF-Danio-erio/1-777	347	SK	-----				-----	SIP	371
BRAF-Eucidaris-tribuloides-partial/1-725	287	SS	-----				-----	DD--DDQDF	304
BRAF-Strongylocentrotus-purpuratus/1-803	276	ES	-----				-----	SS--DDQDF	293
BRAF-Paracentrotus-lividus-RNAseq/1-746	306	ES	-----				-----	SS--DDQDF	323
BRAF-Paracentrotus-lividus-contigEST/1-716	276	ES	-----				-----	SS--DDQDF	293
BRAF-Saccoglossus-kowaleskii/1-733	257		-----				-----	AT--SQPHI	272
RAF-Parastichopus-parvimensis/1-747	283	SS	-----				-----	SHS--QPREI	300
BRAF-Branchiostoma-floridae/1-831	322	PS	-----				-----	PAQ--LIP	339
BRAF-Trichoplax-adherens-partial/1-325			-----				-----		
BRAF-Patiria-miniata-partial/1-819	341	P	-----				-----	STP--ITT	357
KSR1-Caenorhabditis-elegans/1-771			-----				-----		
KSR2-Caenorhabditis-elegans/1-550			-----				-----		
KSR1-Amphimedon-queenslandica/1-1246	636		-----				-----	CN--TP	649
KSR1-Patiria-miniata/1-787	429		-----				-----	R--R	429
KSR1-Anneissia-japonica/1-885	441		-----				-----	R--R	441
KSR1-Parastichopus-parvimensis/1-879			-----				-----		
KSR1-Eucidaris-tribuloides/1-873	438		-----				-----	S--S	438
KSR1-Strongylocentrotus-purpuratus/1-869	429		-----				-----	H--H	429
KSR1-Paracentrotus-lividus/1-848			-----				-----		
KSR1-Trichoplax-adherens/1-966	476		-----				-----	IN--L	478
KSR1-Schmidtea-mediterranea/1-954			-----				-----		
KSR1-Priapulul-caudatus-partial/1-248	166		-----				-----	CS--LAVL	175
KSR1-Clytia-hemispherica/1-881	382		-----				-----	LS--LPP	393
KSR1-Nematostella-vectensis-partial/1-917			-----				-----		
KSR1-Acropora-millepora/1-957			-----				-----		
KSR1-Drosophila-melanogaster/1-966			-----				-----		
KSR1-Crassostrea-gigas/1-859			-----				-----		
KSR1-Saccoglossus-kowaleskii/1-898			-----				-----		
KSR1-Branchiostoma-floridae/1-865			-----				-----		
KSR1-Capitella-teleta/1-536			-----				-----		
KSR1-Rhipicephalus-sanguineus/1-864			-----				-----		
KSR1-Limulus-polyphemus/1-603			-----				-----		
KSR3-Ramazzottius-variornatus-partial/1-451			-----				-----		
KSR2-Homo-sapiens/1-950	486		-----				-----	PPRYSD	491
KSR2-Danio-erio/1-966	503		-----				-----	RYSD	506
KSR1-Homo-sapiens/1-923	418		-----				-----	AA-EH	422
KSR1-Danio-erio/1-898	399		-----				-----	PEAPQ	404
KSR3-Clytia-hemispherica/1-517			-----				-----		
KSR3-Schmidtea-mediterranea/1-666	115		-----				-----	ISN--SNKHL	140
KSR3-Rhipicephalus-sanguineus/1-675	153	SQ	-----				-----	MSNT	161
KSR3-Limulus-polyphemus/1-686	105	SD	-----				-----	IYNI	114
KSR3-Limulus-polyphemus-isoformB/1-671	101	NY	-----				-----	CKK	110
KSR3-Lingula-anatina/1-626	112		-----				-----	CKK	122
KSR3-Crassostrea-gigas/1-585	81		-----				-----	L--L	83
KSR3-Nematostella-vectensis/1-640	92	NQNI	-----				-----	KI--KI	95
KSR3-Acropora-millepora/1-634	96	ERSL	-----				-----		99
KSR3-Priapulul-caudatus/1-533	81		-----				-----		83
KSR3-Saccoglossus-kowaleskii/1-591	110		-----				-----	T--T	116
KSR3-Ptychodera-flava/1-629	129		-----				-----	S--S	135
KSR3-Trichoplax-adherens/1-510			-----				-----		
KSR3-Capitella-teleta/1-642	97		-----				-----		107
KSR3-Eucidaris-tribuloides/1-545			-----				-----		
KSR3-Strongylocentrotus-purpuratus/1-602			-----				-----		
KSR3-Paracentrotus-lividus-RNAseq/1-600			-----				-----		
KSR3-Notospermus-geniculatus/1-691	145		-----				-----	P	153
KSR3-Aplysia-californica/1-405			-----				-----		
KSR3-Amphiura-filiformis-partial/1-642	113	SSLRL	-----				-----	PRDS	167
KSR3-Platynereis-dumerillii/1-704	122	SRDLSS	-----				-----	SR	164
KSR3-Patiria-miniata/1-779	168		-----				-----	FQQ	212
KSR3-Anneissia-japonica/1-590	114		-----				-----	IQD--IQD	116
KSR3-Parastichopus-parvimensis-partial/1-330			-----				-----		

BRAF-Capitella-teleta/1-419
 BRAF-Priapul-us-caudatus/1-368
 CRAF-Homo-sapiens/1-648
 ARAF-Homo-sapiens/1-606
 RAF-Caenorhabditis-elegans/1-813
 Raf-Rhipicephalus-sanguineus/1-803
 BRAF-Limulus-caudatus/1-781
 RAF-Ramazzottius-variornatus/1-885
 RAF-Schmidtea-mediterranea/1-737
 RAF-Amphimedon-queenslandica/1-904
 RAF-Clytia-hemispherica/1-792
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 RAF-Acropora-millepora/1-729
 BRAF-Homo-sapiens/1-766
 BRAF-Danio-erio/1-777
 BRAF-Eucidaris-tribuloides-partial/1-725
 BRAF-Strongylocentrotus-purpuratus/1-803
 BRAF-Paracentrotus-lividus-RNAseq/1-746
 BRAF-Paracentrotus-lividus-contigEST/1-716
 BRAF-Saccoglossus-kowaleskii/1-733
 RAF-Parastichopus-parvimensis/1-747
 BRAF-Branchiostoma-floridae/1-831
 BRAF-Trichoplax-adherens-partial/1-325
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 KSR1-Amphimedon-queenslandica/1-1246
 KSR1-Patiria-miniata/1-787
 KSR1-Anneissia-japonica/1-885
 KSR1-Parastichopus-parvimensis/1-879
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 KSR1-Strongylocentrotus-purpuratus/1-869
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 KSR1-Schmidtea-mediterranea/1-954
 KSR1-Priapul-us-caudatus-partial/1-248
 KSR1-Clytia-hemispherica/1-881
 KSR1-Nematostella-vectensis-partial/1-917
 KSR1-Acropora-millepora/1-957
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 KSR1-Crassostrea-gigas/1-859
 KSR1-Saccoglossus-kowaleskii/1-898
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 KSR3-Rhipicephalus-sanguineus/1-675
 KSR3-Limulus-polyphemus/1-686
 KSR3-Limulus-polyphemus-isoformB/1-671
 KSR3-Lingula-anatina/1-626
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 KSR3-Nematostella-vectensis/1-640
 KSR3-Acropora-millepora/1-634
 KSR3-Priapul-us-caudatus/1-533
 KSR3-Saccoglossus-kowaleskii/1-591
 KSR3-Ptychodera-flava/1-629
 KSR3-Trichoplax-adherens/1-510
 KSR3-Capitella-teleta/1-642
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 KSR3-Strongylocentrotus-purpuratus/1-602
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 KSR3-Aplysia-californica/1-405
 KSR3-Amphiura-filiformis-partial/1-642
 KSR3-Platynereis-dumerilii/1-704
 KSR3-Patiria-miniata/1-779
 KSR3-Anneissia-japonica/1-590
 KSR3-Parastichopus-parvimensis-partial/1-330

360 R S T S A P P ----- NV S M N L V N A G D I P S L E - E ----- 382
 329 R S T S A P P ----- N V C I N L V Q P Q V S L E L D D Q ----- 352
 256 R S T S T P P ----- N V H M V S T T L P V D S R M I E D ----- 279
 211 R S T S T P P ----- N V H M V S T T A P M D S N L I Q L ----- 234
 309 R S S S A P P ----- N I N A I N D E A T V Q H N Q R I L ----- 332
 331 R S T S A P P ----- N V C Y N L V S G S D F S A E D F A ----- 354
 331 R S T S A P P ----- N V C Y N T V N - H D M T L E E F A ----- 353
 403 R S T S A P P ----- D V N T V V T V C E P L P A V - Q S ----- 425
 286 R S S S T P P ----- N V S N N I I T Q G L N H N N P N S ----- 309
 336 R S I S T P P ----- N V L Y N S P A N Y D P Y P T ----- 356
 338 R S I S A P P ----- N V N M I G Q P D S G L I E A V L E ----- 361
 265 R S Q S A P P ----- N V N I N I T D T H P D H L E ----- 285
 291 R S I S A P P ----- N V C I N A V G T D N F L E E L ----- 312
 290 R S I S A P P ----- D V Y R S R I N G C T A A L ----- 310
 362 R S S S A P P ----- N V H I N T I E P V N I D D L I R D ----- 385
 372 R S S S A P P ----- N V H I N T I E P V N I D D L I R D ----- 395
 305 R S T S A P P ----- N I C Q N A V N V P V H Q S K - D G ----- 327
 294 R S T S A P P ----- N I C Q N A V N V P G Q Q F D - S E ----- 316
 324 R S T S A P P ----- N I C Q N A V N V P G Q Q F D - S E ----- 346
 294 R S T S A P P ----- N I C Q N A V N V P G Q Q F D - S E ----- 316
 273 R S T S A P P ----- S I N L V T G D H D S K T L E - E L ----- 295
 301 R S T S A P P ----- N V S F N A V N V N L T K D N - L D ----- 323
 340 R S I S A P P ----- N V C I N M V G N D A L S Q L - E E ----- 362

 358 R S T S A P P ----- N V S F N A V N A I S N E A F - S D ----- 380
 299 ----- P G S R - S M ----- N ----- 305
 175 ----- S I S K - S L ----- T ----- 181
 650 ----- T F F I H - D L N R E P S K N ----- Q F S - P V T S T K R P ----- 674
 430 ----- R - T A V S E A ----- S L P Q S ----- 441
 442 ----- R - P A P I E ----- P P ----- 449

 439 ----- H - E ----- 440
 430 ----- K - P A R T D ----- P P ----- 437

 479 ----- K - K L N A S P S R M ----- T S ----- 490
 523 ----- K N S E N ----- S I A N ----- 531
 176 ----- G H V R - Q G R H Q G H R P ----- T V S V S V S A F ----- 197
 394 ----- S L V P I K - R T N S E P S ----- N F A N R V R S I ----- 415
 417 ----- S Q V K - R T N S E P - F ----- N I A H N V G E M I R E ----- 439
 474 ----- S G F K - R T N S E P - S ----- S I A L Q V E G L K Q ----- 495
 444 ----- G A A K - G S P L V ----- 452
 426 ----- N ----- 426
 442 ----- T A Q S - G - H G I N N ----- N P S V K V ----- 457
 404 ----- P I I T - S G R Y A K V A A ----- N T A L T V Y S T D ----- 426
 62 ----- H N I N - H T ----- V S L P V G A ----- 74
 407 ----- A H L G - S S P L H - G C ----- S S L R S E G ----- 424
 144 ----- A H F P - G A P N F - I K ----- S D S G R K K K ----- 162

 492 ----- L H I S Q T L P K T N ----- K I N ----- 505
 507 ----- L H I S Q T L P K T N ----- K I N ----- 520
 423 ----- F G ----- T L P K A ----- L T K ----- 432
 405 ----- F G ----- T L P K A ----- I T K ----- 414

 141 ----- K F P N G N I P H R R D ----- S G I F N I ----- 158
 162 ----- A A P ----- P ----- P P R S P T ----- 171
 115 ----- A S L ----- S ----- G K N N S S ----- 124
 111 ----- S P S ----- S ----- G N T N G S ----- 120
 123 ----- T S A ----- 125
 84 - Q - I P F R K T R L ----- K Q E - - S K E V ----- 99
 96 ----- L P R K Y T D A ----- K G R I R ----- 108
 100 ----- L P ----- L N A ----- R G K I R ----- 109
 84 V S V P A Q ----- V A ----- R P A T C S ----- 97
 117 ----- M P R ----- S P - R Q A F I S M ----- 128
 136 ----- M P T ----- S V - T D S A F G E ----- 147
 1 ----- M T T T ----- I Q T T S - R D I I L S T - Q P E D ----- 20
 108 ----- S S S T K S E K S ----- F N G K D S N I F S S ----- 127
 105 - V V S S Q - A P K R K D S T D S ----- F H E ----- 122
 107 - S T P V P - T H R R K S S T E S ----- F R E ----- 124
 106 - S T P L P - L K R R K S T E S ----- F R E ----- 123
 154 ----- S R E S K S S T ----- D S N I F S ----- 167

 168 - Q S P V E V H Q ----- T E Q Q Q P S T R ----- Y H L N P E - Q E D R ----- 194
 165 - S S P S ----- T P R S K - E D P S K D ----- A N I F T K ----- 185
 213 R Y S P L P P Y Q D H A K T A H S E T V P K T E D L T N Q N P D Y H G N Q M T S T P K R P I I K T Q L V Q E G T ----- 268
 117 ----- A V I S P S ----- 122

BRAF-Capitella-teleta/1-419	405	-----FV-----A-----	407
BRAF-Priapulus-caudatus/1-368		-----	
CRAF-Homo-sapiens/1-648	289	-----SP-----SA-----L-----	293
ARAF-Homo-sapiens/1-606	244	-----AG-----SR-----GGSDGTP-----	254
RAF-Caenorhabditis-elegans/1-813	348	-----TGSLLST-----	354
Raf-Rhipicephalus-sanguineus/1-803	366	-----SSPQ-----A	370
BRAF-Limulus-caudatus/1-781	365	-----SSPL-----T	369
RAF-Ramazzottius-variornatus/1-885	443	-----ILTPA-----T	448
RAF-Schmidtea-mediterranea/1-737	319	-----DI-----GKIPG-----HT-----N-----YLT-----	332
RAF-Amphimedon-queenslandica/1-904	373	-----VSG-----SY-----VDNHL-----H-----S	385
RAF-Clytia-hemispherica/1-792	374	-----TI-----S-----GG-----LT-----RQMS-----GP-----S	388
BRAF-Crassostrea-gigas/1-688		-----	
RAF-Nematostella-vectensis/1-730	325	-----TI-----SAVEG-----N-----	332
RAF-Acropora-millepora/1-729	319	-----C-----KE-----DGSVSV-----	328
BRAF-Homo-sapiens/1-766	392	-----GG-----ST-----TGLS-----	399
BRAF-Danio-erio/1-777	403	-----GG-----ST-----TGLS-----	410
BRAF-Eucidaris-tribuloides-partial/1-725		-----	
BRAF-Strongylocentrotus-purpuratus/1-803	341	-----NI-----HGAHG-----GG-----HGKVLTPN-----S	358
BRAF-Paracentrotus-lividus-RNAseq/1-746		-----	
BRAF-Paracentrotus-lividus-contigEST/1-716		-----	
BRAF-Saccoglossus-kowaleskii/1-733	318	-----LQNSP-----	322
RAF-Parastichopus-parvimensis/1-747	338	-----LIGSP-----	342
BRAF-Branchiostoma-floridae/1-831	386	-----VPP-----	388
BRAF-Trichoplax-adherens-partial/1-325		-----	
BRAF-Patiria-miniata-partial/1-819	398	-----HAVSP-----	402
KSR1-Caenorhabditis-elegans/1-771	309	-----F-----QFPD-----TA-----	315
KSR2-Caenorhabditis-elegans/1-550		-----	
KSR1-Amphimedon-queenslandica/1-1246	698	-----LEV-----P-----QL-----FLPG-----VR-----SHSNYRHP-----	717
KSR1-Patiria-miniata/1-787	444	-----DHR-----Y-----PP-----QVPA-----FS-----H-----	456
KSR1-Anneissia-japonica/1-885	452	-----SP-----EN-----QT-----SLQA-----FA-----H-----	464
KSR1-Parastichopus-parvimensis/1-879	451	-----G-----P-----CSP-----FS-----P-----	458
KSR1-Eucidaris-tribuloides/1-873	442	-----P-----P-----PAVP-----SS-----T-----	449
KSR1-Strongylocentrotus-purpuratus/1-869	439	-----V-----V-----VNVA-----SS-----T-----	446
KSR1-Paracentrotus-lividus/1-848	421	-----V-----V-----VTVA-----SS-----T-----	428
KSR1-Trichoplax-adherens/1-966	491	-----A-----A-----PYNS-----YN-----SGYNSI-----	503
KSR1-Schmidtea-mediterranea/1-954	532	-----ACAV-----FQ-----GS-----	539
KSR1-Priapulus-caudatus-partial/1-248	205	-----WSYK-----EE-----ERPD-----FT-----WLQKHL-----	222
KSR1-Clytia-hemispherica/1-881	434	-----GASS-----SM-----VGA-----SH-----RGA-----SA-----	450
KSR1-Nematostella-vectensis-partial/1-917	460	-----KNYP-----DM-----DF-----N-----YR-----QGQEVV-----	476
KSR1-Acropora-millepora/1-957	512	-----KCNS-----EI-----PV-----Q-----FS-----HKGSAT-----	528
KSR1-Drosophila-melanogaster/1-966	453	-----KKS-----TL-----GKPL-----HQ-----QH-----	465
KSR1-Crassostrea-gigas/1-859	431	-----K-----P-----SK-----NS-----SVPA-----FH-----TT-----	444
KSR1-Saccoglossus-kowaleskii/1-898	458	-----S-----L-----SP-----ND-----NG-----N-----YL-----YH-----	470
KSR1-Branchiostoma-floridae/1-865	431	-----LTQD-----QM-----QVPP-----FP-----HG-----	444
KSR1-Capitella-teleta/1-536	77	-----SMVH-----AA-----SVPA-----FA-----AQ-----	90
KSR1-Rhipicephalus-sanguineus/1-864	427	-----GGR-----P-----AI-----CLPP-----FH-----GA-----	440
KSR1-Limulus-polyphemus/1-603	165	-----R-----L-----HP-----SI-----NIP-----A-----FS-----GP-----	178
KSR3-Ramazzottius-variornatus-partial/1-451		-----	
KSR2-Homo-sapiens/1-950		-----	
KSR2-Danio-erio/1-966		-----	
KSR1-Homo-sapiens/1-923		-----	
KSR1-Danio-erio/1-898		-----	
KSR3-Clytia-hemispherica/1-517	1	-----MDN-----KMAD-----	7
KSR3-Schmidtea-mediterranea/1-666	174	-----PTKSKTENNVS-----SR-----NLKQPSPKLP-----PKR-----SS-----SNGAGCGYVSI-----	212
KSR3-Rhipicephalus-sanguineus/1-675	210	-----ARKKLVLSHQ-----PA-----AAT-----P-----CT-----	230
KSR3-Limulus-polyphemus/1-686	172	-----TRKKLKAFLKNSQKSAV-----IG-----LTCSSR-----ACT-----	201
KSR3-Limulus-polyphemus-isoformB/1-671	168	-----TRKKLKAFLKNC-----PRS-----NS-----AVLS-----LTCSSR-----ACT-----	197
KSR3-Lingula-anatina/1-626	158	-----ETSSR-----SYSSRASS-----	170
KSR3-Crassostrea-gigas/1-585	138	-----RNV-----RTIAIDPL-----S-----	150
KSR3-Nematostella-vectensis/1-640	155	-----SPARYTR-----D-----GD-----L-----MHDS-----PR-----R-----FT-----SPA-----HEQY-----LP-----CP-----	185
KSR3-Acropora-millepora/1-634	150	-----RY-----PT-----PEKY-----PTHVCE-----NLTT-----IDK-----P-----LLAS-----PR-----S-----IHSEHLLSS-----	187
KSR3-Priapulus-caudatus/1-533	133	-----DVI-----	135
KSR3-Saccoglossus-kowaleskii/1-591	142	-----TVAVL-----NDSVCTDDVF-----IDS-----GIHT-----PLN-----LN-----	168
KSR3-Ptychodera-flava/1-629	166	-----DCTVL-----N-----DSMNDEVF-----VDS-----GIHT-----PLN-----LTS-----	192
KSR3-Trichoplax-adherens/1-510	51	-----DKT-----ST-----F-----LEMHCDSH-----SD-----PNICT-----PG-----VK-----N	77
KSR3-Capitella-teleta/1-642	165	-----SKVSLD-----LT-----G-----CE-----I-----SLSSA-----HS-----P-----RES-----HR-----GY-----HAS-----V	196
KSR3-Eucidaris-tribuloides/1-545	135	-----ATEQRL-----SVS-----S-----Y-----TS-----NR-----K-----G-----RI-----SR-----S	157
KSR3-Strongylocentrotus-purpuratus/1-602	138	-----TTRQRL-----STT-----TV-----PKD-----SL-----GR-----V-----SR-----S	160
KSR3-Paracentrotus-lividus-RNAseq/1-600	137	-----TTRQRL-----STA-----AAAE-----STR-----KDHT-----L-----GL-----V-----SR-----	162
KSR3-Notospermus-geniculatus/1-691	209	-----DTLQ-----G-----FS-----F-----SPA-----RHL-----SD-----GD-----G-----END-----PH-----V-----ST-----TE	237
KSR3-Aplysia-californica/1-405		-----	
KSR3-Amphiura-filiformis-partial/1-642	232	-----EDRDS-----L-----CLA-----P-----E-----S-----ST-----T-----D-----S-----	248
KSR3-Platynereis-dumerilli/1-704	219	-----SI-----H-----SNR-----SQ-----DLL-----QL-----LA-----H-----MP-----E-----EF-----D-----DR-----G-----S-----CI-----H-----H	249
KSR3-Patiria-miniata/1-779	321	-----K-----W-----SR-----G-----ER-----SK-----TV-----DV-----TR-----KR-----DA-----EM-----K-----S-----LI-----AT-----WP-----P-----H-----G-----H-----SH-----I-----KA-----	361
KSR3-Anneissia-japonica/1-590	148	-----AF-----N-----FN-----FS-----S-----MP-----SS-----P-----S-----G-----	162
KSR3-Parastichopus-parvimensis-partial/1-330		-----	

BRAF-Capitella-teleta/1-419
BRAF-Priapulus-caudatus/1-368
CRAF-Homo-sapiens/1-648
ARAF-Homo-sapiens/1-606
RAF-Caenorhabditis-elegans/1-813
Raf-Rhipicephalus-sanguineus/1-803
BRAF-Limulus-caudatus/1-781
RAF-Ramazzottius-variornatus/1-885
RAF-Schmidtea-mediterranea/1-737
RAF-Amphimedon-queenslandica/1-904
RAF-Clytia-hemispherica/1-792
BRAF-Crassostrea-gigas/1-688
RAF-Nematostella-vectensis/1-730
RAF-Acropora-millepora/1-729
BRAF-Homo-sapiens/1-766
BRAF-Danio-erio/1-777
BRAF-Eucidaris-tribuloides-partial/1-725
BRAF-Strongylocentrotus-purpuratus/1-803
BRAF-Paracentrotus-lividus-RNAseq/1-746
BRAF-Paracentrotus-lividus-contigEST/1-716
BRAF-Saccoglossus-kowaleskii/1-733
RAF-Parastichopus-parvimensis/1-747
BRAF-Branchiostoma-floridae/1-831
BRAF-Trichoplax-adherens-partial/1-325
BRAF-Patiria-miniata-partial/1-819
KSR1-Caenorhabditis-elegans/1-771
KSR2-Caenorhabditis-elegans/1-550
KSR1-Amphimedon-queenslandica/1-1246
KSR1-Patiria-miniata/1-787
KSR1-Anneissia-japonica/1-885
KSR1-Parastichopus-parvimensis/1-879
KSR1-Eucidaris-tribuloides/1-873
KSR1-Strongylocentrotus-purpuratus/1-869
KSR1-Paracentrotus-lividus/1-848
KSR1-Trichoplax-adherens/1-966
KSR1-Schmidtea-mediterranea/1-954
KSR1-Priapulus-caudatus-partial/1-248
KSR1-Clytia-hemispherica/1-881
KSR1-Nematostella-vectensis-partial/1-917
KSR1-Acropora-millepora/1-957
KSR1-Drosophila-melanogaster/1-966
KSR1-Crassostrea-gigas/1-859
KSR1-Saccoglossus-kowaleskii/1-898
KSR1-Branchiostoma-floridae/1-865
KSR1-Capitella-teleta/1-536
KSR1-Rhipicephalus-sanguineus/1-864
KSR1-Limulus-polyphemus/1-603
KSR3-Ramazzottius-variornatus-partial/1-451
KSR2-Homo-sapiens/1-950
KSR2-Danio-erio/1-966
KSR1-Homo-sapiens/1-923
KSR1-Danio-erio/1-898
KSR3-Clytia-hemispherica/1-517
KSR3-Schmidtea-mediterranea/1-666
KSR3-Rhipicephalus-sanguineus/1-675
KSR3-Limulus-polyphemus/1-686
KSR3-Limulus-polyphemus-isoformB/1-671
KSR3-Lingula-anatina/1-626
KSR3-Crassostrea-gigas/1-585
KSR3-Nematostella-vectensis/1-640
KSR3-Acropora-millepora/1-634
KSR3-Priapulus-caudatus/1-533
KSR3-Saccoglossus-kowaleskii/1-591
KSR3-Ptychodera-flava/1-629
KSR3-Trichoplax-adherens/1-510
KSR3-Capitella-teleta/1-642
KSR3-Eucidaris-tribuloides/1-545
KSR3-Strongylocentrotus-purpuratus/1-602
KSR3-Paracentrotus-lividus-RNAseq/1-600
KSR3-Notospermus-geniculatus/1-691
KSR3-Aplysia-californica/1-405
KSR3-Amphiura-filliformis-partial/1-642
KSR3-Platynereis-dumerilii/1-704
KSR3-Patiria-miniata/1-779
KSR3-Anneissia-japonica/1-590
KSR3-Parastichopus-parvimensis-partial/1-330

408 - ALACML **P** G E L S L ----- 419

378 **P** L V D C T **P** L **G** S N S **P** S S ----- T C S S **P** - **P** G ----- G L I ----- 402
395 ----- S S H L ----- T L **P** H **P** S **G** S A - Y ----- K R H A F A **Y** A S Q R - 420
392 ----- K R R Q L ----- E L **P** C **P** G **G** S **P** - **G** ----- S - L A L **P** Y Q Q - - 414
474 ----- ----- ----- ----- D L I A S Q Q 480
333 ----- S L S **G** S H N A ----- T S N H S **G** H N S A ----- N N S Y S N F Y - - - 360
434 T **G** M D A M R I E R R R K **G** H ----- K R Q S ----- S A G H L D **Y** S **G** V E D 464
389 ----- S **G** R G R I T N T L F T **P** T S V S A **P** N S ----- **G** E N Y F D F N T A N S 421
305 ----- K E K R H A S ----- D G T C S K **P** T **P** K H ----- R Y **G** S Q - - - 327
333 ----- R L M R S S R H **G** R ----- H K S E S A T H **P** R I ----- N D I F H D N N V H **P** - 364
331 ----- S S K L **P** N R R H S R ----- T S S V **G** T A N **P** R L ----- **Y** ----- 353

338 ----- ----- ----- ----- L Q 339
378 T A S A A V N I H **G** A H **G** G G ----- H **G** K V L T **P** N S A V ----- Q D **G** V F D **Y** D **P** T N I 415

323 ----- C ----- ----- K T R Q T **P** T **P** S ----- K D S V F D **Y** S **P** A S I 344
343 ----- M **P** S R K N K ----- ----- A Q H ----- Q E **G** Y F D Y N V L A - 363
389 ----- F A S K S N R R H A S ----- V S S T **P** T - H T A M ----- E V S V F D **Y** S **P** A A I 421

403 ----- A V S V A R **P** R - Q - I S F T **P** T I L S A **G** ----- ----- R D T V F D **Y** S **P** T S A 434
339 ----- ----- ----- N V S S L T A **P** Y R ----- ----- S E R K F L **F** **P** D T E N 360
200 ----- ----- ----- N V H K T ----- ----- ----- 204
737 ----- S S ----- **P** C L T **P** M S **P** R S **P** L D **P** P V E Y S **G** F N S L H R S I A I V L S T D D N 775
480 ----- S S S S T T ----- **P** - **P** T **P** A H **P** S **P** S ----- **P** H M D **P** C K ----- **P** Q F Q - - - 506
488 ----- S S A S A T ----- **P** S V - - H S ----- **P** H V R - - E - F D **G** F V N D V T 514
482 ----- S S A S **P** T ----- **P** S S - S I Q A S **P** N - **P** G - L - E - S Q F T **F** **P** D V T V 511
473 ----- **P** S S S I ----- T **P** S **P** A Q **P** S **P** R - I S S S - V - **P** Q F K **F** **P** D I **P** 504
470 ----- T S **G** I **P** L ----- **P** S **P** S **P** A L **P** S **P** S ----- **P** R M M - V - **P** Q F K **F** **P** D V S 501
452 ----- T **G** M **P** P ----- **P** S **P** A Q **P** S **P** S ----- **P** L M S - V - **P** Q F K **F** **P** D V S 481
527 ----- Q G A D ----- K I K S I **P** N S A **P** P T S V N S ----- T F N F S T **P** T D 555
556 ----- **G** Y N S A V N N H I S **P** R ----- ----- H **P** N K L L K T ----- Q K F D **F** S K I D E 586
243 ----- S A E S ----- ----- ----- V F ----- ----- 248
467 ----- ----- ----- ----- F H S D S **P** L **G** 474
499 ----- **G** R A D ----- Y S **P** G E ----- E Q D **G** F **P** T Q ----- D H F Y **Y** **P** S R Y **G** 525
552 ----- S V S T S - T C L S A Q E ----- ----- E L D Q **F** **P** **G** S ----- H - **F** **P** **F** S - D V S 579
489 ----- R E R E L - - D Q A **G** S S S A N L L **P** T **P** S L **G** K H **P** S ----- Q F N **F** **P** N V T V 525
467 ----- ----- T **P** S **P** ----- A N T Q N L T ----- T F T **F** **P** E I V E 486
494 ----- S S T T S - S I S **P** A Q **P** ----- ----- S **P** L T R Q T ----- H F D **F** **P** **P** N N 522
467 ----- ----- S D S Q ----- **P** S **P** M T R Q ----- A F R **F** **P** V L V K 486
114 ----- S A V M M - - S - S **G** **G** S M ----- A S **P** Q **F** **G** S ----- Q F T **F** **P** E I S T 140
464 ----- A S R ----- Q N T **P** ----- S S A S R L Q ----- Q F H **F** **P** E I L S 486
201 ----- S - A ----- Q Q T **P** ----- **P** S A S R L E ----- Q F **F** **P** D L N N 222
1 ----- ----- M E T C S A T T **P** A N K ----- ----- ----- 12
536 ----- L ----- **P** P S A T **P** S **P** L **H** **P** ----- S **P** Q C ----- T R Q Q K N F N L **P** A - 563
551 ----- L ----- **P** P S A T **P** S **P** L **H** **P** ----- S **P** Q S ----- A R Q Q K S N L T A - - 578
463 ----- **P** ----- T S S N **P** S S A T T **P** **P** ----- N **P** S **P** ----- **G** Q R D S R F N **F** A - 490
445 ----- Q ----- Q S N **P** S V T **P** P P N ----- **P** S **P** K ----- **G** H R D N R F H **F** A - 472
10 ----- ----- V T T C A S M L Y A L F ----- Q K ----- R K R K C S C L C H T A 35
232 ----- L ----- S A D S **G** R Q N D V S S R S **G** S ----- ----- T R N S I **Y** S L D - - 257
251 ----- S S **G** Y I S S S A S A - V Q T **P** S ----- ----- D T E L D C R **G** A - 276
229 ----- S S S C L S S - T S S A - A Q T **P** S ----- ----- D T E S D Y R I R - - 253
225 ----- S S S C L S S - T S S A - A Q T **P** S ----- ----- D T E S D Y R I R - - 249
186 ----- R ----- S S V T C S S M H F K **P** P T L L **P** P Q **P** ----- Q Q T E S L S - 214
170 ----- **P** V ----- **G** C D V N Y V Y I C N K S E T V V ----- Q E ----- Q N T N D V C - - 198
213 ----- M ----- **P** A S C **P** S S A N S H R ----- ----- ----- 225
211 ----- A ----- N T S C **P** S S A N S H R ----- ----- ----- 223
145 ----- K ----- ----- T ----- ----- ----- 146
190 ----- I ----- A S D ----- T A ----- N Q C C L C E T - - - 203
214 ----- V ----- ----- A S I ----- **P** ----- H Q N C T C L T - - - 226
98 ----- Q ----- A S Y T N D E D S L L ----- ----- ----- 109
211 ----- Y ----- S S N C S S L T L T S L ----- S T ----- T A S D **Y** **P** S S H V 235
175 ----- L ----- E S D S S F T S D C E T **P** T E L Q V ----- F D ----- V **G** A E **G** C **G** F - 203
178 ----- Q ----- E S D A S L L S E C D T **P** K E I S V ----- F D ----- S **F** **G** **P** **G** D V T - 206
179 ----- L ----- E S E C D T **P** K E L S V ----- F D ----- S **F** **G** **P** A D V V - - 201
263 ----- L ----- S T S T S Y S E I L H D ----- R D ----- R E Y F N **F** A **G** - - 285

266 ----- L ----- S D N C S D V F V T D S ----- F ----- ----- **G** ----- 280
267 ----- Y ----- S T S C S S L T I T S T ----- S ----- T T T S D **C** **P** **G** - - 288
377 ----- Y ----- T S E C N S D V F R T Q ----- E E ----- D Q A C L C S S - 399
178 ----- L ----- **G** S E C N V S T V D S S ----- N **G** ----- I T S C T **C** - - 198

BRAF-Capitella-teleta/1-419
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RAF-Acropora-millepora/1-729
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KSR2-Caenorhabditis-elegans/1-550
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KSR1-Patiria-miniata/1-787
KSR1-Anneissia-japonica/1-885
KSR1-Parastichopus-parvimensis/1-879
KSR1-Eucidaris-tribuloides/1-873
KSR1-Strongylocentrotus-purpuratus/1-869
KSR1-Paracentrotus-lividus/1-848
KSR1-Trichoplax-adherens/1-966
KSR1-Schmidtea-mediterranea/1-954
KSR1-Priapulus-caudatus-partial/1-248
KSR1-Clytia-hemispherica/1-881
KSR1-Nematostella-vectensis-partial/1-917
KSR1-Acropora-millepora/1-957
KSR1-Drosophila-melanogaster/1-966
KSR1-Crassostrea-gigas/1-859
KSR1-Saccoglossus-kowalevskii/1-898
KSR1-Branchiostoma-floridae/1-865
KSR1-Capitella-teleta/1-536
KSR1-Rhipicephalus-sanguineus/1-864
KSR1-Limulus-polyphemus/1-603
KSR3-Ramazzottius-variornatus-partial/1-451
KSR2-Homo-sapiens/1-950
KSR2-Danio-erio/1-966
KSR1-Homo-sapiens/1-923
KSR1-Danio-erio/1-898
KSR3-Clytia-hemispherica/1-517
KSR3-Schmidtea-mediterranea/1-666
KSR3-Rhipicephalus-sanguineus/1-675
KSR3-Limulus-polyphemus/1-686
KSR3-Limulus-polyphemus-isoformB/1-671
KSR3-Lingula-anatina/1-626
KSR3-Crassostrea-gigas/1-585
KSR3-Nematostella-vectensis/1-640
KSR3-Acropora-millepora/1-634
KSR3-Priapulus-caudatus/1-533
KSR3-Saccoglossus-kowaleskii/1-591
KSR3-Ptychodera-flava/1-629
KSR3-Trichoplax-adherens/1-510
KSR3-Capitella-teleta/1-642
KSR3-Eucidaris-tribuloides/1-545
KSR3-Strongylocentrotus-purpuratus/1-602
KSR3-Paracentrotus-lividus-RNAseq/1-600
KSR3-Notospermus-geniculatus/1-691
KSR3-Aplysia-californica/1-405
KSR3-Amphiura-filiformis-partial/1-642
KSR3-Platynereis-dumerilii/1-704
KSR3-Patiria-miniata/1-779
KSR3-Anneissia-japonica/1-590
KSR3-Parastichopus-parvimensis-partial/1-330

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294 ----- SSSPNNL 300
255 ----- RGSPPASV 263
412 ----- NVSGSTTSSLVA AHL H----- 427
421 ----- APPSGLAPPQSSS-----SP-----S 437
415 ----- SSASTNH-----SP-----S 424
486 ----- EVGSGNNLLPVPGR-----TPRTPYSDP-----S 509
361 ----- GQLINNK----- 367
483 HSSSE--RHRH--RSLE--RRSSSGDRTSATPDS----- 510
430 ----- AQQISGIPDS----- 439
328 ----- RNNTLPVLT-----S-----N-Q 340
367 ----- DTG SVGLPNGHA-----H-----Q-S 382
354 ----- ENMNSLVPNN----- 363
400 ----- AT-PPASLPGSLTNVK----- 414
411 ----- AT-PPASLPGSLPNVK----- 425
343 ----- LASSLPN-T-----N-----M-I 353
419 ----- LASSLPNT-R-----N-----L-I 430
364 ----- ASSLPNTTN-----M-----I-V 375
334 ----- ASSLPNTTN-----M-----I-V 345
355 ----- T S--SGYSMVGCASLPNS-----T-----S 373
364 ----- LTNSLPNS-----E-----Q 373
432 ----- LS-VT PP-AYLSSSIPNS-----Q-----S 449
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438 ----- M-ASLASSLPNS-----V-----V 450
386 ETENH-----NKSAASMSGNIE-----S E 405
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812 VGP AHNRC LKLP SRGI-----AAQSLPNLLMAERRQSRGGGANGEGLYATS EDN----- 860
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522 ----- NVETSQ-----S----- 528
518 ----- DQVRSI-----N----- 524
515 ----- DNVHSI-----S----- 521
512 ----- ENVTST-----S----- 518
489 ----- ENVTST-----S----- 495
579 ----- MNTSTHLYSP-----V S----- 591
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500 ----- LVGEISLVNSLISTT-----STVSE----- 519
539 ----- STGTLT----- 544
593 ----- STSTLT----- 598
561 VSSSN--GHMSSLIGSQTSNASTAATLTGSLVNST-----TTTSTCSFFPRKLS----- 607
499 ----- S-----VS----- 501
535 ----- EILLTP-----T----- 541
500 ----- SVRFRGGQSRQRHH-----F----- 515
153 ----- LSALNAKETASSITLTDSELLGN----- 174
497 ----- SL----- 498
234 ----- PK----- 235
25 LLAR-----MS--RWIRKSEAIK-PSI-----SITCCMDEPVEPL 56
589 ----- PQVI-----LHPVT-----SNPILEG 604
602 ----- PQVI-----LHPVL-----SEPKK 617
516 IA-----ESLKENA-FNISAF AH-----A-APLPEA 539
494 HS-----DGLPDTV-NEIDP SVE-----EMHAEQDEE 519
80 RK-----PKKKKIKLQIEHT-----GSSCNLMSPK-NK 107
287 RN-----P-----RVFGNQAL-----SH 299
292 ----- LV-----RQ 295
293 K S-----E-----NKNSSVNS-----NR 305
282 MS-----D-----TKLPDVNC-----NH 294
236 TV-----H-PGAAGACQDKGQSKSSQTY-----CH 259
212 HV-----SAIHVR IKDVS P-----ER 227
239 LTAT-----LE-RYNVEEE----- 251
237 LRAS-----LE-QYEDEEHSCS-----RE 254
157 ----- VLN-----QH 161
227 ----- QSSSC-----RQ 233
254 ----- RSVAT-----RT 260
114 S S-----IYSSSFYSDSFNSLGLVT-----S 135
280 RN-----IFAN-----R 286
220 QH-----HWVRDKSMTVCA----- 233
218 HE-----AWAATK PAPTST----- 231
215 HD-----AWVATK PAVST----- 228
295 VF-----DWQKSNEKY--LSLS-PAA-----AH 314
14 LR-----Q-SRNKYMKLLQKAGQLSP-----CR 35
295 HR-----KWSRGERSKTVDATST----- 312
305 LS-----KWINTKEDCKYLEVNDHRT-----RH 327
414 QR-----KWSRGERSK----- 424
213 RT-----RWC GCKAR----- 222
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BRAF-Capitella-teleta/1-419		
BRAF-Priapulus-caudatus/1-368		
CRAF-Homo-sapiens/1-648	301	315
ARAF-Homo-sapiens/1-606	264	277
RAF-Caenorhabditis-elegans/1-813	428	440
Raf-Rhipicephalus-sanguineus/1-803	438	457
BRAF-Limulus-caudatus/1-781	425	444
RAF-Ramazzottius-variornatus/1-885	510	529
RAF-Schmidtea-mediterranea/1-737	368	382
RAF-Amphimedon-queenslandica/1-904	511	537
RAF-Clytia-hemispherica/1-792	440	449
BRAF-Crassostrea-gigas/1-688	341	355
RAF-Nematostella-vectensis/1-730	383	388
RAF-Acropora-millepora/1-729	364	379
BRAF-Homo-sapiens/1-766	415	426
BRAF-Danio-erio/1-777	426	436
BRAF-Eucidaris-tribuloides-partial/1-725	354	375
BRAF-Strongylocentrotus-purpuratus/1-803	431	457
BRAF-Paracentrotus-lividus-RNAseq/1-746	376	402
BRAF-Paracentrotus-lividus-contigEST/1-716	346	372
BRAF-Saccoglossus-kowaleskii/1-733	374	389
RAF-Parastichopus-parvimensis/1-747	374	399
BRAF-Branchiostoma-floridae/1-831	450	472
BRAF-Trichoplax-adherens-partial/1-325		
BRAF-Patiria-miniata-partial/1-819	451	470
KSR1-Caenorhabditis-elegans/1-771	406	418
KSR2-Caenorhabditis-elegans/1-550		
KSR1-Amphimedon-queenslandica/1-1246	861	893
KSR1-Patiria-miniata/1-787		
KSR1-Anneissia-japonica/1-885	529	545
KSR1-Parastichopus-parvimensis/1-879	525	538
KSR1-Eucidaris-tribuloides/1-873	522	535
KSR1-Strongylocentrotus-purpuratus/1-869	519	532
KSR1-Paracentrotus-lividus/1-848	496	509
KSR1-Trichoplax-adherens/1-966	592	618
KSR1-Schmidtea-mediterranea/1-954	601	618
KSR1-Priapulus-caudatus-partial/1-248		
KSR1-Clytia-hemispherica/1-881	520	542
KSR1-Nematostella-vectensis-partial/1-917	545	567
KSR1-Acropora-millepora/1-957	599	621
KSR1-Drosophila-melanogaster/1-966	608	639
KSR1-Crassostrea-gigas/1-859	502	526
KSR1-Saccoglossus-kowaleskii/1-898	542	556
KSR1-Branchiostoma-floridae/1-865	516	537
KSR1-Capitella-teleta/1-536	175	202
KSR1-Rhipicephalus-sanguineus/1-864	499	527
KSR1-Limulus-polyphemus/1-603	236	264
KSR3-Ramazzottius-variornatus-partial/1-451	57	111
KSR2-Homo-sapiens/1-950	605	616
KSR2-Danio-erio/1-966	618	629
KSR1-Homo-sapiens/1-923	540	559
KSR1-Danio-erio/1-898	520	557
KSR3-Clytia-hemispherica/1-517	108	153
KSR3-Schmidtea-mediterranea/1-666	300	342
KSR3-Rhipicephalus-sanguineus/1-675	296	344
KSR3-Limulus-polyphemus/1-686	306	353
KSR3-Limulus-polyphemus-isoformB/1-671	295	342
KSR3-Lingula-anatina/1-626	260	300
KSR3-Crassostrea-gigas/1-585	228	266
KSR3-Nematostella-vectensis/1-640	252	290
KSR3-Acropora-millepora/1-634	255	289
KSR3-Priapulus-caudatus/1-533	162	201
KSR3-Saccoglossus-kowaleskii/1-591	234	265
KSR3-Ptychodera-flava/1-629	261	292
KSR3-Trichoplax-adherens/1-510	136	176
KSR3-Capitella-teleta/1-642	287	333
KSR3-Eucidaris-tribuloides/1-545	234	274
KSR3-Strongylocentrotus-purpuratus/1-602	232	273
KSR3-Paracentrotus-lividus-RNAseq/1-600	229	271
KSR3-Notospermus-geniculatus/1-691	315	358
KSR3-Aplysia-californica/1-405	36	78
KSR3-Amphiura-filiformis-partial/1-642	313	347
KSR3-Platynereis-dumerilii/1-704	328	370
KSR3-Patiria-miniata/1-779	425	455
KSR3-Anneissia-japonica/1-590	223	259
KSR3-Parastichopus-parvimensis-partial/1-330		

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BRAF-Capitella-teleta/1-419
BRAF-Priapulus-caudatus/1-368
CRAF-Homo-sapiens/1-648
ARAF-Homo-sapiens/1-606
RAF-Caenorhabditis-elegans/1-813
Raf-Rhipicephalus-sanguineus/1-803
BRAF-Limulus-caudatus/1-781
RAF-Ramazottius-variornatus/1-885
RAF-Schmidtea-mediterranea/1-737
RAF-Amphimedon-queenslandica/1-904
RAF-Clytia-hemispherica/1-792
BRAF-Crassostrea-gigas/1-688
RAF-Nematostella-vectensis/1-730
RAF-Acropora-millepora/1-729
BRAF-Homo-sapiens/1-766
BRAF-Danio-erio/1-777
BRAF-Eucidaris-tribuloides-partial/1-725
BRAF-Strongylocentrotus-purpuratus/1-803
BRAF-Paracentrotus-lividus-RNAseq/1-746
BRAF-Paracentrotus-lividus-contigEST/1-716
BRAF-Saccoglossus-kowaleskii/1-733
RAF-Parastichopus-parvimensis/1-747
BRAF-Branchiostoma-floridae/1-831
BRAF-Trichoplax-adherens-partial/1-325
BRAF-Patiria-miniata-partial/1-819
KSR1-Caenorhabditis-elegans/1-771
KSR2-Caenorhabditis-elegans/1-550
KSR1-Amphimedon-queenslandica/1-1246
KSR1-Patiria-miniata/1-787
KSR1-Anneissia-japonica/1-885
KSR1-Parastichopus-parvimensis/1-879
KSR1-Eucidaris-tribuloides/1-873
KSR1-Strongylocentrotus-purpuratus/1-869
KSR1-Paracentrotus-lividus/1-848
KSR1-Trichoplax-adherens/1-966
KSR1-Schmidtea-mediterranea/1-954
KSR1-Priapulus-caudatus-partial/1-248
KSR1-Clytia-hemispherica/1-881
KSR1-Nematostella-vectensis-partial/1-917
KSR1-Acropora-millepora/1-957
KSR1-Drosophila-melanogaster/1-966
KSR1-Crassostrea-gigas/1-859
KSR1-Saccoglossus-kowaleskii/1-898
KSR1-Branchiostoma-floridae/1-865
KSR1-Capitella-teleta/1-536
KSR1-Rhipicephalus-sanguineus/1-864
KSR1-Limulus-polyphemus/1-603
KSR3-Ramazottius-variornatus-partial/1-451
KSR2-Homo-sapiens/1-950
KSR2-Danio-erio/1-966
KSR1-Homo-sapiens/1-923
KSR1-Danio-erio/1-898
KSR3-Clytia-hemispherica/1-517
KSR3-Schmidtea-mediterranea/1-666
KSR3-Rhipicephalus-sanguineus/1-675
KSR3-Limulus-polyphemus/1-686
KSR3-Limulus-polyphemus-isoformB/1-671
KSR3-Lingula-anatina/1-626
KSR3-Crassostrea-gigas/1-585
KSR3-Nematostella-vectensis/1-640
KSR3-Acropora-millepora/1-634
KSR3-Priapulus-caudatus/1-533
KSR3-Saccoglossus-kowaleskii/1-591
KSR3-Ptychodera-flava/1-629
KSR3-Trichoplax-adherens/1-510
KSR3-Capitella-teleta/1-642
KSR3-Eucidaris-tribuloides/1-545
KSR3-Strongylocentrotus-purpuratus/1-602
KSR3-Paracentrotus-lividus-RNAseq/1-600
KSR3-Notospermus-geniculatus/1-691
KSR3-Aplysia-californica/1-405
KSR3-Amphiura-filiformis-partial/1-642
KSR3-Platynereis-dumerilii/1-704
KSR3-Patiria-miniata/1-779
KSR3-Anneissia-japonica/1-590
KSR3-Parastichopus-parvimensis-partial/1-330

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316 ----- R E R A P
278 ----- Q R E R
441 ----- K - - I - - - - S - P G - F - - - - F R N R S R
458 ----- R - - - - P R A R S A
445 ----- R - - - - P R A R S A
530 - S S D S S L N
383 - - - S G D H
538 - S G D S G L G - - G S - R S S - T S Y S S - S T - L - - - P S Q R R R
450 ----- R I R S
-----
389 ----- H K
380 ----- G - - - - T - V - - - - I C - - - - G R S
427 ----- K - - - - S S - S S
437 ----- K - - - - P S - S S
376 - - S D S K D S - - - K - H - - - -
458 - G S D S K D N - - - K - I - - - -
403 - G S E H K D N - - - K - I - - - -
373 - G S E H K D N - - - K - I - - - -
390 ----- K - P R - T - - - P S - S S
400 ----- S S S T S
473 - K S A S D D G - - - S - V - - - - M K - K K - E - - - - K A H R H K
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471 - K - - - - - - - - - - - - - - - N - R G - P - - - - P S S T S S
419 Q E V D S E - A A P S Q E A - - - - V D K F N K R A D - G G F T W E R - - - - H A W N M S
214 - - - - - T L D D - - - - V T T F N S E I N - E - - - -
894 - D D D D D S Y A - D S E - G - - V G S S G - - - - L - D E P E V N K
507 - P D S E R T L - P E K - - - - V E C I D D V - D - - - - M - S D Q V L H R K N
546 T N T D S E K T L - P G K - W - - G S I D S N V - S D S E - - - - L - N E V S H - R K
539 P F T D S E R T L - P D Q - G - - V E S L D Y A - S D S G - - - - S - S D H V L - V R
536 P F T D S E R T L - P E Q - - - - V E P V D Y T - S D P E - - - - P - - V V T - T R
533 P F T D S E R T L - P E Q - - - - V E P V D E V - S D P E - - - - P - N I L L A - T R
510 P F T D S E R T L - P E H - - - - V D P V D E I - T D P E - - - - P - N P V - A - T R
619 A E D D L - - - E - D N R - D - - C E N I E S E R S S G N E D H S Q E D L L T V N R K S R Y K R R K
619 - - - - - N K - L N Q - R - - F E S T E S Q D - - - - E - - S S H L S
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543 - - - - - Q E - - E E N - S - - V D D L D D Q I S D I R - - - - K - - H V - - - - 563
568 - - - - - G - D V P - G - - V E D L E I Q I S D V D - - - - P - - E S R K W G Q R V A S 596
622 - - - - - D - D A P - R - - V D V L G K Q I S D F D - - - - S - - H T R T W G R R E - - 648
640 A S T D S D R - - T P V - R - - V D S T E - - - - D - - - - G - - D S G Q W R Q - - - 664
527 - - - - - K - T L E - R - - E D S I D S Q - - - - D - - - - G - - I I H H W D R G - N - 549
557 L D T D S E R - T - L P S - K - - V D S I D S Q A S D F D - - - - P - - L D Q S W S R K S - 590
538 - - - - - S D K T E - V A - - - - - - - - - - - D V S A - - - - L - F S R S W P T R Q N - 559
203 - - - - - D N R S S - V L D - R - - V D S T E S G - E D G G - - - - G - - Q G L S W S R V - 231
528 - - - - - D S E K T L - A S T - R - - V D S Q D S Q V S D L D - - - - P - - T D R L W P R Q - 558
265 H Q T D S E K T - L A D - R - - V D S Q D S Q V S D M D - - - - P - - N E R S W P R Q - 297
112 E P S C S S - - - - - S - - - T - E A F F P - - - - R D A L F E R - - - - L - 132
617 - - - - - E N E - - - - E - V H - D - - E A E E S - - E D - D F E E M - N L S - - L L S A R S F - 645
630 - - - - - D N E - - - - E - G N - D - - E A E G S - - A D - E F E E M - N L S - - L L S A R N F - 658
560 E A E E P E - - - - - A - G K - - - S - E A E D D - - E D - E V D D L - P S S R - R P W R G P I - 592
558 E D L E D L - - - - - N - G G - - - S - E G E C E - - G D - E L D D L - P S A R G G H W K G P I - 591
154 D F K S S S K G S P F L P G S G - - - - Y S H - P K I - - - - L - T F N R T - - - - P - 182
343 N D L M S N - - - - - C - - - - D E - D F I L E - - - - - - - - - - - - - - - 356
345 E N F L E E - - - - - P - - - - - E S G I E - - - - E - S E Q - - - - E D - - - - K S - 364
354 D F V D D D - - - - - S - - - - - E S G I G - - - - D - C E D - - - - Q D E - - - - F P S - 375
343 D L I D D D - - - - - S - - - - - E S G I G - - - - D - C E D - - - - Q D E - - - - C S S - 364
301 E N E E G D - - - - - - - - - - N D S V F L E E - - - - G E - D I D C V - S - - - - N - 323
267 E E C D - P - - - - - T - F E K - - - - L - - - - - - - - - - - - - - - - - - - 277
291 N T R R - I - - - - V S V D N C Q T S - S E R - - R E Y M - - R L - F P - - - - P - - - - F D E - 319
290 K A K K V - - - - F S A D D F Q R - - - - - F Q F H - - E K - T P I S - K C E - - - - N K E - 320
202 I F D D D E - - - - - Y D E T F A S L L - - - - G S - T L Q S N - - - - - - - - - - - A - 224
266 - S - - - - - S - - - - - S G E I Y - - - - D - W Q V E S - Q A V - - - - - Q Y E - 284
293 - L D C I C - - - - - - - - - - S S G L Y - - - - D - W Q Q E L - D R Q - - - - - Q F P - 314
177 N T Q F S Y Q G T P V S S P P Y N G H N N Y E R - L H L V S - - G D - A F - - - - - - - - 209
334 H G I H L P - - - - - G S - - - - N E - V D D L E - - - - G S - V F G D D - E S E - - - - K I E - 361
275 T S D D - P - - - - - S T - - - - A I - E E R V A - - - - D - W M R D Y - E N S - - - - S Y R - 300
274 I P E N - N - - - - C N - - - - S N - D Q M V S - - - - D - W T E E Y - R R S - - - - S L H - 299
272 I P E N - N - - - - C N - - - - S N - D Q A V S - - - - D - W A E E Y - Q R S - - - - S L H - 297
359 D D D L - D - - - - L P S V F D E - V F V - - - - - T P D T P - Q N - - - - - E - 381
79 D D E S - V - - - - - V G D - - - - S E M E - - - - L - P F I Q E - M S - - - - - Y - 99
348 D D T V - P - - - - - S S - - - - L E D - A H R L C - - - - D - W L K A S - S N - - - - Y - 371
371 S D E F - D - - - - E Y - E E S - V F D F K - - - - E - N E H G E - P A - - - - - N - 394
456 A D A V - P - - - - E S - I D D - A H R M C - - - - D - S L A A S - R H - - - - - A - 479
260 N E D V - P - - - - - N S - - - - I E D - A Q R I C - - - - D - W M K I Q - T A - - - - - T - 283
2 Q D D V - C - - - - - D E - - - - I - - - - E D R V Q - - - - E - W L K G A - D N - - - - E - 23

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BRAF-Capitella-teleta/1-419
 BRAF-Priapulul-caudatus/1-368
 CRAF-Homo-sapiens/1-648
 ARAF-Homo-sapiens/1-606
 RAF-Caenorhabditis-elegans/1-813
 Raf-Rhipicephalus-sanguineus/1-803
 BRAF-Limulus-caudatus/1-781
 RAF-Ramazottius-variornatus/1-885
 RAF-Schmidtea-mediterranea/1-737
 RAF-Amphimedon-queenslandica/1-904
 RAF-Clytia-hemispherica/1-792
 BRAF-Crassostrea-gigas/1-688
 RAF-Nematostella-vectensis/1-730
 RAF-Acropora-millepora/1-729
 BRAF-Homo-sapiens/1-766
 BRAF-Danio-erio/1-777
 BRAF-Eucidaris-tribuloides-partial/1-725
 BRAF-Strongylocentrotus-purpuratus/1-803
 BRAF-Paracentrotus-lividus-RNaseq/1-746
 BRAF-Paracentrotus-lividus-contigEST/1-716
 BRAF-Saccoglossus-kowaleskii/1-733
 RAF-Parastichopus-parvimensis/1-747
 BRAF-Branchiostoma-floridae/1-831
 BRAF-Trichoplax-adherens-partial/1-325
 BRAF-Patiria-miniata-partial/1-819
 KSR1-Caenorhabditis-elegans/1-771
 KSR2-Caenorhabditis-elegans/1-550
 KSR1-Amphimedon-queenslandica/1-1246
 KSR1-Patiria-miniata/1-787
 KSR1-Anneissia-japonica/1-885
 KSR1-Parastichopus-parvimensis/1-879
 KSR1-Eucidaris-tribuloides/1-873
 KSR1-Strongylocentrotus-purpuratus/1-869
 KSR1-Paracentrotus-lividus/1-848
 KSR1-Trichoplax-adherens/1-966
 KSR1-Schmidtea-mediterranea/1-954
 KSR1-Priapulul-caudatus-partial/1-248
 KSR1-Clytia-hemispherica/1-881
 KSR1-Nematostella-vectensis-partial/1-917
 KSR1-Acropora-millepora/1-957
 KSR1-Drosophila-melanogaster/1-966
 KSR1-Crassostrea-gigas/1-859
 KSR1-Saccoglossus-kowaleskii/1-898
 KSR1-Branchiostoma-floridae/1-865
 KSR1-Capitella-teleta/1-536
 KSR1-Rhipicephalus-sanguineus/1-864
 KSR1-Limulus-polyphemus/1-603
 KSR3-Ramazottius-variornatus-partial/1-451
 KSR2-Homo-sapiens/1-950
 KSR2-Danio-erio/1-966
 KSR1-Homo-sapiens/1-923
 KSR1-Danio-erio/1-898
 KSR3-Clytia-hemispherica/1-517
 KSR3-Schmidtea-mediterranea/1-666
 KSR3-Rhipicephalus-sanguineus/1-675
 KSR3-Limulus-polyphemus/1-686
 KSR3-Limulus-polyphemus-isoformB/1-671
 KSR3-Lingula-anatina/1-626
 KSR3-Crassostrea-gigas/1-585
 KSR3-Nematostella-vectensis/1-640
 KSR3-Acropora-millepora/1-634
 KSR3-Priapulul-caudatus/1-533
 KSR3-Saccoglossus-kowaleskii/1-591
 KSR3-Ptychodera-flava/1-629
 KSR3-Trichoplax-adherens/1-510
 KSR3-Capitella-teleta/1-642
 KSR3-Eucidaris-tribuloides/1-545
 KSR3-Strongylocentrotus-purpuratus/1-602
 KSR3-Paracentrotus-lividus-RNaseq/1-600
 KSR3-Notospermus-geniculatus/1-691
 KSR3-Aplysia-californica/1-405
 KSR3-Amphiura-filiformis-partial/1-642
 KSR3-Platynereis-dumerillii/1-704
 KSR3-Patiria-miniata/1-779
 KSR3-Anneissia-japonica/1-590
 KSR3-Parastichopus-parvimensis-partial/1-330

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321 - V S G T Q E K N I R P R G Q R D S Y Y W E I E A S E V M L --- S T R I G S G S F G T V Y K G K W H G D V 372
282 - K S L A D D K K K V K N L G Y R D S Y Y W E V P P S E V Q L --- L K R I G T G S F G T V F R G R W H G D V 333
453 - S P G E R L D A Q R P R P P Q K P H H E D W E I L P N E F I I --- Q Y K V G S G S F G T V Y R G E F F G T V 504
465 -- D E S S K K A I T Q Q K P A R E S I E D W E I M P D E I L T --- G P R I G S G S F G T V Y R G H W H G H V 515
452 -- D E S S K K V --- Q R T T R E S I E D W E I P A N E I L T --- G P R I G S G S F G T V Y R A H W H G P V 499
537 --- L T T S N G Y K L S R V Q R E S M E D W E I P V G E I L I --- G P K V G S G S F G T V Y R G H W Y G P V 586
393 -- R A E S E P R S K D K R T R R D S N E W E I L E S D I T R --- G S R I G S G S F G T V F K G Y W H G N V 443
564 -- Q R T S S E D K R A K V K C K D S D V W E I P Y N E I E V --- G E R I G S G S F G T V Y K G K W H G P V 614
454 --- S S E E H K K P R R R D S N D D W E I Y A D D L K I --- G E R I G S G S F G T V Y K G Y W H G T V 500
356 --- V K H R T V E N H P R E D W E I N G D Q I Q V --- N K R I G S G S F G T V Y R G Y Y H G H V 399
391 -- V P Q S R Y P R G R Q L R A N S T D D W E I L E G E V Q M --- G P R I G S G S Y G T V Y K G N W H G A V 441
388 -- S P Q K P K K M T S P L R T N S T D D W E I P E G E V R R --- G P R I G S G S F G T V Y K G N W H G A V 438
432 -- S E --- D R N R M K T L G R R D S D D W E I P D G Q I T V --- Q Q R I G S G S F G T V Y K G K W H G D V 480
442 -- S E --- D R N K M K T L G R R D S D D W E I P E G Q I T L --- Q Q R I G S G S F G T V Y K G K W H G D V 490
384 --- K --- I M T L P G P R R Q R R D S N D D W E I P A D E I T L --- G P R I G S G S F G T V Y S Q W H G T V 432
467 --- K P P T T L L G H R R T R R D S N D D W E I P E E I R L --- G S R I G A G S F G T V F S Q W H G S V 516
412 --- K A A --- T L P H K R T R R D S N D D W E I P A D E I R L --- C V R I G A G S F G T V F S Q W H G S V 459
382 --- K A A --- T L P H K R T R R D S N D D W E I P A D E I R L --- C V R I G A G S F G T V F S Q W H G S V 429
398 --- T E V R R R T R R R D S N D D W E I P A D E I V I --- G P R I G S G S F G T V Y R Q W H G A V 444
406 -- T E E R V M Q R P K Q R V R R D S N D D W E I P N D E I V A --- G P R I G S G S F G T V Y R Q W H G S V 456
493 -- R E --- D S H T S V V R K P R D S N D D W E I P E E Q I L F --- G P R I G S G S F G T V F K Q W H G P V 541
1 --- T S D D W E I A Q S D I T I --- G P R I G S G S Y G T V F K G H W H G P V 35
482 -- A E --- D T K I R K P R Q R R D S N D D W E I P T D E I L M --- G P R I G S G S F G T V F K G H W H G P V 530
454 --- T I R G P N A A S W N E V T I Q F E T I E F D K Q A P I I G R G R F G K V L R G F H Y G D V 500
228 --- E M D E T V L M T W E D V T I K L T D V D V --- M T K I G D G R F G S V Y F G G Y H G N A 271
920 --- Y R I R H R N S V D E W I I P Y N D L K L --- L E K L G S G P V A E V Y K G Y W H G E V 962
536 --- S H K S N V L S E W D I P P D Q L E I --- T E L I G T G R F G P V Y --- --- 567
578 --- G S K S V L S E W D I P V E K L D I --- K D L I G T G R F G K V Y K G Y W H G D V 617
571 --- K H S N A V A S E W D I P F D Q L E L --- K E L L G L G R F G P V Y R G N W H G E V 610
565 --- K N S Q K L S E W D I P Y E L V I --- X D L I G N G R F G P V H K G K W H G D V 604
564 --- K N S Q K L S E W D I P F E Q L E I --- L D L I G T G R F G A V H --- --- W H G D V 600
540 --- K N S Q K L S E W D I P F E Q L E I --- L D L I G T G R F G A V H K G K W H G D V 579
662 --- K --- L L S M R T S L A S E W I I P I E L K I --- K D V I G I G H F G R V H R G Y W H G D V 704
639 --- R T N S I S V A L K E W E I P Y K N L E L --- G E L L G K G S F W T V F K G K W H G E V 680
564 --- K L R N H G S L M S E W V I P P F S Q I E I --- G D H I G V G R V G K V Y K A K W H G E C 605
597 S R A F G K A Y M L L D L H T R G S L M S E W V P F E E I E I --- F D V L G S R F G K V Y R G R W H G E V 649
649 --- Q R G S L M S E W V I P F E E L D I T --- W N P L G A G R F G K V Y R G H W H G E V 688
665 --- N S I S L K E W D I P Y G D L L L --- L E R I G Q R F G T V H R A L W H G D V 702
550 --- S L S V T L K E W D I P F E Q L K L --- M D K I G T G R F G T V Y K G T W H G Q V 588
591 --- K T S V F S E W D I P Y E D M H I --- L E L I G R G R L G K V F K G Y W H G D V 628
560 --- S R S S V L K E W D I P Y E E L E I --- Q D L I G A G R F G R V F K G K W H G D V 598
232 --- N S M S I K E W D I P Y E E L Q F --- E D R I G D G R F G S V Y K G N W H G D V 269
559 --- N S L S L R E W D I P F D D V Q I --- K E K I G E G R F G S V Y K G S W H G S V 596
298 --- N S L S L R E W D I P F D E L Q I --- E T I G V G R F G V V Y K G N W H G S V 336
133 --- A G E F S H E E G E K D W A I D Y R D L E I --- G A R L Q G N S T G D I Y I G R W H G N V 175
646 --- P R K A S Q T S I F L Q E W D I P F E Q L E I --- G E L I G K G R F G Q V Y H G R W H G E V 689
659 --- P R K A S Q T S I F L Q E W D I P M E Q V E I --- G E L I G K G R F G Q V Y H G R W H G E V 702
593 --- S R K A S Q T S V Y L Q E W D I P F E Q L E I --- G E P I G Q R W R V H R G R W H G E V 636
592 --- S R K A S Q T S V Y L Q E W D I P F E Q L D L --- G E L I G K G R W R V H R G R W H G E V 635
183 --- C E K V E N R P K S F Y E W S I P Y T N I E F --- G E K V A V S P N G P V H R G R W H G D V 226
357 --- R V D K C M K S R N R Y E F N I P F G D I R L --- G E C M K S G N K R K V Y K G H W H G D V 400
365 --- K N Q S T N I K D T L G E W C V P Y K D V E F --- K E R L R Q G R D T D V Y R G R W H G E V 408
376 --- H A Q S L D L K E T L G E W C I P F D D L K F --- D E R L R H G R Q G D I F R G R W H G E V 419
365 --- Q T Q R T D A R E T L G E W C I P F N D L Q F --- G Q R L R H G R Q G D I Y R G R W H G E V 408
324 --- S K A E P P D R N S L S D C M I A F S D L Q F --- S E R I K T G G C L E M H R G Q W H G D V 367
278 --- I D A R S E K H D R L E D F S I A Y E D I E F --- G D C L R V G R Q R S I Y R G R W H G D V 321
320 --- N D E E N I K K S L K E W N I P Y S D L Q F --- G D K V G I G P K G H V Y K G R W H G E I 363
321 --- R R D E N D I K K S L R E W S I P F S D L Q V --- G E I V G V G P K G N V H K G R W H G D I 364
225 --- H A T L D N E I Q S L A E W H I P Y G S L E I --- R D I V R Q S R Q G T Y R G R W H G D V 268
285 --- S --- E D I H S K L D E W K I N Y D D I E F --- N Q C L K R K N T A I Y R G R W H G D V 325
315 --- S G D S D S I C N K L Q E W K I N Y S D L E F --- G Q R L K Q G K N T T I Y R G R W H G D V 358
210 --- D D Q F E E L K E S L K E W L V L C D L K F --- G D R L K T G Y K G S I Y K G R W H G E V 253
362 --- R L S R T D L R E A L D C S I A Y S D L Q F --- G D C I R V G R R H K I H R G K W H G Q V 405
301 --- R R E S F V R R E G L S E W T I P H K D L K Y --- G R C I E A G R T S A T Y R G R W H G E V 344
300 --- Y --- E A Q K E G L S E W T I P H A N L K Y --- G R C I E K G K L G S T Y K G H W H G E V 340
298 --- Y --- E A Q K E G L S E W T I P H E N L K Y --- G R C I E K G L G S T Y K G H W H G E V 338
382 --- R D P K A V L R E S L G E C T I P Y G D L R F --- G E R V R V G R N R A I Y K G H W H G E V 425
100 --- D R F G L R G K S L K D F S I D F K D L N L --- G E L N R Q G R R C L Y K G R W H G D V 143
372 --- K S E D H S A K E A V K E W A I P H E N L K Y --- G K C L R A G R N S T Y S G N W H G E V 415
395 --- K S E D F Q L R E S L G E F S I S F A D L E F --- K E C V R V G R R R E V Y R G Q W H G D V 438
480 --- G G V D H R I E A V K E W S I P H E N L K Y --- G C I C L R A G R N G S T Y R G N W H G E V 523
284 --- N S E D S V R E A V R E W S I P F E N L K F --- G K C I R R G T Y S T E Y R Q W H G D V 327
24 --- E S S A I S A R E R L K E W T I S Y S D F K F --- G D C I R K G R D R A L Y R G H W H G E V 67
  
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BRAF-Capitella-teleta/1-419		
BRAF-Priapulul-caudatus/1-368		
CRAF-Homo-sapiens/1-648		
373	AVKILKVVVD--PTPEQFQAFKNE-VAVLRKTRHVNILLFMGYMTK-----DN--	416
ARAF-Homo-sapiens/1-606		
334	AVKVLKVSQ--PTAEQAQAFKNE-MQVLRKTRHVNILLFMGFMTIR-----PG--	377
RAF-Caenorhabditis-elegans/1-813		
505	AIKKLNVD--PTPSQMAAFKNE-VAVLRKTRHVNILLFMGWVRE-----PE--	548
Raf-Rhipicephalus-sanguineus/1-803		
516	ALKKLNVTN--PTPAQLQAFKNE-VSVLRKTRHVSILLFMGCYSK-----PQ--	559
BRAF-Limulus-caudatus/1-781		
500	ALKKLNVD--PTAAQLQAFKNE-VAVLRKTRHVNILLFMGWVSK-----PH--	543
RAF-Ramazzottius-variornatus/1-885		
587	AIKRLNVND--PTLEQMAAFKNE-VAVLRKTRHVNILLFMGCYSKCEPQGSQ--	636
RAF-Schmidtea-mediterranea/1-737		
444	AIKELNVSE--PTPLQLKAFKNE-VSMLRKTRHVNILLFMGCIVY-----PR--	487
RAF-Amphimedon-queenslandica/1-904		
615	AVKRLNVSN--PTEQMQAFKNE-VAVLMKTRHANILLFMGWTISK-----PR--	658
RAF-Clytia-hemispherica/1-792		
501	AVKTLNVKD--PNPQLLAFQNE-VGLVRKTRHVNILLFMGCLSS-----PN--	544
BRAF-Crassostrea-gigas/1-688		
400	AIKRLNVTA--PTPQLRAFKNE-VAVLRKTRHTNILLFMGWTISK-----PQ--	443
RAF-Nematostella-vectensis/1-730		
442	AIKTLNVTD--PTPTQLQAFKNE-VAVLRKTRHVNILLFMGCMSSK-----PK--	485
RAF-Acropora-millepora/1-729		
439	AIKTLNVSE--PSPQLQGFKNE-VAVLRKTRHVNILLFMGCMAK-----PE--	482
BRAF-Homo-sapiens/1-766		
481	AVKMLNVTA--PTPQLQAFKNE-VGLVRKTRHVNILLFMGYSTK-----PQ--	524
BRAF-Danio-erio/1-777		
491	AVKMLNVTA--PTPQLQAFKNE-VGLVRKTRHVNILLFMGYTISK-----PQ--	534
BRAF-Eucidaris-tribuloides-partial/1-725		
433	AVKMLNVTD--PTPSQLQAFKNE-VAVLRKTRHANVLLFMGCASK-----PQ--	476
BRAF-Strongylocentrotus-purpuratus/1-803		
517	AVKRLNVKD--PTPSQLQAFKNE-VAVLRKTRHANVLLFMGCTSK-----PQ--	560
BRAF-Paracentrotus-lividus-RNAseq/1-746		
460	AVKRLNVKD--PTPSQLQAFKNE-VAVLRKTRHANVLLFMGCTSK-----PQ--	503
BRAF-Paracentrotus-lividus-contigEST/1-716		
430	AVKRLNVKD--PTPSQLQAFKNE-VAVLRKTRHANVLLFMGCTSK-----PQ--	473
BRAF-Saccoglossus-kowaleskii/1-733		
445	AVKRLNVTD--PTPSQLQAFKNE-VAVLRKTRHANVLLFMGCTSK-----PE--	488
RAF-Parastichopus-parvimensis/1-747		
457	AIKRLNVKD--PTPSQLQAFKNE-VAVLRKTRHANVLLFMGCTSK-----PE--	500
BRAF-Branchiostoma-floridae/1-831		
542	AVKRLNVKD--PSPAQLQAFKNE-VAVLRKTRHVNILLFMGCYSK-----NQ--	585
BRAF-Trichoplax-adherens-partial/1-325		
36	AIKRLNVTD--PTPSQLQAFKNE-VTVLRKTRHVNILLFMGVMSK-----PF--	79
BRAF-Patiria-miniata-partial/1-819		
531	AVKRLNVTD--PTASQLQAFKNE-VAVLRKTRHANVLLFMGCTSK-----PQ--	574
KSR1-Caenorhabditis-elegans/1-771		
501	AVKVTMEHISDA-SKKAEEFKLE-VSAYKNTRHNDIALFLGYFMS-----DG--	546
KSR2-Caenorhabditis-elegans/1-550		
272	AVRFVNMNLSQE-DRRADVFATIEVSAYKNSRHDHIALFYGYVSD-----PVTN	320
KSR1-Amphimedon-queenslandica/1-1246		
963	AVKRFVLPN--ATPKQINKFRFE-VAVLRKIRHENLALFMGVCLT-----TP--	1006
KSR1-Patiria-miniata/1-787		
KSR1-Anneissia-japonica/1-885		
618	AVRKLDTDS--NNEEERQAFKKE-VLQLKTRRHVDVLLFMGCTCKM-----AD--	661
KSR1-Parastichopus-parvimensis/1-879		
611	AIKILNIDE--EDKEQLKAFKRE-VQFKKTRHENVVLFMGACMH-----LP--	654
KSR1-Eucidaris-tribuloides/1-873		
605	AIKMLNIDF--NDEKQLKAFKRE-VSIFRKTRHDYVLLFMGACMR-----PP--	648
KSR1-Strongylocentrotus-purpuratus/1-869		
601	AIKMLNIDT--DDEKQLKAFKRE-VSYFRKTRHDFVLLFMGACMR-----PP--	644
KSR1-Paracentrotus-lividus/1-848		
580	AIKMLNIDT--DDEKQLKAFKRE-VSFFRMTRHDFVLLFMGACMR-----PP--	623
KSR1-Trichoplax-adherens/1-966		
705	AIKFNVSR--LTEEAIESFKLE-VATFRKTRHDNLLVFMGACMK-----PP--	748
KSR1-Schmidtea-mediterranea/1-954		
681	AVKIMNIDPQ-DENDACMAAFKSE-VGALHKTRHENLVLFMGACME-----PP--	726
KSR1-Priapulul-caudatus-partial/1-248		
KSR1-Clytia-hemispherica/1-881		
606	ALKVLYLEN--PTTEEKNDFKYK-VQVLRKTRHENLVLFMGACME-----PA--	649
KSR1-Nematostella-vectensis-partial/1-917		
650	AVKMIENDN--PTEEQLNKAFKFE-VTFVRKTRHDNTVLLFMGACMD-----PP--	693
KSR1-Acropora-millepora/1-957		
689	AVKILNIDEN--PTEEQLNKAFKFE-VGTFVRKTRHENVLLFMGACMD-----PP--	732
KSR1-Drosophila-melanogaster/1-966		
703	AVKLLNEDYL--QDEHMLLAFKFE-VANFKNTRHENLVLFMGACMN-----PP--	747
KSR1-Crassostrea-gigas/1-859		
589	AIKMLHMDPDSDNNAQLSAFKLE-VAMLKNTRHENLVLFMGACMK-----PP--	635
KSR1-Saccoglossus-kowalevskii/1-898		
629	AIKQFNIDT--DNELQLHSFKFE-VQTFVRKTRHENVLLFMGACMN-----PP--	672
KSR1-Branchiostoma-floridae/1-865		
599	AIKVFNIET--DNDLQLASFKTE-VSMFRKTRHENLVLFMGACMK-----LP--	642
KSR1-Capitella-teleta/1-536		
270	AIKMLTVDSQQTQDTSQLQAFKRE-IAMLRKTRHENLVLFMGACMN-----PM--	316
KSR1-Rhipicephalus-sanguineus/1-864		
597	AVKMLNMDHI--DDRKTLETFKQE-VATFRKTRHENLVLFMGACMK-----PP--	641
KSR1-Limulus-polyphemus/1-603		
336	AIKMLNMDM--DDDKTLETFKQE-VANFRKTRHENLVLFMGACMK-----PP--	380
KSR3-Ramazzottius-variornatus-partial/1-451		
177	LIYKHN-----AENSVEFLAD-VENMSKIRHENIILLFLGATVD-----NE--	216
KSR2-Homo-sapiens/1-950		
690	AIRLIDIER--DNEDQLKAFKRE-VMAYRQTRHENVLLFMGACMS-----PP--	733
KSR2-Danio-erio/1-966		
703	AIRLIDIER--DNEDQLKAFKRE-VMAYRNTRHENVLLFMGACMR-----PP--	746
KSR1-Homo-sapiens/1-923		
637	AIRLLEMDG--HNQDHLKLFKKE-VMNYRQTRHENVLLFMGACMN-----PP--	680
KSR1-Danio-erio/1-898		
636	AIRLLEIDG--NNQDHLKLFKKE-VMNYRQTRHENVLLFMGACMA-----PP--	679
KSR3-Clytia-hemispherica/1-517		
227	MVYMFEN--N--LDHDESRWFEN-VSLLGLIRHENVLLFMGACSI-----PP--	268
KSR3-Schmidtea-mediterranea/1-666		
401	SVFMFE--N--LDHDESRWFEN-VSNLTMIRHENIVLFMGACSI-----PP--	442
KSR3-Rhipicephalus-sanguineus/1-675		
409	LIYTFR--H--TKEQDVTRFWE-VGKLSMIRHENIALFMGACAE-----PP--	450
KSR3-Limulus-polyphemus/1-686		
420	LIYTVR--Q--QKEAERQFLDD-VRQLSMIRHENVLLFMGACIE-----PP--	461
KSR3-Limulus-polyphemus-isoformB/1-671		
409	LIYTVR--Q--QRQTELCQFLDD-VTQLSMIRHENVLLFMGACID-----PP--	450
KSR3-Lingula-anatina/1-626		
368	LIHKYD--P--S--VEDVFWTK-ISMLRMIIRHENIALFMGACAE-----PP--	406
KSR3-Crassostrea-gigas/1-585		
322	NIHDFH--A--E--SDTSDFWNK-VRKLCRIRHENLVLFMGACLE-----EC--	361
KSR3-Nematostella-vectensis/1-640		
364	MIHTVK--K--SSKIDLEEFKLE-VSLLSMIRHENVLLFMGACLE-----PP--	405
KSR3-Acropora-millepora/1-634		
365	MIHTRR--R--STKKDVEFLKLE-VSVLSMIRHENVLLFMGACLE-----PP--	406
KSR3-Priapulul-caudatus/1-533		
269	MVHAFQ--S--SQLDVDRFWE-VKVLSMIRHENVALFMGACVE-----PP--	310
KSR3-Saccoglossus-kowaleskii/1-591		
326	VIHTYH--S--S--RDVNEFLEE-VAI LSRIIRHENIELFMGVSTE-----PS--	365
KSR3-Ptychodera-flava/1-629		
359	IHTYQ--A--T--RNFLEE--VAVLSRIIRHENIELFMGVSLF-----PT--	398
KSR3-Trichoplax-adherens/1-510		
254	MHTR E--N--LNKKEISDLWQE-VSILSMIRHDNISLFMGACLE-----PP--	295
KSR3-Capitella-teleta/1-642		
406	MIHTYQ--D--RKEEIVTEFLGE-VSRMSILIRHENIALFMGACLE-----EP--	447
KSR3-Eucidaris-tribuloides/1-545		
345	LHSRH--N--VAHLDEFLEE-VSMLSMIRHENIALFVGACVE-----PN--	384
KSR3-Strongylocentrotus-purpuratus/1-602		
341	LITRY--S--K--STDINDFLDE-VAMLSKIRHENIALFMGACVE-----PG--	381
KSR3-Paracentrotus-lividus-RNAseq/1-600		
339	LITRN--A--K--STDINDFLDE-VAMLSKIRHENIALFMGACVE-----PG--	379
KSR3-Notospermus-geniculatus/1-691		
426	MHAYE--G--I EEDQVAFWE--IAKLSMIRHENIALFMGACIE-----PP--	467
KSR3-Aplysia-californica/1-405		
144	IHVFE--E--LRQKDKDAFWNE-LGKLCRIRHENIILLFMAACTS-----QP--	185
KSR3-Amphiura-filliformis-partial/1-642		
416	LHTRN--D--V--HDLEEFLEE-VSLLSMIRHENIALFMGACID-----RP--	455
KSR3-Platynereis-dumerilii/1-704		
439	MHIVK--G--IEEEVARFWE--VSKLSMIRHENVALFMGACIE-----HP--	480
KSR3-Patiria-miniata/1-779		
524	LHTRL--H--V--EDVDAFLE--VSKLSMIRHENIALFMGACID-----PP--	563
KSR3-Anneissia-japonica/1-590		
328	IHTRD--V--Q--E EEDFLEE--VSMLSMIRHENIALFMGACID-----AP--	366
KSR3-Parastichopus-parvimensis-partial/1-330		
68	LHTRT--N--A--ENLEHFLDE-VAMLSMVIRHENVALFMGACID-----EP--	107

BRAF-Capitella-teleta/1-419		
BRAF-Priapulul-caudatus/1-368		
CRAF-Homo-sapiens/1-648		
465	IHR-DMKSNIFLHE--GL-TVKIGDFGLATVKSRWSG----	SQ-Q-V EQPTGS- 508
426	IHR-DLKSNNIFLHE--GL-TVKIGDFGLATVKTRWSG----	AQ-P-LEQPSGS- 469
ARAF-Homo-sapiens/1-606		
599	IHR-DLKTNNIFLMD--DMSTVKIGDFGLATVKTKWTV----	NGGQQQQPTGS- 645
RAF-Caenorhabditis-elegans/1-813		
608	IHR-DLKSNNIFLHD--DL-TVKIGDFGLATVKARWSG----	SQ-P-FSQPTGS- 651
Raf-Rhipicephalus-sanguineus/1-803		
592	IHR-DLKSNNIFLHE--DW-TVKIGDFGLATVKTRWSG----	S-E-Q-FNQPTGS- 635
BRAF-Limulus-caudatus/1-781		
685	IHR-DLKSNNIFLSE--EC-SVKIGDFGLATVKTRWTG----	SH-QQ-SRQTTGS- 729
RAF-Ramazottius-variornatus/1-885		
536	IHR-DLKSNNIFLHE--K-TIKIGDFGLATVKSTWSN----	S-G-FQQPTGS- 577
RAF-Schmidtea-mediterranea/1-737		
707	IHR-DLKSNNIFLHD--DM-TVKIGDFGLATVKTRWDG----	NE-K-VRQPTGS- 750
RAF-Clytia-hemispherica/1-792		
593	IHR-DLKSNNIFLQD--DL-TVKIGDFGLATVKTRWSG----	DH-G-CEQPSTGS- 636
BRAF-Crassostrea-gigas/1-688		
492	IHR-DLKSNNIFLFE--NL-TVKIGDFGLATMKTRWSG----	SH-Q-FQQPTGS- 535
RAF-Nematostella-vectensis/1-730		
534	IHR-DLKSNNIFLQE--DL-TVKIGDFGLATIKTRWSG----	SQ-Y-S EQPSTGS- 577
RAF-Acropora-millepora/1-729		
531	IHR-DLKSNNIFLQE--DL-TVKIGDFGLATIKSRWSG----	SH-Q-FEQPSTGS- 574
BRAF-Homo-sapiens/1-766		
573	IHR-DLKSNNIFLHE--DL-TVKIGDFGLATVKSRWSG----	SH-Q-FEQPSTGS- 616
BRAF-Danio-erio/1-777		
583	IHR-DLKSNNIFLHE--DL-TVKIGDFGLATVKSRWSG----	SH-Q-FEQPSTGS- 626
BRAF-Eucidaris-tribuloides-partial/1-725		
525	IHR-DLKSNNIFLHE--DL-TVKIGDFGLATVKSRWSG----	SH-Q-FEQPSTGS- 568
BRAF-Strongylocentrotus-purpuratus/1-803		
609	IHR-DLKSNNIFLHD--DL-TVKIGDFGLATVKSRWSG----	SQ-Q-FEQPSTGS- 652
BRAF-Paracentrotus-lividus-RNAseq/1-746		
552	IHR-DLKSNNIFLHD--DL-TVKIGDFGLATVKSRWSG----	SQ-Q-FEQPSTGS- 595
BRAF-Paracentrotus-lividus-contigEST/1-716		
522	IHR-DLKSNNIFLHD--DL-TVKIGDFGLATVKSRWSG----	SQ-Q-FEQPSTGS- 565
BRAF-Saccoglossus-kowaleskii/1-733		
537	IHR-DLKSNNIFLHD--DM-TVKIGDFGLATVKSRWSG----	S-E-R-MEQPTGS- 580
RAF-Parastichopus-parvimensis/1-747		
549	IHR-DLKSNNIFLHE--DF-TVKIGDFGLATVKSRWSG----	SQ-Q-FEQPSTGS- 592
BRAF-Branchiostoma-floridae/1-831		
634	IHR-DMKSNIFLFE--DM-TVKIGDFGLATVKSRWSG----	SH-N-FEQPSTGS- 677
BRAF-Trichoplax-adherens-partial/1-325		
128	IHR-DLKSNNIFLHD--DL-TVKIGDFGLATVKSRWST----	CQ-D-S EQPSTGS- 171
BRAF-Patiria-miniata-partial/1-819		
623	IHR-DMKSNIFLHD--DL-TVKIGDFGLATVKSRWSG----	SQ-L-CEQPTGS- 666
KSR1-Caenorhabditis-elegans/1-771		
597	LHK-DLRSKNIFLES--KN-KVVIITDFGLISMKR LAHP----	KQK-SGYLTSKFW- 642
KSR2-Caenorhabditis-elegans/1-550		
371	LHR-DLRTKNILLDN--PN-RVVVITDFALMKLERLENP----	RRN-CTLLIPNHW- 416
KSR1-Amphimedon-queenslandica/1-1246		
1056	IHK-GLNTKNIFLEKRDQKE--KVIITDMGLSSLSLLYDNTTSKG--	GVVTFPRAQ- 1107
BRAF-Patiria-miniata/1-787		
611	IHK-DLKSNNIFLENG--KVVITDFALFSIMR LSR--ENRRP-NVMVI	DGWF- 656
KSR1-Anneissia-japonica/1-885		
711	IHK-DLRSKNIFVEKGL-SN-KVVIADYSIFSVARLSK--ENKRE	DC LQIPKNW- 759
KSR1-Parastichopus-parvimensis/1-879		
704	VHK-DLKSKNIFILENG--KVVITDFALFSLARLSR--ENRKG	DVVVIPDGW- 749
KSR1-Eucidaris-tribuloides/1-873		
698	IHK-DLKSKNIFILENG--KVVITDFALFSIGRLSK--QKIRK	DTLLIPDGW- 743
KSR1-Strongylocentrotus-purpuratus/1-869		
694	VHK-DLKSKNIFILENG--KVVITDFALFSIGRLSK--QKTRK	DSLVPDGW- 739
KSR1-Paracentrotus-lividus/1-848		
673	VHK-DLKSKNIFILENG--KVVITDFALFSIGRLSK--KKARK	DSLVPDGW- 718
KSR1-Trichoplax-adherens/1-966		
798	IHK-DLKSNNIFIEK--C-RIVITDFGVSSLDVYNTPTQERNL	DCWVIRDY- 845
776	LHK-DLKSNNIFIES--NS-KVVISDFGLDFV RMCK--QAI	S G-SYLRIPPGW- 822
KSR1-Priapulul-caudatus-partial/1-248		
699	VHX-DLKTKNVFL EHN--QN-RVVIITDFGLIS IADV KV--	TNTRK-NHLM LPKGW- 746
KSR1-Clytia-hemispherica/1-881		
743	VHT-DLRSKNVFL EEL--NS-KAVITDFGLYSVAGLTA--R	SARP-GYLMV P YGW- 789
KSR1-Acropora-millepora/1-957		
782	VHT-DLRSKNVFL EES--AN-RVVIITDFGLFSVAGLTT--	KSARP-GWLLIPEGW- 828
KSR1-Drosophila-melanogaster/1-966		
797	IHK-DLRTKNIFILEN--G-KVVIITDFGLFSSTKLLYC--	D-MGLGVPHNW- 839
KSR1-Crassostrea-gigas/1-859		
686	IHK-DLKTKNIFILEN--G-KVVIITDFGLFSVTKICH--	GNRKG-DWLHISP GW- 731
KSR1-Saccoglossus-kowaleskii/1-898		
722	VHK-DLKSNNIFILEN--RD-KAVITDFGLFSVTKLCE--	ADRR-NCIRIPEGW- 768
KSR1-Branchiostoma-floridae/1-865		
692	LHK-DLKSNNIFILEN--G-KVVIITDFGLFSVTKLIQY--	GERKD-DT LAIPGW- 738
KSR1-Capitella-teleta/1-536		
366	VHK-DLKSNNIFILEN--G-KVVIITDFGLFNVTKLCH--	GNRKG-EWLSIPPGW- 411
KSR1-Rhipicephalus-sanguineus/1-864		
691	VHK-DLKTKNIFYEN--G-KVVIITDFGLFSVTKLCC--	GNRKG-DWLTIPQGW- 736
KSR1-Limulus-polyphemus/1-603		
430	LHK-DLKTKNIFYEN--G-KVVIITDFGLFSVTKLCC--	GNRKG-DWLTIPQGW- 475
KSR3-Ramazottius-variornatus-partial/1-451		
270	QVGTSLHTGNVFL ESE--KI-KLSLLDFGVGP--	ADMFSRGNSSRNHL 312
KSR2-Homo-sapiens/1-950		
783	LHK-DLKSNNIFYDN--G-KVVIITDFGLFSISGV LQA--	GR-RE-DKLRIQNGW- 828
KSR2-Danio-erio/1-966		
796	LHK-DMKSNVFL EES--G-KVVIITDFGLFTISGV LQA--	GSRRK-DKLRIPSGW- 842
KSR1-Homo-sapiens/1-923		
730	VHK-DLKSNNIFYDN--G-KVVIITDFGLFGISGVVRE--	GR-RE-NQLKLSHDW- 775
KSR1-Danio-erio/1-898		
729	VHK-DLKSNNIFYDHT--N-KVVIITDFGLFGISGVVQE--	GR-RE-NELKLP HGW- 774
KSR3-Clytia-hemispherica/1-517		
318	TLG-KLRSKNVFL EEA--KV-KIGIT EYTT--	TQPTVKS-GCGFLPDGH- 359
KSR3-Schmidtea-mediterranea/1-666		
494	I VR-RLNSRNIVLEP--KV-VLSLLDCSHLD--	YD-EIDTL-DNVCIPGH- 536
KSR3-Rhipicephalus-sanguineus/1-675		
500	VHK-SLTSKNVFL EES--RV-KLCLMDQGLA--	ER-VHDP-SDRGCLARGH- 541
KSR3-Limulus-polyphemus/1-686		
511	IHK-KLNSRNIVLEES--RV-KLCLMDQGMS--	DS-QLDRA-EYGCVP RGH- 552
KSR3-Limulus-polyphemus-isoformB/1-671		
500	IHK-KLNSRNIVLEES--RV-KLCLMDQGMP--	DS-RDRA-EYGCVP RGH- 541
KSR3-Lingula-anatina/1-626		
457	VLE-RLNSRNIVLEES--KV-KIFVLDHFSFS--	EN-RLERS-DCACLPRGR- 498
KSR3-Crassostrea-gigas/1-585		
411	VHK-RLTSRNIVFLCP--NV-RISVVDYGLA--	EV-KYDRP-GFACLPRGD- 452
KSR3-Nematostella-vectensis/1-640		
455	I LP-RLNSRNIVFL EES--KV-KLCVGTGYTGR--	K-LIERH-GYASLP RGH- 495
KSR3-Acropora-millepora/1-634		
456	VLP-AL TAMNIVFL EES--KV-KLCVSGYCNR--	TT-RVERE-GYASLP QGH- 497
KSR3-Priapulul-caudatus/1-533		
360	V LK-RLNSRNIVLEP--KV-KLCVVDYCAMM--	EK-TIERA-NYGS LPQGH- 401
KSR3-Saccoglossus-kowaleskii/1-591		
415	T VGSKNLNSRNIVFL EES--KV-KICLLGDFV--	EV-QNTRD-DIACLPSGY- 457
KSR3-Ptychodera-flava/1-629		
448	HVGSKNLNSRNIVFMEES--KV-KLCLLDGFDVV--	EQ-HHIRD-DVVCIPKGH- 490
KSR3-Trichoplax-adherens/1-510		
345	VHT-KLCSRNIVFL EES--KV-KISITDYS TYN--	GT-SYRSE-NTSII PHGH- 387
KSR3-Capitella-teleta/1-642		
497	V LK-KLNSRNIVLEP--KV-KICLDYGMV--	EA-KYDRP-DYGCVSRGA- 538
KSR3-Eucidaris-tribuloides/1-545		
434	I FG-HLNSKCI FLES--KV-KLSMTRIDT--	DA-SCHRS-GYACLPRGG- 475
KSR3-Strongylocentrotus-purpuratus/1-602		
431	I VG-HLSRKNIVFL EES--KV-KLSVTRVDT S--	DV-TCQRA-SHACLPRGK- 472
KSR3-Paracentrotus-lividus-RNAseq/1-600		
429	I VG-HLTSRCVYLES--KV-KLSVTCVDT S--	DV-TCQRT-NHASLP R G K- 470
KSR3-Notospermus-geniculatus/1-691		
517	IMQ-TLNSRNIVFL EES--KV-KICLMDY GMA--	ES-KNDRE-DCGCI PRGH- 558
KSR3-Aplysia-californica/1-405		
235	V LR-KLNTKNVFI GH--KV-KVSAMDFGFP--	DS-KHRA-NYGS LP RGH- 276
KSR3-Amphiura-filiformis-partial/1-642		
505	V VG-HLNSRAVFL EES--KV-KLCMTGYDTDP--	IA-TCESE-DYASLP QGH- 548
KSR3-Platynereis-dumerilii/1-704		
530	V LC-KLNSRNIVLEP--KV-KVSLMDY GMS--	EK-KFDRP-GYGCVP RGH- 571
KSR3-Patiria-miniata/1-779		
608	V VG-DLNTKAI FLES--KV-KLCLTGFDYDT--	DG-MCDRE-DYASLP QGH- 649
KSR3-Anneissia-japonica/1-590		
418	V VG-CLNSRNIVLEES--KV-KVCMTGHE TV--	DS-PCSI G-THACL PKGH- 459
KSR3-Parastichopus-parvimensis-partial/1-330		
157	MV P-HLSRRTVFL EEA--KV-KIDMMGDAHCL--	TD-EYERP-NYACLQKGE- 199

BRAF-Capitella-teleta/1-419	-----		
BRAF-Priapulul-caudatus/1-368	-----		
CRAF-Homo-sapiens/1-648	636 AC-----	T L T T S P R L P V F	648
ARAF-Homo-sapiens/1-606	596 AC-----	L L S A A R L V P	606
RAF-Caenorhabditis-elegans/1-813	772 AVMR SQMLS-WSY I P P A T A K T P Q S A A A A A A -R N K K A Y Y N V -Y G L I		813
Raf-Rhipicephalus-sanguineus/1-803	776 ---- ED----	F L - Y V C A S P K T P S Q F ----	803
BRAF-Limulus-caudatus/1-781	760 ---- ED----	F T - Y I C A S P K T P S Q F ----	781
RAF-Ramazottius-variornatus/1-885	855 ---- ED----	F T A F T C A S P K T P A N V H T T N Y T S A F - P F S G G	885
RAF-Schmidtea-mediterranea/1-737	702 ---- T D E V D -R N D Y M N V S P N T P I S T D K -- F F F P S -P N K L N N Q G S		737
RAF-Amphimedon-queenslandica/1-904	876 ---- Q E ----	E L -- - N K S P H T P S H N S S -- A T G A E S A F H L V K Q	904
RAF-Clytia-hemispherica/1-792	761 ---- D V ----	E I A Y P C P T P H T P I Q G Q D -- V - F -- S F L S G Q P Q P V Y	792
BRAF-Crassostrea-gigas/1-688	658 ---- ED----	F M - Y L C A S P K T P I N S G I -- H - F L F - T S T S G G - G L N	688
RAF-Nematostella-vectensis/1-730	702 ---- D D ----	V F - F G P S V P E T P I S P -- F - G G G F S F F S G G C Y	730
RAF-Acropora-millepora/1-729	700 ---- S E ----	V G F F - G A P P E T P I S P -- F - G N Y Q P F F T A V A G Y	729
BRAF-Homo-sapiens/1-766	741 ---- ED----	F S L Y A C A S P K T P I Q A G G - Y - G A F - P V H	766
BRAF-Danio-erio/1-777	751 ---- ED----	F S L Y T C A S P K T P I Q A G G - Y - G E F - T A F K	777
BRAF-Eucidaris-tribuloides-partial/1-725	693 ---- D E ----	F M - Y - C P S P K T P I Q S - Q -- F - G V F - P F F A V G N I R S D I H	725
BRAF-Strongylocentrotus-purpuratus/1-803	778 ---- D D ----	F M - Y - C P S P K T P I Q S - Q -- F - A V F - P F D M R G	803
BRAF-Paracentrotus-lividus-RNAseq/1-746	721 ---- D D ----	F M - Y - C P S P K T P I Q S - Q -- F - A V F - P F D M R Q	746
BRAF-Paracentrotus-lividus-contigEST/1-716	691 ---- D D ----	F M - Y - C P S P K T P I Q S - Q -- F - A V F - P F D M R Q	716
BRAF-Saccoglossus-kowaleskii/1-733	706 ---- ED----	F L - Y Y C P S P K T P L Q S - Q -- F - P A F - G F G Y P N L	733
RAF-Parastichopus-parvimensis/1-747	717 ---- E E ----	F M - Y - C P S P R T P I Q S - Q -- F - G A F - P F F T N K E P V V M	747
BRAF-Branchiostoma-floridae/1-831	802 ---- D D ----	F I - Y S C A S P K T P I Q G - Q -- F - A A F - H F F S A V G H R	831
BRAF-Trichoplax-adherens-partial/1-325	292 ---- D A ----	L S - I - V G T P K S P I P S - A - Y - G N F - S F L S N T N T I D S K M T	325
BRAF-Patiria-miniata-partial/1-819	791 ---- D D ----	F M - Y - C P S P K T P I N S - Q -- F - G A F - P F F T G T G G L	819
KSR1-Caenorhabditis-elegans/1-771	771 ----	F	771
KSR2-Caenorhabditis-elegans/1-550	-----		
KSR1-Amphimedon-queenslandica/1-1246	1244 ----	L H I	1246
KSR1-Patiria-miniata/1-787	787 ----	L	787
KSR1-Anneissia-japonica/1-885	885 ----	F	885
KSR1-Parastichopus-parvimensis/1-879	879 ----	I	879
KSR1-Eucidaris-tribuloides/1-873	873 ----	L	873
KSR1-Strongylocentrotus-purpuratus/1-869	869 ----	L	869
KSR1-Paracentrotus-lividus/1-848	848 ----	L	848
KSR1-Trichoplax-adherens/1-966	-----		
KSR1-Schmidtea-mediterranea/1-954	953 ----	I T	954
KSR1-Priapulul-caudatus-partial/1-248	-----		
KSR1-Clytia-hemispherica/1-881	880 ----	L I	881
KSR1-Nematostella-vectensis-partial/1-917	917 ----	I	917
KSR1-Acropora-millepora/1-957	957 ----	I	957
KSR1-Drosophila-melanogaster/1-966	966 ----	F	966
KSR1-Crassostrea-gigas/1-859	857 ----	F T A	859
KSR1-Saccoglossus-kowalevskii/1-898	898 ----	L	898
KSR1-Branchiostoma-floridae/1-865	865 ----	I	865
KSR1-Capitella-teleta/1-536	536 ----	F	536
KSR1-Rhipicephalus-sanguineus/1-864	864 ----	F	864
KSR1-Limulus-polyphemus/1-603	603 ----	L	603
KSR3-Ramazottius-variornatus-partial/1-451	446 ----	F S S F Q M	451
KSR2-Homo-sapiens/1-950	-----		
KSR2-Danio-erio/1-966	-----		
KSR1-Homo-sapiens/1-923	904 V V P R F E R F G L G V L E - S S N P K M		923
KSR1-Danio-erio/1-898	-----		
KSR3-Clytia-hemispherica/1-517	490 I L N H Q N A F R I D A T T P Q H T A Q W R K T S - - - N L - - - - - S - - - -		517
KSR3-Schmidtea-mediterranea/1-666	662 ----	L I C N Y	666
KSR3-Rhipicephalus-sanguineus/1-675	667 ----	G I G R Q P L C S	675
KSR3-Limulus-polyphemus/1-686	678 ----	S L G R N F C G R	686
KSR3-Limulus-polyphemus-isoformB/1-671	666 ----	- R S F C G R	671
KSR3-Lingula-anatina/1-626	623 ----	M L G S	626
KSR3-Crassostrea-gigas/1-585	578 ----	N L L N G F L K	585
KSR3-Nematostella-vectensis/1-640	629 ----	Q S K L S F S T A P L	640
KSR3-Acropora-millepora/1-634	627 ----	K I N T F S I K	634
KSR3-Priapulul-caudatus/1-533	528 ----	W N H S Y P	533
KSR3-Saccoglossus-kowaleskii/1-591	581 ----	S S P T H L R S P W R	591
KSR3-Ptychodera-flava/1-629	616 ----	P S L S S P T H L R G Q W R	629
KSR3-Trichoplax-adherens/1-510	-----		
KSR3-Capitella-teleta/1-642	637 ----	S T K S I F	642
KSR3-Eucidaris-tribuloides/1-545	-----		
KSR3-Strongylocentrotus-purpuratus/1-602	599 ----	G L F R	602
KSR3-Paracentrotus-lividus-RNAseq/1-600	597 ----	G L F R	600
KSR3-Notospermus-geniculatus/1-691	684 ----	A R T G T M Y R	691
KSR3-Aplysia-californica/1-405	402 ----	L F D V	405
KSR3-Amphiura-filiformis-partial/1-642	-----		
KSR3-Platynereis-dumerilii/1-704	697 ----	H K T T D F L S	704
KSR3-Patiria-miniata/1-779	778 ----	P W	779
KSR3-Anneissia-japonica/1-590	586 ----	P G R P W	590
KSR3-Parastichopus-parvimensis-partial/1-330	323 ----	S R P S W I S S	330