

# Supplementary File S1

## Sequences

This file contains the sequences used in the present study for comparison with indications of their database accessions. Some predictions of coding exon use were modified compared to database predictions to better fit with parvalbumin consensus sequences. The first part of this list, from page 2, includes “Species for which all parvalbumin genes were analyzed” in the order (as in Fig. 2 and Supplementary file S3) *Callorhinchus milii* (elephant shark; page 2), *Latimeria chalumnae* (coelacanth; page 2), *Xenopus tropicalis* (tropical clawed frog; page 3), *Gallus gallus* (chicken; page 4), *Ornithorhynchus anatinus* (platypus; page 4), *Sarcophilus harrisii* (Tasmanian devil; page 5), *Talpa occidentalis* (Iberian mole; page 5), *Mus musculus* (mouse; page 5), *Homo sapiens* (human; page 5), *Polypterus senegalus* (gray bichir; page 6), *Lepisosteus oculatus* (spotted gar; page 7), *Anguilla anguilla* (European eel; page 8), *Paramormyrops kingsleyae* (elephant fish; page 9), *Danio rerio* (zebrafish; page 10), *Onychostoma macrolepis* (page 11), *Clupea harengus* (Atlantic herring; page 12), *Ictalurus punctatus* (channel catfish; page 13), *Esox lucius* (Northern pike; page 14), *Gadus morhua* (Atlantic cod; page 15), *Takifugu rubripes* (fugu; page 16), *Seriola lalandi* (yellowtail amberjack; page 17), *Seriola dumerili* (greater amberjack; page 18), *Scophthalmus maximus* (turbot; page 19), *Sparus aurata* (gilthead seabream; page 20), *Oreochromis niloticus* (Nile tilapia; page 21), and *Oryzias latipes* (Japanese medaka; page 21).

This is followed by, from page 23, by “Other parvalbumin sequences” which include sequences in the alphabetic order of their Latin names from *Amphiuma means* (two-toed amphiuma; page 23), *Coryphaenoides rupestris* (roundnose grenadier; page 23), *Ctenopharyngodon idella* (grass carp; page 23), *Cyprinus carpio* (common carp; page 23), *Lates calcarifer* (barramundi perch; page 24), *Mustelus griseus* (spotless smooth-hound shark; page 24), *Pelophylax lessonae* (pool frog; page 24), *Plecoglossus altivelis* (ayu; page 25), *Salmo salar* (Atlantic salmon; page 25), *Sardinops melanostictus* (crimson seabream; page 25), *Scomber japonicus* (Pacific mackerel; page 25), and *Triakis semifasciata* (leopard shark; page 25).

## Species for which all parvalbumin genes were analyzed

(The order of species listing is as in main text Fig. 2 and Supplementary file S3)

### *Callorhinchus milii* (elephant shark)\_

#### >Callorhinchus\_milii\_(elephant\_shark)\_6258

The name is derived from Ensembl dataset Callorhinchus\_milii-6.1.3 gene ENSCMIG00000006258.

Sequence: GenBank XP\_007891758

MLVTDILAASDISNAIKECQALESFDFKFFQTSGLSRKSADAEIKNVFLAMDDDDSGYIELDELKFFLQRFSP  
IARVLTEAETEAFLLKAADTDGDERIGTQEFVTLVMS

#### >Callorhinchus\_milii\_(elephant\_shark)\_6256

The name is derived from Ensembl dataset Callorhinchus\_milii-6.1.3 gene ENSCMIG00000006256.

Sequence: GenBank NP\_001279781

MAITDILAASDIDSAISQFSAPDSLNLKKFFFEASGLSRKSADAEVAKVFEIMDQDNNGFIEKEEIKKFLQFFSS  
RARTLTEAEIQIFIAAGDKSDGKIGITEFQRMVSA

#### >Callorhinchus\_milii\_(elephant\_shark)\_6255

The name is derived from Ensembl dataset Callorhinchus\_milii-6.1.3 gene ENSCMIG00000006255.

Sequence: GenBank XP\_007891755

MSITDILTAAADIASAVSQCSAVNSFCHKKFFTTTCGLSKKSETDVKKVFKVLDQDQSGYIEDAELKLFLQSFST  
GARELTEAETAFLKAGDEDDGDMIGADEFWKLVSA

#### >Callorhinchus\_milii\_(elephant\_shark)\_1941

The name is derived from Ensembl dataset Callorhinchus\_milii-6.1.3 gene ENSCMIG00000011941.

Sequence: GenBank XP\_007907985

MGITDYLDAGDVAAALAQCKAADSFSFKQFCATSGLAKKSSDTVNKIFNIIDEDGSGYIEAKELKFFLQNFSS  
DARELGDSSEIKTVLSAMGMSDDGKMNATEFQKLVSA

#### >Callorhinchus\_milii\_(elephant\_shark)\_pvalb-alpha

Sequence: GenBank AFP11872

MSINKILSAADITKALGEFKGADSFHKKFFHMIKGLKKKNAKDVEAVFYILDKDKSGFIEEDELKSVLKCFAP  
EGRDLSEKETKDLLTAGDEDDGDKIGVSEFIQLVANS

### *Latimeria chalumnae* (coelacanth)

#### >Latimeria\_chalumnae\_(coelacanth)\_oncomodulin

Sequence: GenBank XP\_014345346

MSITDILSSSDIAAALKECQAPESFNCKKFFETSGLAKKSPTDVKNVFKILDNDQSGYIEEEEELQFFLQRFDA  
EARTLSMNETKKFMQAADGDDGDMIGAEFQAMVHS

#### >Latimeria\_chalumnae\_(coelacanth)\_XP\_005998420

Sequence: GenBank XP\_005998420

MALTDILAAADITSALKSCQAEGSFNHKTFFSQVGLTGKSKAQVSKVFGILDQDKSGFIEEEEELKLFLQNFSS  
SARALSDAETKAFLAAGDSDGDKIGVDEFSSMVEA

**>Latimeria\_chalumnae\_(coelacanth)\_XP\_005998419**

Sequence: GenBank XP\_005998419  
MAFGGILKEADITAALKGCQAADSFNFKKFFVEVGLHGKSDKDAEAI FNILDQDGSYIEEDELKLFQNFSA  
SARALTAETKAFMAAGDVGDKIGVVEFQTLVKA

**>Latimeria\_chalumnae\_(coelacanth)\_XP\_005998418**

Sequence: GenBank XP\_005998418  
MAVAKLLAAADVTAALLEGCKADDSFNHKKVFFQKTGLAKKSNEELEAIFKILDQDKSGFIEDEELQLFLQNFSA  
GARTLTKTETETFLKAGDSDGDKIGVDEFQKLVKA

**>Latimeria\_chalumnae\_(coelacanth)\_pvalb-alpha**

Sequence: GenBank XP\_006012166  
MTKKMSEILKAEDIDKALNTFKEAGSFDHKKFFNLVGLKGKPD DTLKEVFGILDQDKSGYIEEEELK FVLKGF  
GAAGRELTANETKALLKAGDQDGDGDKIGVDEFTNLVKA

***Xenopus tropicalis* (tropical clawed frog)**

(The "OCM3" and multiple "OCM4" genes are no oncomodulin genes, but with these names we follow the database annotations)

**> Xenopus\_tropicalis\_(tropical\_clawed\_frog)\_OCM1**

Sequence: GenBank XP\_002931997  
MSITDVLSAADIAAALRECQAPDTFNFKKFFKTCGLTKKSPNEVKQVFGVMDNDESGYVEEDELKYILQRFDP  
SARVLTSSSEAKDFMAGVDHGDGDKIGVEEFQAVVHTCASQ

**> Xenopus\_tropicalis\_(tropical\_clawed\_frog)\_OCM4.6**

Sequence: GenBank NP\_001123669  
MAFGGLLSEADISAALQECQAADSFNFKSFFARSGLSKKSADDVKNVFAILDQDRSGFIEEDELKLFQNFSA  
SARALTAETKAFLGAGDSDGDKIGVEEFQSLVKQ

**> Xenopus\_tropicalis\_(tropical\_clawed\_frog)\_OCM4.5**

Sequence: GenBank NP\_001120120  
MAFGGILSEADISAALQNCQAPDSFNFKTFFAQSGLSSRSADDVKNVFGILDQDRSGFIEEDELKLFQNFSA  
GARALTAETKAFLAAGDSDGDKIGVEEFQALVRP

**> Xenopus\_tropicalis\_(tropical\_clawed\_frog)\_OCM4.4**

Sequence: GenBank NP\_001015897  
MALGALLSQADISAALQACQAPDSFNFKSFFAQSGLSSKSDVDVRNAFAILDQDKSGFIEEDELKLFQNFSA  
GARALTAETKAFLNAGDSDGDKIGVDEFQALVKA

**> Xenopus\_tropicalis\_(tropical\_clawed\_frog)\_OCM4.3**

Sequence: GenBank NP\_001107673  
MAFGGILSDADISSALKNCQAPDSFNFKSFFAQSGLSSKSDNDVRNVFAIIDQDKSGFIEEDELKLFQNFSA  
GARALTAETKAFLNAGDSDGDKIGVDEFQSLVKN

**> Xenopus\_tropicalis\_(tropical\_clawed\_frog)\_OCM4.2**

Sequence: GenBank NP\_001016487  
MAFGGILSDADVSAALQNCQAPESFNFKTFFAQSGLSSKSDNDVRNVFAILDQDRSGFIEEDELKLFQNFSA  
GARALTAETKAFLNAGDSDGDKIGVDEFQALVKN

**> Xenopus\_tropicalis\_(tropical\_clawed\_frog)\_OCM4.1**

Sequence: GenBank NP\_001011134

MAFGGILSEADVSAALQSVQAADSFNYKSFFAKSGLSSKSADDVKKVFAILDQDKSGFIEEDELKFLQNFNS  
GARALTDKETKAFLAAGDSDGDGKIGVDEFQALVKA

**> Xenopus\_tropicalis\_(tropical\_clawed\_frog)\_OCM3**

Sequence: GenBank NP\_001025657  
MSITDILSAKDIDAALSSVSAAESFQHKSSFFDKCGLTGKSNDQVRKVFEILDRDKSGFIEEDELQFLQNFKS  
NARALSAETKAFLKAGDSDGDGKIGVDEFQALVKA

**> Xenopus\_tropicalis\_(tropical\_clawed\_frog)\_pvalb-alpha**

Sequence: GenBank XP\_002934266  
MSMTDVLAAADIKNALGAFGAPDSFNHKKFFELCGLKKKSPDDVKKVFHILDKDRSGFIEEDELKLLQGFAT  
DGRALSDKETKALLAAGDKDGDGKIGVDEFTALVAES

***Gallus gallus* (chicken)**

**>Gallus\_gallus\_(chicken)\_oncomodulin\_(CPV3)**

Sequence: GenBank NP\_989753  
MSLTDLSPSDIAAALRDCQAPDSFSPKKFFQISGMSKKSSSQLKEIFRILDNDQSGFIE  
EDELKYFLQRFECEGARVLTASETKTFLAAADHDGDGKIGAEFQEMVQS

**>Gallus\_gallus\_(chicken)\_1286**

The name is derived from Ensembl dataset GRCg6a gene ENSGALG00000021286.  
Sequence: Modification of GenBank XP\_025011090  
MAFAGILTEAEIAAGLQSCQAADSFNYKTFFVKVGLNSKSKDQLAKVFGILDQDRSGFIEEDELKFLQNFSA  
SARALTDKETKAFLAAGDSDGDGKIGVDEFQALVKS

**>Gallus\_gallus\_(chicken)\_ATH**

Sequence: GenBank NP\_001007478  
MAITDILSAKDIESALSSCQAADSFNYKSFFSTVGLSSKTPDQIKKVFGILDQDKSGFIEEEEELQFLKNFSS  
SARVLTSAETKAFLAAGDSDGDGKIGVEEFQSLVKA

**>Gallus\_gallus\_(chicken)\_pvalb-alpha**

Sequence: GenBank NP\_001152787  
MAMTDVLSAEDIKKAVGAFAAESAESFNKKFFEMVGLKKKSPEDVKKVFHILDKDRSGFIEEEEELKFVLKGFTP  
DGRDLSDKETKALLAAGDKDGDGKIGADEFATMVAES

***Ornithorhynchus anatinus* (platypus)**

**>Ornithorhynchus\_anatinus\_(platypus)\_oncomodulin**

Sequence: GenBank XP\_039770783  
MSITDVLSAADIAAALKECQDPDSFNHKQFFQTSGLAKKSASQVKDIFRFIDNDQSGFLDEDELKFFLQKFES  
GARVLTSSSETKSLMAAADHDGDGKIGADEFQEMVHS

**>Ornithorhynchus\_anatinus\_(platypus)\_XP\_001512095**

Sequence: GenBank XP\_001512095  
MAMTDILSAKDIEAALSSCKAADSFNYKAFFSTVGLSKKTPDQVKKVFGILDQDKSGFIEEDELQFLQNFSS  
SARVLTAAETKAFLTAGDSDGDGKIGVDEFQNLVKS

**>Ornithorhynchus\_anatinus\_(platypus)\_pvalb-alpha**

Sequence: GenBank XP\_028935194  
MAMTDLLSADDIKKAVGAFAAESAESFNHKKFFELVGLKKKSKDEVQKVHILDKDKSGFIEEDELKFVLKGFIE  
DGRDLSDKETKTLLAAGDKDGDGKIGVEEFTTLVAES

### ***Sarcophilus harrisii* (Tasmanian devil)**

#### **>Sarcophilus\_harrisii\_(Tasmanian\_devil)\_oncomodulin**

Sequence: GenBank XP\_031799913

MSITDVLSAADIAAALEECQDPDSFNHKKFFETSGLSKMSASQVKDIFRFIDNDQSGYLDEEELKFFLQKFES  
GARVLTSSSETKSLLAADNDGDGKIGADEFQEMVHS

#### **>Sarcophilus\_harrisii\_(Tasmanian\_devil)\_XP\_003761513**

Sequence: GenBank XP\_003761513

MSMTDILSPKDIEAALSSCKAAGSFDYKIFFSKVGLSGKTPEQVKVFSILDQDKSGFLEEDELQNFLQNFAP  
GARTLTPDETKIFLTAGDSDGDGKIGVDEFQSMAS

#### **>Sarcophilus\_harrisii\_(Tasmanian\_devil)\_pvalb-alpha**

Sequence: GenBank XP\_003771180

MSITDLLSVEDIKKAFAAAESFNHKKFFEMVGLKKKNKQDVEKVFHILDKDKSGFIEEDELKFKLGFTP  
DGRDLSDKETKALLAAGDKDGDGKIGAEFSAALVAES

### ***Talpa occidentalis* (Iberian mole)**

#### **>Talpa\_occidentalis\_(Iberian\_mole)\_oncomodulin**

Sequence: GenBank XP\_037360420

MSITDLLSADDIAAALQECQDPDTFEPQKFFQTSGLSKMSASQVKDVFRFIDNDQSGYLDEEELKFFLQKFES  
GARELTESETKSLMAAADNDGDGKIGADEFQEMVHS

#### **>Talpa\_occidentalis\_(Iberian\_mole)\_XP\_037360422**

Sequence: GenBank XP\_037360422

MAMTDIVSLKDIEAALSSCKDPGSFNHKAFFSEVGLSSKDIDLVRKAFAILDQDKSGFIEEEELKFLKNFSP  
SARVLTDKETKAFLEAGDSDGDGKIGVDEFQSLVKA

#### **>Talpa\_occidentalis\_(Iberian\_mole)\_pvalb-alpha**

Sequence: GenBank XP\_037369536

MSMTDLLSAEDIKKAALGAFAAVDSFDHKKFFQMVGLKKKSADDVKKVFHILDKDKSGFIEEDELGSILKGFSA  
DARDLSARETKALLAAGDKDGDGKIGVEEFSAALVAES

### ***Mus musculus* (mouse)**

#### **>Mus\_musculus\_(mouse)\_oncomodulin**

Sequence: GenBank NP\_149028

MSITDILSADDIAAALQECQDPDTFEPQKFFQTSGLSKMSASQLKDIFQFIDNDQSGYLDEDELKYFLQRFQS  
DARELTESETKSLMDAADNDGDGKIGADEFQEMVHS

#### **>Mus\_musculus\_(mouse)\_pvalb-alpha**

Sequence: GenBank NP\_001317615

MSMTDVLSAEDIKKAIGAFAAADSFDHKKFFQMVGLKKKNPDEVKKVFHILDKDKSGFIEEDELGSILKGFSS  
DARDLSAKETKTLLAAGDKDGDGKIGVEEFSTLVAES

### ***Homo sapiens* (human)**

#### **>Homo\_sapiens\_(human)\_OCM1**

Sequence: GenBank NP\_001091091

MSITDVLSADDIAAALQECRDPDTFEPQKFFQTSGLSKMSANQVKDVFRFIDNDQSGYLDEEELKFFLQKFES  
GARELTESETKSLMAAADNDGDGKIGAEFQEMVHS

**>Homo\_sapiens\_(human)\_OCM2**

Sequence: GenBank NP\_006179

MSITDVLSADDIAAALQECQDPDTFEPQKFFQTSGLSKMSASQVKDVFRFIDNDQSGYLDEEELKFFLQKFES  
GARELTESETKSLMAAADNDGDGKIGAEFQEMVHS

**>Homo\_sapiens\_(human)\_pvalb-alpha**

Sequence: GenBank NP\_001302461

MSMTDLLNAEDIKKAVGAFSATDSFDHKKFFQMVGLKKKSADDVKKVFHMLDKDKSGFIEEDELGFILKGFSP  
DARDLSAKETKMLMAAGDKDGDGKIGVDEFSTLVAES

**>Homo\_sapiens\_(human)\_calmodulin-1**

Sequence: GenBank NP\_001350599

MQADQLTEEQIAEFKEAFSLFDKDGDTITTKELGTVMRSLGQNPTAEELQDMINEVDADGNGTIDFPEF  
LTMARKMKDTSDEEIREAFRVFDKDGNGYISAAELRHVMTNLGEKLTDEEVDEMIREADIDGDGQVNY  
EEFVQMMTAK

***Polypterus senegalus* (Gray bichir)**

**>Polypterus\_senegalus\_(gray\_bichir)\_3080**

The name is derived from NCBI gene annotation LOC120543080.

Sequence: GenBank XP\_039631865

MSLTSILCPDDIANALKDCQAENSFNHKKFFQLCGMTKKSPKEIKEAFAILDNDRSGFIEEEELKFFLQRFSP  
GARVLTEAETKSFLAAADDDNDGKIGAEFQAMVLS

**>Polypterus\_senegalus\_(gray\_bichir)\_2990**

The name is derived from NCBI gene annotation LOC120542990. Sequence:

GenBank XP\_039631723

MAFSGLLKDEDIKAALQACQAPDSFNYKNFFAKVGLTGRSADDVKKAFVLDQDKSGFIEEDELKFLQNFCS  
GARALTDKETKAFLAAGDSGDGKIGVDEFASLVKA

**>Polypterus\_senegalus\_(gray\_bichir)\_2675**

The name is derived from NCBI gene annotation LOC120542675. Sequence:

GenBank XP\_039631215

MSFAGVLKDDDIKAALQACQAPDSFNYKTFFAKVGLTGRSAEDVKKAFVLDQDKSGFIEEDELKFLQNFQS  
GARALTDKETKAFMTAGDSGDGKIGVDEFAALVKA

**>Polypterus\_senegalus\_(gray\_bichir)\_3078**

The name is derived from NCBI gene annotation LOC120543078.

Sequence: GenBank XP\_039631862

MAFAGLLKDEEDIAAAIKNCQAADSFNHKTFFSQVGLANKSAADVAKVFKILDQDHSGFIEEDELKFLQNFQS  
SARALTDKETKTFLAAGDSGDGKIGVEEFQALVK

**>Polypterus\_senegalus\_(gray\_bichir)\_2892**

The name is derived from NCBI gene annotation LOC120542892. Sequence:

GenBank XP\_039631543

MTMTDVLSAADIAAALNACQDVGSFNYKSFFATVGLSRKSPADVQRVFDIIDQDRSGFIEEEELQLFLQNFQSK  
NARVLTVAEATRAFLKAGDLNDGKLGAEFTALVHT

**>Polypterus\_senegalus\_(gray\_bichir)\_6869**

The name is derived from NCBI gene annotation LOC120536869. Sequence:  
GenBank XP\_039621339  
MAFAGILKDDDIKAAVQAFQAPDSFDHKAFFSKVGMTDKSPDDVKKIFAILDQDKSGFIEEAELKFFMQNFEA  
GARVLTEKENKALLAAIDKDGDKIGICEEFVALVKG

**>Polypterus\_senegalus\_(gray\_bichir)\_pvalb-alpha**

Sequence: GenBank XP\_039621268  
MLMTDLLKADDISKAVGAFKAAESFDHKKFFEMVGLKKKTPDEVKKVFQILDQDHSGFIEEEEELKFVMKGFSK  
DGRDLSDAETKKFMKAGDKDGDGKIGIDEFATLVAES

**>Polypterus\_senegalus\_(gray\_bichir)\_6197**

The name is derived from NCBI gene annotation LOC120536197. Sequence:  
GenBank XP\_039620468  
MAFAGILEKEDIETAIETCQAPDTFDHKAFFAQVGLTTKPAEELKKIFAVLDQDKSGYIEETELKFFLQNFQA  
GARVLTDKENKTLLTAGDADADGKMGPDEFVALVKS

***Lepisosteus oculatus (spotted gar)***

**>Lepisosteus\_oculatus\_(spotted\_gar)\_ 8552**

The name is derived from Ensembl dataset LepOcul gene ENSCMIG00000006258.  
Sequence: Encoded by Ensembl dataset LepOcul transcript pvalb8-201  
MSLNLSILSSDAIEAALKDCQAPDSFNQKKFFQLCGLTKKSPQEVKDVFRILDNDASGFIEEEEELKFFLQRFSP  
SARVLTAETKNFLSAADDDNDGKIGICEEFQAMVLS

**>Lepisosteus\_oculatus\_(spotted\_gar)\_ 8560**

The name is derived from Ensembl dataset LepOcul gene ENSLOCG00000008560.  
Sequence: Encoded by Ensembl dataset LepOcul transcript  
ENSLOCT00000010427  
MAFAGILKDEEDIAAALQACQAADSFNYKTFFAKVGLAGRSADDVKKAFAVLDQDKSGFIEEDELKLFLQNFKA  
DARVLTAETKAFLAAGDSGDGKIGVDEFAALVKA

**>Lepisosteus\_oculatus\_(spotted\_gar)\_ 8573**

The name is derived from Ensembl dataset LepOcul gene ENSLOCG00000008573.  
Sequence: Encoded by modified Ensembl dataset LepOcul transcript  
ENSLOCT00000010439 (there is no apparent exon-4 sequence, and also  
because the exon-3 encoded sequence is unusually short, this may be a  
pseudogene; however, the quality of the available genomic sequence  
information for the C-terminal part of the protein is not sufficient to  
make firm conclusions)  
MAFAGILKDEDVAAALQACQAADSFNYKTFFAKVGLAGRSAEDVKKAFAVLDQDKSGFIEEDELKLFLQNFKA  
DARVLTAETKAFLAAGDS

**>Lepisosteus\_oculatus\_(spotted\_gar)\_8585**

The name is derived from Ensembl dataset LepOcul gene ENSLOCG00000008585.  
Sequence: Encoded by Ensembl dataset LepOcul transcript  
ENSLOCT00000010450  
MAFAGILKDADIAAALKTCEAAGSFNHKTFFAEVGLASKPDSEAEKVFKILDQDQSGFIEEDELKLFLQNFSA  
SARVLTAETKTFLAAGDSGDGKIGVDEFRALTK

**>Lepisosteus\_oculatus\_(spotted\_gar)\_8594**

The name is derived from Ensembl dataset LepOcul gene ENSLOCG00000008594.

Sequence: Encoded by modified Ensembl dataset LepOcul transcript  
ENSLOCT00000010463  
MAFSGLLREEDITAALQACQAAGSFNHHKAFFAQVGLASDSAVSAEKVFRILDRDQSGFIEEEEELKLFLQNFKA  
DARVLTDAAETKAFLAAADLSDGKIGAQEFRSLMK

**>Lepisosteus\_oculatus\_(spotted\_gar)\_8606**

The name is derived from Ensembl dataset LepOcul gene ENSLOCG00000008606.  
Sequence: Encoded by Ensembl dataset LepOcul transcript  
ENSLOCT00000010476  
(there is no exon-4, according to the Genbank transcript accession  
GFIM01033536, and such exon is also not predicted in Ensembl)  
MALSGLLAAGAVAAALTACQATGSFDHKAFFAAVGLSKKSPADVEKVKVLDQNNSGFIEEDELQLFLQSF  
GARVLTAETAFLLAGDSDGDKIGVEGT

**>Lepisosteus\_oculatus\_(spotted\_gar)\_pvalb-alpha**

Sequence: GenBank GFIM01023648 (TSA transcript information).  
(There is incomplete genomic information on GenBank NW\_006271359 and  
Ensembl dataset LepOcul scaffolds AHAT01044600 and AHAT01044594)  
MSMTDILKAEDIKAAMDAFKAAESFDHKKFFKMVGLKAKSAEDVKAFKVLVDVDQSGFIEEDELKFVLKGF  
DGRDLSDKETKAFLVAGDKDGDGKIGIDEFAALVAEA

***Anguilla anguilla* (European eel)**

**>Anguilla\_anguilla\_(European\_eel)\_pvalb1**

Sequence: GenBank XP\_035253170  
MAFAGVLKDADITAALACQGADSFYKSFYKAVGLSGKTPDEIKKAFSIIDQDNSGFIEEDELKLFLQNFS  
GARALTDKETKTFLAAGDTDGDGKIGIDEFAALVKA

**>Anguilla\_anguilla\_(European\_eel)\_pvalb3**

Sequence: GenBank XP\_035258683  
MAFAGVLNDADITAALQACQAADSFYKSFYKAVGLSGKSADIVKKVFAILDQDKSGFIEEDELKLFLQNFS  
SARALTDAAETSAFLKAGDTDGDGKIGIDEFSALVKA

**>Anguilla\_anguilla\_(European\_eel)\_pvalb4**

Sequence: GenBank XP\_035253204  
MAFAGVLKDADITAALAEACKAADSFNKYKAFYKAVGLATKSADDIKKAFNIIDQDKSGFIEEDELKLFLQNFS  
TARALTDKETKAFLHAGDTDGDGKIGIDEFAAVVKA

**>Anguilla\_anguilla\_(European\_eel)\_pvalb5**

Sequence: GenBank XP\_035253199  
MSFSGILKDEDIKAAVLACEAPGTFDYKLFYKAVGLLSQQDVEGKTVFNVLDQSGFIEEELKFFLQNFC  
GARELTEAETKAFISAVDRDGDGKIGVEEFCTLLK

**>Anguilla\_anguilla\_(European\_eel)\_pvalb6**

Sequence: GenBank XP\_035253026  
MAMKDILKAEDIKKAMDACKVADTFDHHKFFEMVGLKTRSTDLLKKAFLALVDVNSGFIEEEEELKFFLKG  
DGRDLTDKETKAFLRAADKGDGKIGMEEFAAMVRE

**>Anguilla\_anguilla\_(European\_eel)\_pvalb7**

Sequence: GenBank XP\_035261400



MAMKDILNADEIKKALDAFKAAESFNHMKFFEMIGLKAESAEDVKKVFKVLDVDNSGFIEEEEELKFVLKGFAS  
DGRDLTDKETKAFLAADRDRDGDGKIGVDEFEALVHE

**>Anguilla\_anguilla\_(European\_eel)\_pvalb8**

Sequence: GenBank XP\_035253329  
MSLTSLSAGAIIDSAIKDCSAPDSFCSKKFFQICGLTKKSPQEVKEVFRVLDNDDSGYIEEEEELKFFLQRFSS  
GARVLTEKETKAFLVAADGSDGKIGVQEFQKLVLVS

**>Anguilla\_anguilla\_(European\_eel)\_pvalb9**

Sequence: GenBank XP\_035258685  
MSLTSLAADAIAENAIKDCQAPDSFNSSKKFFQLSGLTKKSPQEVKDVFCILDNDGSGFIEEEEELKFFLQRFSP  
GARLLTDKETKSFLSDADDDSDGKIGAEFFQAMVLS

**Anguilla\_anguilla\_(European\_eel)\_pvalb10**

Sequence: GenBank XP\_035259276  
MAMTDLLTMSDITSAITACQDADSFNLKAFFRDVGLSKKSPLDIEKVFKILDQDKSGFIEHDELQLFLQNFSS  
GARSLTAAETKAFLQAGDMGDGKIGLEEFSAIVKAS

**>Anguilla\_anguilla\_(European\_eel)\_pvalb-like**

Sequence: GenBank XP\_035261997  
MADDFSLQVKVTLAMGASLSDQDIDRIPREMRMQGNFNYSKFFFEYMRQYKTSDDQEEVIKKAQVLDKDGSG  
YIEWNEIKYILSTVPSSVPIVPLSDEEAQAVIQAADADGDGRIDFREFSDLVKLEKKPRK

***Paramormyrops kingsleyae* (Elephant fish)**

**>Paramormyrops\_kingsleyae\_(elephant\_fish)\_pvalb1**

Sequence: GenBank XP\_023691426  
MALASVLKEADITAAMKDCQAADSFNYSKFFFAKVGLSSKSADDVKKAFAIIDQDNSGFIEEDELKLFLQNFSA  
GARVLTDGETKTFLAAGDSGDGKIGVDEFAALVKA

**>Paramormyrops\_kingsleyae\_(elephant\_fish)\_pvalb2**

Sequence: GenBank XP\_023664883  
MAFAGILKEEDVAAALKDCAAPDSFNHKSFFFAKVGLASKSADDVKKAFVIDQDKSGFIEEDELKLFLQNFSA  
SARALTAETKTFLAAGDSGDGKIGADEFAAIVKA

**>Paramormyrops\_kingsleyae\_(elephant\_fish)\_pvalb3**

Sequence: GenBank XP\_023664886  
MAFAGILNDADITAALQACQAADSFHKAFFFEKVGLSGKSADDVKKAFVIDQDKSGFIEEDELKLFLQNFSA  
GARVLTDGTETKTFLKAGDSDGDKIGIDEFTALVKS

**>Paramormyrops\_kingsleyae\_(elephant\_fish)\_pvalb4**

Sequence: GenBank XP\_023691425  
MAFAGILNDGDITAALDACKAADSFSYKAFFFAKVGLSSKSADDVKKAFAIIDQDKSGFIEEDELKLFLQNFSA  
SARALTAETKTFLKAGDSGDGKIGADEFAALVKA

**>Paramormyrops\_kingsleyae\_(elephant\_fish)\_pvalb5(probably\_pseudogene)**

Sequence: Ensembl dataset PKINGS\_01 gene pvalb5 (only the last two exons  
look normal and we could not find proper sequences for the first two  
exons, despite that the available genomic sequence information seems to  
be of good quality)  
LFLQSFSSGARKLTEADTKDLLRTGDQDGSKIGMEEFCSLMKRSEEV

**>Paramormyrops\_kingsleyae\_(elephant\_fish)\_pvalb6**

Sequence: GenBank XP\_023672368

MAMNDILKAEDIKKALDAFKAADTFDHKKFFEMVGLKNKSTDDVKKAFALDVDNSGFIEEEEELKFVLKGFST  
DGRDLTDKETKAFLQAADKDGDKIGMEEFAALVLE

**>Paramormyrops\_kingsleyae\_(elephant\_fish)\_pvalb7**

Sequence: GenBank XP\_023670307

MAMKDLLKAEDIKKALDAFKAADTFDPLKFFDMVGLKAKSSEDEVKKAFKALDVDNSGFIEEEEELKFVLKGFAS  
DGRDLTDKETKAFLALADKDGDKIGAAEEFEALVHQ

**>Paramormyrops\_kingsleyae\_(elephant\_fish)\_pvalb8**

Sequence: GenBank XP\_023691172

MSLTSVLSADAIAANALKECKAPDTFCHKKFFQTCGLTKKTSQEVKNVFRILDDDGSEFIEEDELQFFLQRFSP  
SARVLTESETKKFMLALDEDNDGKIGIDEFEHAVLS

**>Paramormyrops\_kingsleyae\_(elephant\_fish)\_pvalb9**

Sequence: GenBank XP\_023665037

MSLTSILSADAIAENAIKDCQAPDSFCYKKFFQLCGLSSKTPQEVKDVFRICIDDDSGFIEDEELKFFLQKFSP  
SARLLTEKETQAILNACDDDGDKIGVDEFQVLVLS

***Danio rerio* (Zebrafish)**

**>Danio\_rerio\_(zebrafish)\_pvalb1**

Sequence: GenBank NP\_991135

MAVGALLAAADVDAALAAACQAADSFDYKSFFAKVGLSAKSADEVKKAFAIIDQDNSGFIEEEEELKLFLQNFKA  
NARVLTDKETKAFLSAGDSGDGDKIGAAEEFAALVKA

**>Danio\_rerio\_(zebrafish)\_pvalb2**

Sequence: GenBank NP\_571591

MAFAGILKDEDVAAALKDCAAADSFNKYKFFAKVGLSAKSPDDIKKAFFVIDQDKSGFIEEDELKLFLQNFSFA  
GARALTDKETKAFLSAGDSGDGDKIGVDEFALLVKA

**>Danio\_rerio\_(zebrafish)\_pvalb3**

Sequence: GenBank NP\_956506

MAFAGILNEADITAALQACQAADSFDYKSFFAKVGLSAKTPDDIKKAFAVIDQDKSGFIEEDELKLFLQNFSFA  
GARALTDKETKAFLKAGDSGDGDKIGVDEFASLVKA

**>Danio\_rerio\_(zebrafish)\_pvalb4**

Sequence: GenBank NP\_997948

MAFAGVLNDADISAALEACKAADSFNHKSFFAKVGLASKSADEVKKAFAIIDQDKSGFIEEEEELKLFLQNFKA  
DARALTDGETKTFLKAGDSGDGDKIGIDEFAALVKA

**>Danio\_rerio\_(zebrafish)\_pvalb5**

Sequence: GenBank NP\_997050

MALAGILKQDDIAAAMQACQAQGSFNHESFFEQVGLIGRASSDGEKVFKALDQDKSGYIEKEELKRFLQNFCFS  
KARELTEAETNTLLAAGDKDGDGDKIGIEEFCALLK

**>Danio\_rerio\_(zebrafish)\_pvalb6**

Sequence: GenBank NP\_991136

MAMSSILNHDDIKKALDACKAPDSFNHKSFFEMVGLKAKASDDVKKAFHLLDADNSGFIEEEEELKFVLKAFAT  
DGRDLTDKETKAFLQAADKDGDKIGAAEEFAALVRE

**>Danio\_rerio\_(zebrafish)-pvalb7**

Sequence: GenBank NP\_991137

MAMKNLLKDDDIKKALDQFKAADSFHKKFFDVVGLKALSADNVKLVFKALDVDASGFIEEEEELKFVLKGFSA  
DGRDLTDKETKAFLAAADKDGDKIGIDEFEALVHE

**Danio\_rerio\_(zebrafish)\_pvalb8**

Sequence: GenBank NP\_891982

MSLTSSILSADAIDCALDKDCQAPDSFSPKKFFQLCGMTKKSPQDVKNIFNILDNDASGFIEEDELKFFLQRFSG  
GARVLTDKETKAFLAAADDDSDGKIGAEFQAMVLS

**>Danio\_rerio\_(zebrafish)-pvalb9**

Sequence: GenBank NP\_891983

MSLTSSILSAEAIENAVKDCQAPDSFCYKFFQLCGLSQKTPQEVKDVFRIIDEDNSGFIEEAELKFFLQRFPP  
GARTLTEKEIKSLLTAADDDSDGRIGVDEFQTMVSS

***Onychostoma macrolepis* (a diploid cyprinid fish without an English name)**

**>Onychostoma\_macrolepis \_pvalb1**

Sequence: Modification of GenBank KAF4115537

MAVAAMLAAADVDAIAACQAADSFNYKAFFAKVGLSAKSADDVKKAFAIIDQDNSGFIEEDELKLFLQNFKA  
GARALTDKETKAFLTAGDSDGDKIGAEFAALVKA

**>Onychostoma\_macrolepis \_pvalb2**

Sequence: GenBank KAF4106695

MAFAGILKDEDVAAALKDCAAADSFNYKNFFAKVGLSAKTPDDIKKAFFVIDQDKSGFIEEDELKLFLQNFSA  
GARALTDGETKAFLSAGDSDGDKIGVDEFALLVKA

**>Onychostoma\_macrolepis \_pvalb3**

Sequence: GenBank KAF4106696

MAFAGILNDADITAALQACQAADSFNYKSFFAKVGLSAKTPDDIKKAFAVIDQDKSGFIEEDELKLFLQNFSA  
GARALTDAETKAFLKAGDSDGDKIGIDEFAVMVKA

**>Onychostoma\_macrolepis \_pvalb4**

Sequence: Modification of GenBank KAF4115536

MAFSGVLKDADITAALAEACKAADSFNHKAFFAKVGLTSKSADDVKKAFAIIDQDKSGFIEEDELKLFLQNFKA  
NARALTDAETKTFLKAGDSDGDKIGVDEFAALVKS

**>Onychostoma\_macrolepis \_pvalb5**

Sequence: GenBank KAF4115538

MALAGHLKQDDIAAAIQACQAPGSFNYQTFFEHVGLAGKAASDGEKVFKALDQDKSGYIEKEELKRFLQNFCA  
KARELTEAETNTLLAAGDSDGDKIGMEEFCEGLLK

**>Onychostoma\_macrolepis \_pvalb6**

Sequence: Modification of GenBank KAF4116378

MAMNSILNPDDIKKALDAFQAVDSFDPKRFFEMVGLKAKSAEDVKKAFHALDADNSGFIEEEEELKFVFKHFAT  
DGRDLSDKETKAFLQAADKDGDKIGAEFAALVRE

**>Onychostoma\_macrolepis \_pvalb7**

Sequence: GenBank KAF4097886  
MAMKNLLKEDDIKKALDQFKAADSFDHKKFFDVVGLKALSAENVKLVFKALDVDASGFIEEEEELKFVLKGFSA  
DGRDLTDKETKAFLAAADKDGDKIGIDEFEALVHE

**>Onychostoma\_macrolepis \_pvalb8**

Sequence: GenBank KAF4115535  
MSLSSVLSADAIDSALKDCQAPDSFNPKKFFQLCGLTKKSPQEVKNVFNILDNDASGFIEEEEELKFFLQRFSP  
GARVLTDKETKGFLSAADDDSDGKIGADEFQAMVLS

**>Onychostoma\_macrolepis \_pvalb9**

Sequence: GenBank KAF4106697  
MSLTSILSAEAIENAVKDCQAPDSFCYKKFFQLCGLSQKSPQEVKDVFRIIDEDNSGFIEEAELKFFLQRFPP  
GARTLTEKEIKSLLTAADDDSDGRIGVDEFQTMVLS

**>Onychostoma\_macrolepis \_pvalb10**

Sequence: GenBank KAF4106694  
MAVTDVLAASDISTAINACKAKDSFSPKTTFFATVGLSKKSPPEIEKVFKMLDQDKSGFIEQDELQLFLQNFSK  
GARALTAAETKAFLMAGDLDDGDKIGWEEFSALVNAS

***Clupea harengus* (Atlantic herring)**

**>Clupea\_harengus\_(Atlantic\_herring)\_pvalb1**

Sequence: Encoded by Ensembl dataset Ch\_v2.0.2 transcript pvalb4-204  
MAFAGLLSDADIAAALGACTAADTFDHKSFFKKVGLSGKSADDVKKAFYIIDQDKSGFIEEEEELKLFLQNFKA  
GARALSDKETKAFLAAGDADGDMIGVDEFAMVKA

**>Clupea\_harengus\_(Atlantic\_herring)\_pvalb2A**

Sequence: GenBank XP\_012694367  
MAFAGILKDADIAAAITACAAADSFNYKTFFFAKCGLSAKSADEVKKAFFVIDQDKSGFIEEDELKLFLQTFKA  
GARALTDAETKAFLAAGDADGDMIGVDEFAALVKA

**>Clupea\_harengus\_(Atlantic\_herring)\_pvalb2B**

Sequence: GenBank XP\_012694369  
MAFAGILKDADIAAAIKDCAAADSFNYKTFFVKCGLSAKSSDEVKKAFFVIDQDKSGFIEEDELKFFLQTFKA  
GARALTDAETKAFLAAGDEDGDMIGVDEFAVLVKA

**>Clupea\_harengus\_(Atlantic\_herring)\_pvalb3**

Sequence: GenBank XP\_012694365  
MALASLLKGADIDAALKACEAKDSFKHKDFFAKIGLATKSAADLKKAFEIIDQDKSGFIEEEEELKLFLQNFKA  
GARALTDAETKAFLKAGDADGDMIGVDEFVSVMKP

**>Clupea\_harengus\_(Atlantic\_herring)\_pvalb4**

Sequence: GenBank XP\_031435403  
MAFAAFLKEADITAALGACKGADSFDHKAFFAKVGLKGKSGDELKKAFEIIDQDKSGFIEEEEELKLFLQNFKK  
GARALTDGETKKFLKAGDSNDGDKIGIDEFTALIKH

**>Clupea\_harengus\_(Atlantic\_herring)\_pvalb5**

Sequence: GenBank XP\_031426141  
MAITGMLKEDDIRNAIEACQGPDTFDFKSFFKLAGLCSRPOADREKVFGVVDQDQSGFIEEAELKFFLQNFL  
GARELTEAETKSFLAADCDDGDKIGMEEFCSLMN

**Clupea harengus (Atlantic herring) \_pvalb6**

Sequence: GenBank XP\_031416779

MTMDSILSADDIKKALDSFKAAESFDHNKFFEMVGLKAKSDEEIKKAFLVLDADNSGFIEEEEELKFVLKCFAP  
DGRDLTDKETKAFLNAADKDGDKIGVDEFTALVHE

**>Clupea harengus (Atlantic herring) \_pvalb7**

Sequence: GenBank XP\_031419732

MAMKDLLTEENIKKAMDAFKAAADSFDYKKFFDMVGLKAMSADSVKQVFKLLDVDESGYIEEEEELKFVLKGFSS  
EGRDLTDKETQTFLSAADKDGDKIGIDEFEALVHE

**>Clupea harengus (Atlantic herring) \_pvalb8**

Sequence: GenBank XP\_012681239

MSISSILSADAIDS AVKDCQAPDSFNCKKFFQLCGLTKKSAQDVKNVFSIIDNDGDGFVEEKELKCFLQKFSP  
GARVLTEKEAKAFLSAADGDGDGKIGADEFQAMVMS

**Clupea harengus (Atlantic herring) \_pvalb9**

Sequence: GenBank XP\_012694346

MSLTSILSAEAIDNAIKDCQDPDTFCYKKFFQLCGLSQKTPQEVKDVFRILDDDDSGFIEESELKFFLQQFVP  
TARVLTEKEAKSFMAAADKSDGKIGVDEFQSMILS

**>Clupea harengus (Atlantic herring) \_pvalb10**

Sequence: Modification of GenBank XP\_012694332

MAVKDLFAASDITSAISSCQANDSFSPKAFFATVGLSKKSPPEIEKVFRILDQDKSGFIEQEELQLFLQNFSK  
GARTLTAAETRAFMLDGMDGDGKIGWEEFSALVKSS

***Ictalurus punctatus* (channel catfish)**

**>Ictalurus punctatus (channel catfish) \_pvalb1**

Sequence: GenBank XP\_017348365

MAFAGVLADADVTAAIAACSAPDSFDYKAFFAKVGLSAKSADDVKKAFSIIIDQDNSGFIEEDELKLFLQNFSK  
GARALTDKETKAFLAAGDSGDGKIGAEFFAALVKA

**>Ictalurus punctatus (channel catfish) \_pvalb2**

Sequence: GenBank NP\_001187965

MAFAGILKDEDVAAAISACSAADSFNYKTFFAKVGLSAKSADDEIKKAFFVIDQDKSGFIEEDELKLFLQNFSK  
GARALTDAETKAFLAAGDSGDGKIGVDEFAALVKA

**>Ictalurus punctatus (channel catfish) \_pvalb3**

Sequence: GenBank XP\_017338080

MAFAGLLSDADITAALQACQAADSFNYKTFFSKVGLSGKSSDDVKKAFVIDQDKSGFIEEDELKLFLQNFSK  
GARALTDAETKAFLAAGDSGDGKIGVDEFAALVKA

**>Ictalurus punctatus (channel catfish) \_pvalb4**

Sequence: GenBank AA025757

MAFAGVLNDADITAALDACKADGSFNHKSFFTKVGLTGKSADDVKKAFAIIDQDKSGFIEEDELKLFLQNFSK  
SARALTDAETKTFLKAGDTDGDGKIGVDEFASLVKA

**>Ictalurus punctatus (channel catfish) \_pvalb5**

Sequence: GenBank XP\_017348340  
MAFAGILKEEDIAAAVQACLDPGTFCHNSFFEQVGLFSNSNVDGEKVKVLDQDKSGFIEEEEELKLFLQNQFVA  
GARELTDKETKAFLAAGDSGDGDKIGMQEFCALLN

**>Ictalurus\_punctatus\_(channel\_catfish)\_pvalb6**

Sequence: GenBank XP\_017312511  
MAMSSILNADDIKKALDTFKAADSFDHKKFFEMVGLKAKSADDVKKAFHVLDADNSGFIEEEEELKFVLKGFAT  
NGRDLTDKETKAFLKAADKDGDKIGVVEEFAALVHE

**>Ictalurus\_punctatus\_(channel\_catfish)\_pvalb7**

Sequence: GenBank NP\_001187453  
MAMQDLLKADNIKKALDTFKAADSFDHKKFFELVGLTAMSAEDVKKVFRVLDVDASGFIEEDELKFVLKGFSA  
DGRDLTDKETKAFLTAADKDGDKIGIDEFQAIVHQ

**>Ictalurus\_punctatus\_(channel\_catfish)\_pvalb8**

Sequence: GenBank NP\_001188142  
MSLTSLILSADAIDSAIKDCQAPESFNHKKFFQLCGLSKKTPQEIRTVFGILDNDGSGFIEEEEELKFFLQRFSA  
GARVLTERETKTLLSAADDDGDMIGAEFQSMVVS

**>Ictalurus\_punctatus\_(channel\_catfish)\_pvalb9**

Sequence: GenBank XP\_017338324  
MSLTDILSAEAIENAIKDCEAPDSFSYKFFQVIGLTKKSPEEVREVFRLDDNNSGFIEESELKFFLRRFVP  
GARTLTENETKNFMSGSDGNSDGKIGVDEFQSMVLS

**>Ictalurus\_punctatus\_(Channel\_catfish)\_pvalb10**

Sequence: GenBank XP\_017338318  
MAFTGFLAASDISSAINACKAKDSFSPKTFATLGLSKKTPSEIEKVKMLDQDQSGFIEQDELQLFLQNFSK  
GARTLTAAEVKAFLVAGDMDGDKIGWDEFSALVNS

***Esox lucius* (Northern pike)**

**>Esox\_lucius\_(Northern\_pike)\_pvalb2A**

Sequence: Encoded by Ensembl dataset Eluc\_v4 transcript pvalb2-204  
MSFAGLKDADVAAALAAACSAADSFKHKEFFAKVGLASKSLDDVKKAFYVIDQDKSGFIEEDELKLFLQNFS  
ARALTDKETKAFLADGDKDGMIGVDEFAAMIKA

**>Esox\_lucius\_(Northern\_pike)\_pvalb2B**

Sequence: Encoded by Ensembl dataset Eluc\_v4 transcript pvalb2-203  
MAFKGMLKDEDVAAALQAFAAADSFNHKQFFAKVGLAGKSDEDLKKAFFYLVDQDKSGFIEEEEELKLFLQTFSA  
GARALTDKETKAFLAAGDVGDMIGVDEFVTLVKA

**>Esox\_lucius\_(Northern\_pike)\_pvalb4**

Sequence: Encoded by Ensembl dataset Eluc\_v4 transcript pvalb4-201  
MACAHLCKEADIKTALEACKAPESFNFTAFFKAVGFASKTADEVKKAFQVIDQDASGFIEEEEELKLFLQNFCP  
NARTLTDKETKAFLKAGDVGDMIGIDEFAELVKQ

**>Esox\_lucius\_(Northern\_pike)\_pvalb6**

Sequence: Encoded by Ensembl dataset Eluc\_v4 transcript pvalb6-201  
MAMSSILNAADIKKALDAFAAEGSFDHKKFFEMVGLKAKSAEDVKKAFVLVDADASGFIEEEEELKFVLKGFAS  
DGRDLTDKETKAFLNEADKDGDMIGIDEFVALVHE

**>Esox\_lucius\_(Northern\_pike)\_pvalb7**

Sequence: Encoded by Ensembl dataset Eluc\_v4 transcript pvalb7-202  
MAAKDLLKADDIKKALDAVKAEGSFDHKKFFALVGLKAMSADNVKKVFKAIDADASGFIEEEEELKFVLKSFAA  
DGRDLTDAETKAFLKAADKDGDKIGIDDEFETLVHEA

**>Esox\_lucius\_(Northern\_pike)\_pvalb8**

Sequence: Encoded by Ensembl dataset Eluc\_v4 transcript pvalb8-201  
MSLSSILCTDAIETALKECLAPDSFNCRKFFQQCGLSKKSPAENVKTVFKILDNDNSGYIEEEEELKYILQRFSL  
GARVLTDKETKAFMSACDDSDGMIGADEFQAMVLS

**>Esox\_lucius\_(Northern\_pike)\_pvalb9**

Sequence: Encoded by Ensembl dataset Eluc\_v4 transcript pvalb9-201  
MSLTSILSAEAIENAVKEFQAPESFSFKFFQLCGLSSKSPKEVKDVFQILDSDNSGYIEEAELKFFLQRFVP  
GARTLTDTECKGFLSAADDDNDGKIGVEEFLTMVQS

***Gadus morhua* (Atlantic cod)**

**>Gadus\_morhua\_(Atlantic\_cod)\_pvalb1**

Sequence: GenBank XP\_030204978  
MSFAGVLADADVKAALAGCAAADSFSYKTFKACGLAAKSHEEVKKAFFVIDQDQSGFIEEDELKLFLQTFGA  
GARELTAAETKAFLAAGDVGDMIGVDEFVTLVKA

**>Gadus\_morhua\_(Atlantic\_cod)\_pvalb2**

Sequence: GenBank XP\_030196388  
MAFAGILADADCAAAVKACEAAESFSYKAFFAKCGLSGKSADDIKKAFFVIDQDKSGFIEEDELKLFLQVFKA  
GARALTDKETKAFLKAGDSGDGAIGVDEWAVLVKA

**>Gadus\_morhua\_(Atlantic\_cod)\_pvalb3**

Sequence: GenBank XP\_030196389  
MAFAGILNDADITAALAACKAEGSFDHKAFFTKVGLAAKSPADIKKVFEIIDQDKSDFVEEDELKLFLQNFS  
GARALSDAETKVFLKAGDSGDGKIGVDEFGAMIKA

**>Gadus\_morhua\_(Atlantic\_cod)\_pvalb4**

Sequence: GenBank XP\_030205636  
MAFAGILKDAEVAAALEACKSAGSFDHTKFFKSCGLAGKSSDDVKKAFGIIDQDQSDFIEEEEELKLFLQNFS  
SARALSDAETKAFLKAGDSGDGKIGVDEFAAMVKA

**>Gadus\_morhua\_(Atlantic\_cod)\_pvalb6**

Sequence: GenBank XP\_030198131  
MAMTSILSADDIKKALNAFAAADSFDHKKFFFEVVGKALSAAEVKKAFLVLDADNSGFIEEEEELKFMLKGFSS  
SGRDLTDQETKAFLNAADKDGDKIGVEEFTALVKE

**>Gadus\_morhua\_(Atlantic\_cod)\_pvalb7**

Sequence: GenBank XP\_030208758  
MAMTDLLKAEDIKKALDAFAVADSFDHRKFFELVGMRAEADSVNKFVQALDVDASGYIEEEEELKFVLKGFSE  
EGRDLTDAETKKFLDAADKDGDKIGMDEFQALVHE

**>Gadus\_morhua\_(Atlantic\_cod)\_pvalb8**

Sequence: GenBank XP\_030203868  
MSLSSILSADAIDNAIKDCQAPDSFCPKKFFQICGLSKKSPAIEVKKAFAIMDNDASGFIEEEEELKFFLQRFSP  
GARVLTAETKNFLSAADDDSDGKIGADEFQSLVLA

**>Gadus\_morhua\_(Atlantic\_cod)\_pvalb9**

Sequence: GenBank XP\_030196391  
MSLTSILSAEAIASAVKDCQEPNSFCYKKFFKLCGLTSKSPQEVKDVFSILDEDNSGYIEESELKFFLQRFVP  
GARTLTEAEAKSFVSAADDDNDGKIGVEEFQTMVQS

**>Gadus\_morhua\_(Atlantic\_cod)\_pvalb10**

Sequence: GenBank XP\_030196982  
MAITDFLAASDITSAISACKAKDSFSAKMFFKTVGLSKKTAEEVEKVFKILDQDKSGFIEQDELQLFLQNFSK  
GARNLTAETRAFLLAGDSDGDGKIGWEEFSALVKSS

***Takifugu rubripes* (Fugu)**

**>Takifugu\_rubripes\_(Fugu)\_pvalb1**

Sequence: GenBank XP\_011602188  
MAFAGILNDADVKAALDSCSAADSFNYSFFQKCGLAAKSPDDLKKAFAIIDQDNSGFIEEEEELKLFLQNFSK  
SARALSDKETKAFLAAGDSDGDGKIGVEEFAALMKA

**>Takifugu\_rubripes\_(Fugu)\_pvalb3**

Sequence: GenBank XP\_011602756  
MAFSGILSDADISAALAACQAADSFNHKSFFAKVGLAGKSKEDIAKAFGIIDQDKSGFIEEDELKLFLQNFSK  
SARALTDDETKAFLKAGDSDGDGKIGVDEFAALVK

**>Takifugu\_rubripes\_(Fugu)\_pvalb4**

Sequence: Modification of GenBank XP\_011602190  
MAFSGTLKDADVTAALAEACKADGTFEYKKFFATCGLASKSGEELKKAFAEIIDQDKSGFIEEEEELKLFLQNFSK  
GARALTDDETSAFLKAGDSDGDGKIGAEFSDMVKA

**>Takifugu\_rubripes\_(Fugu)\_pvalb5**

Sequence: GenBank XP\_003964605  
MAFAEMLSDENINAQACHAPGTFDLDSFFTQVGLSGSSQDVGEKVFTVLDQDKSGYIEEEEELKRFLQNFSK  
GARELTVAETKAVMAVLDDKDGDKIGMEEFCDILK

**>Takifugu\_rubripes\_(Fugu)\_pvalb6**

Sequence: GenBank XP\_029692838  
MAMSSILNNDIKKALDAFAVADSFDHKKFFEMVGLKSKSPDEVKKVFTVLDADNSGFIEEEEELKFVLKGFSA  
EGRDLTDKETKAFLQAADKDGDKIGVDEFTSLVKE

**>Takifugu\_rubripes\_(Fugu)\_pvalb7**

Sequence: Encoded by Ensembl dataset fTakRub1.2 transcript  
ENSTRUT00000061856  
MLMTDLLKAAEIKTALEAFAGETFDPKKFFELVGLTAMSPESVKDVFRVLDVDGSGFIEEDELKYILKGFSKE  
GRDLTDDETKAFLKAADKDGDKIGIDEFEVMVHE

**>Takifugu\_rubripes\_(Fugu)\_pvalb8**

Sequence: GenBank XP\_003964606



MSLSSILPGDAIESAIKACQAPDSFCPKKFFQMCGLSKKSPQDIKKVFAILDNDGSGYIEEEEELKFFLQRFCT  
GARVLTDKETKGFM TLADDDSDGRIGADEFQAMVSS

**>Takifugu\_rubripes\_(Fugu)\_pvalb9**

Sequence: GenBank XP\_003961387

MSLTSILSAEAIENAVKDCQAPESFCYKRFFQLCGLSSKTPKEIQDVFHILDDDDSGYFEESELKYFLQRFQP  
GARTLTEAETKSFISAADDDCDGRIGVEEFQSMVLS

**>Takifugu\_rubripes\_(Fugu)\_pvalb10**

Sequence: GenBank XP\_003961539

MAIANFLTASDITSAINACKAKDSFNPSVFFKTIGLSKKTPAEIETVFKILDQDKSGYIEQDELQLFLQNFSK  
GARPLTAAETRAFLMEGDSGDGKIGWDEFSAALVKSS

***Seriola lalandi* (Yellowtail amberjack)**

**>Seriola\_lalandi\_(Yellowtail\_amberjack)\_pvalb1**

Sequence: GenBank XP\_023262140

MAFASVLKEAEVKAALDGCSAADSFNKYKTFKACGLSGKTAEDVKKAFAIIDQDNSGFIEEEEELKLFLQNFS  
GARALTDKETKAFLAAGSDGDGKIGVDEFAALVKA

**>Seriola\_lalandi\_(Yellowtail\_amberjack)\_pvalb3**

Sequence: GenBank XP\_023285078

MAFAGVLSADITAALAACQAADSFKHKDFFAKVGLAAKSADDIKKAFAIIDQDKSGFIEEEEELKLFLQNFS  
GARALTDKETKAFLKAGSDGDGKIGVDEFAAMVKH

**>Seriola\_lalandi\_(Yellowtail\_amberjack)\_pvalb4**

Sequence: GenBank XP\_023250942

MAFKGVLDADITAALDGCKNADSFHKKFFKACGLAGKSADEVKKAFAIIDQDKSGFIEEEEELKLFLQTFKA  
GARALTDKETKTFLKAGDTDGDGKIGVDEFAAMVKH

**>Seriola\_lalandi\_(Yellowtail\_amberjack)\_pvalb5**

Sequence: GenBank XP\_023250944

MAFAGMLSDEDIKAAVKACQAPGTFFNKSFFTQVGLTGSSEADGKKVFTVLDQDKSGYIEEEEELKLFLQNFS  
GARELTVDETKSLMAVGDRDGDGKIGMEEFCDLLK

**>Seriola\_lalandi\_(Yellowtail\_amberjack)\_pvalb6**

Sequence: GenBank XP\_023251550

MAMSSILNADDIKKALDAFAVADSFHKKFFEMVGLKAKSCDDVKKVFTVLDADNSGFIEEEEELKFVLKGF  
DGRDLTDKETKAFLRAADKDGDKIGVDEFAALVKE

***Seriola lalandi* (Yellowtail\_amberjack)\_pvalb7**

Sequence: GenBank XP\_023286972

MSMTDLLKAEIKKALDAFAAETFDPKKFFEMVGMKAMTAENVKKVFQVLDVDGSGFIEEEEELKFVLKGF  
GRDLTDAETKAFLQAADKDGDKIGIDEFETMVHE

**>Seriola\_lalandi\_(Yellowtail\_amberjack)\_pvalb8**

Sequence: GenBank XP\_023250929  
MSLSSILSADAIDSAIKDCQAPDSFCPKKFFQLCGLTKKSPQDVKKVFAILDNDASGFVEEEELKFFLQRFSP  
GARVLTDKETKAFLCAADDDSDGRIGADEFQAMVLS

**>Seriola\_lalandi\_(Yellowtail\_amberjack)\_pvalb9**

Sequence: GenBank XP\_023285083  
MSLTSILSAEAIENAVKDCQAPDSFCYKKFFQLCGLSSKTPKEVKDVFQILDEDNSGFIEESELKYFLQRFIP  
GARTLTEAETKSFISAADDDSDGRIGAEFQTMVLS

**>Seriola\_lalandi\_(Yellowtail\_amberjack)\_pvalb10**

Sequence: GenBank XP\_023285072  
MAITDFLAASDITSAINACKAKDSFSPKMFFKTVGLSKKSPTEIERVFKILDQDKSGYIEQDELQLFLQNFSA  
GARPLTAAETRAFLLEGDSGDGKIGWEEFSALVKSS

***Seriola dumerili* (greater amberjack)**

**>Seriola\_dumerili\_(greater amberjack)\_pvalb1**

Sequence: GenBank XP\_022608146  
MAFASVLKEAEVKAALDGCSAADSFDYKTFKACGLAGKTAEDVKKAFAIIDQDNSGFIEEEELKLFLQNFSA  
GARALTDKETKAFLAAGDSGDGKIGVDEFAALVKA

**>Seriola\_dumerili\_(greater amberjack)\_pvalb3**

Sequence: GenBank XP\_022598222  
MAFAGVLSADITAALAACQAADSFKHKDFFAKVGLAAKSADDIKKAFAIIDQDKSGFIEEEELKLFLQNFSA  
GARALTDKETKFLKAGDSGDGKIGVDEFAAMVKH

**>Seriola\_dumerili\_(greater amberjack)\_pvalb4**

Sequence: GenBank XP\_022608144  
MAFKGVLNDAEITAALDACKNADSFHKKFFKACGLAAKSADDEVKKAFAIIDQDKSGFIEEEELKLFLQTFKA  
GARALTDKETKFLKAGDTDGDGKIGVDEFAAMVKH

**>Seriola\_dumerili\_(greater amberjack)\_pvalb5**

Sequence: GenBank XP\_022608145  
MAFAGMLSDEDIKAAVKACQAPGTFFNKSFFFTQVGLTGSSEADGKKVFTVLDQDKSGYIEEEELKLFLQNFSP  
GARELTVAETKSLMAAGDRDGDGKIGMEEFCDLLK

**>Seriola\_dumerili\_(greater amberjack)\_pvalb6**

Sequence: GenBank XP\_022612726  
MAMSSILNADDIKKALDAFAVADSFDHKKFFEMVGLKAKSCDDVKKVFTVLDADNSGFIEEEELKFVLKGFSA  
DGRDLTDKETKAFLRAADKDGDKIGVDEFAALVKE

**>Seriola\_dumerili\_(greater amberjack)\_pvalb7**

Sequence: GenBank XP\_022593842  
MSMTDLLKAEIKKALDAFAAETFDPKKFFEMVGMKAMTAENVKKVFQVLDVDGSGFIEEEELKFVLKGFSA  
GRDLTDAETKAFLQAADKDGDKIGIDEFEAMVHE

**>Seriola\_dumerili\_(greater amberjack)\_pvalb8**

Sequence: GenBank XP\_022608123

MSLSSILSADAIDSAIKDCQAPDSFCPKKFFQLCGLTKKSPQDVKKVFAILDNDASGFVEEEEELKFFLQRFSP  
GARVLTDGTETKAFLCAADDDSDGRIGAEDEFQAMVLS

**>Seriola\_dumerili\_(greater amberjack)\_pvalb9**

Sequence: GenBank XP\_022598299  
MSLTSILSAEAIENAVKDCQAPDSFCYKFFQLCGLSSKTPKEVKDVFQILDEDNSGFIEESELKYFLQRFIP  
GARTLTEAETKSFISAADDDSDGRIGAEDEFQTMVLS

**>Seriola\_dumerili\_(greater amberjack)\_pvalb10**

Sequence: GenBank XP\_022598278  
MAITDFLAASDINSAINACKAKDSFSPKMFVKTVGLSKKSPTIEIERVFKILDQDKSGYIEQDELQLFLQNFAK  
GARPLTAAETRAFLLEGDSGDGKIGWEEFSALVKSS

***Scophthalmus maximus (turbot)***

**>Scophthalmus\_maximus\_(turbot)\_pvalb1**

Sequence: GenBank  
XP\_035472137MSFAGLNAAEIKTALDGCAAADTFNYKKFFGACGLAKKSADDVKAAFQIIDQDNSGFIEEE  
ELKLFLQNFSA GARALTDKETAEFLKAGDADGDGKIGIEEFANLVKE

**>Scophthalmus\_maximus\_(turbot)\_pvalb3**

Sequence: GenBank XP\_035469716  
MAFGKILSEAEITAALAACQAADSFKHKEFFAKVGLSAKSAEQIKEAFYVIDQDKSGFIEEEEELKLFLQAFSA  
SARALTDGTETKEFLKAGDVGDKIGIDEFAEMVKQ

**>Scophthalmus\_maximus\_(turbot)\_pvalb4**

Sequence: GenBank XP\_035472139  
MAFKGVLDDAKITAALIECKKPESFCHKKFFGTCGLSAKSPADVKAAFDIIIDQDKSGFIEEDELKLFLQTFKA  
GARSLTDGTETKNLLKAGDNDGKIGAEDEFASMVKV

**>Scophthalmus\_maximus\_(turbot)\_pvalb5**

Sequence: GenBank XP\_035472138  
MAFAGMLNEEDIKAAVQACQAPGTFFNFKSFFAQVGLTGSTVADGEKVFTVLDQDRSGYIEEEEELKLFLQNFSP  
GARELTVAETKTLMASGDKDSDGKIGMEEFCDLLK

**>Scophthalmus\_maximus\_(turbot)\_pvalb6**

Sequence: GenBank XP\_035470782  
MAMSSILNTDDIKKALHAFAAADSFDHKKFFEMVGLKAKPFDDVRKVFTVLDADNSGFIEEEEELKYVLKGFSA  
DGRDLTDKETQKFLKAADKDGDKIGVDEFAALVKE

**>Scophthalmus\_maximus\_(turbot)\_pvalb7**

Sequence: GenBank XP\_035492367  
MTMTDLLKAEEIKNALEAFAAETFDHRKFFEMVGMRAMSAENVKKVFQVLDVDGSGFIEEEEELKFVLKGFSA  
GRDLTEAETKEFLKAADKDGDKIGIDEFEAMVHE

**>Scophthalmus\_maximus\_(turbot)\_pvalb8**

Sequence: GenBank XP\_035472136  
MSLSSILSADAIASAIKDCQAPDSFSPKFFELSGLSKKSQAQDVKKVFGILDNDASGFIEEDELKFFLQRFSP  
GARVLTDKETKAFLSAADDDSDGRIGAEDEFQAMVLS

**>Scophthalmus\_maximus\_(turbot)\_pvalb9**

Sequence: GenBank XP\_035469767  
MSLTLSILSAEAEIAEKAVMDCQVPDSFCHKKFFSLCGLSSKTPKEVQDVFQILDDDKSGFIEESELKYFLQRFVP  
GARTLTEAETKSFISAADGSDGKVGVEEFRSLVQS

**>Scophthalmus\_maximus\_(turbot)\_pvalb10**

Sequence: GenBank XP\_035469765  
MAVTDFLAASDVTLAINACKAKDSFSFKTFFKTVGLSKKSPKEIERVFKILDQDKSGFIEQDELQLFLQNFSA  
GARPLTAAETRAFLMEGSDGDKIGWEEFSALVKST

***Sparus aurata* (gilthead seabream)**

**>Sparus\_aurata\_(gilthead\_seabream)\_pvalb1**

Sequence: GenBank XP\_030263619  
MAFAGVLKDAEVKAALDGCSAADSFNYSFFKACGLSGKSSDEVKKAFAIIDQDNSGFIEEDELKLFLQNFVA  
SARALTDKETKAFLAAGSDGDKIGVDEFAALVKA

**>Sparus\_aurata\_(gilthead\_seabream)\_pvalb3**

Sequence: GenBank XP\_030255186  
MAFAGLLKEADITAALAACQAADSFKHKDFFAKVGLAGKSADDIKKAFAVIDQDKSGFIEEDELKLFLQNFSA  
SARALTDGETKTFLKAGSDGDKIGVDEFAAMKA

**>Sparus\_aurata\_(gilthead\_seabream)\_pvalb4**

Sequence: GenBank XP\_030262240  
MPFAGLTDADVAALDGCKDAGSFDHKKFFAACGLSKKSGDDVKKKAFAVIDQDKSGFIEEEELKLFLQNFSA  
ARALTDDETKKFLKAGDGDGDKIGVDEFAAMVKV

**>Sparus\_aurata\_(gilthead\_seabream)\_pvalb5**

Sequence: GenBank XP\_030263620  
MAFAGMLSDEEDVKAQAVQACQTPGTFDFKTFARVGLTGSSEADGKRVFTILDQDRSGYIEEEELKLFLQNFSP  
EARELTVAETKALMAAGDKDGDGDKIGLEEFCDILK

**>Sparus\_aurata\_(gilthead\_seabream)\_pvalb6**

Sequence: GenBank XP\_030264822  
MAMSSILNADDIKKALDAFAAADSFDYRKFFDMVGLKAKSSDDVKKVFKVLDADNSGFIEEEELKFVLKGFSA  
DGRDLTDKETKAFLNAADKDGDKIGVDEFVQLVTE

**>Sparus\_aurata\_(gilthead\_seabream)\_pvalb7**

Sequence: GenBank XP\_030272489  
MSMTDLLKAEEIKKALDAFAAETFDPKKFFEMVGLKAMTAENVKRVFKVLDVDGSGFIEEEELKYVLKGFSA  
GRDLTDDETRAFLKAADKDGDKIGIDEFEVLVHE

**>Sparus\_aurata\_(gilthead\_seabream)\_pvalb8**

Sequence: GenBank XP\_030262580  
MSLSSILSADAIDSAIKDCQAPDTFCPKKFFQACGLTQKSPQDVKKAFAILDNDGSGFIEEEELKFFLQRFSP  
GARVLTDKETKGFLAAADDDSDGRIGAEFQAMVLS

**>Sparus\_aurata\_(gilthead\_seabream)\_pvalb9**

Sequence: GenBank XP\_030255407  
MSLTLSILSAEAEIAEKAVKDCQAPDTFCYKKFFQLCGLSSKSPKEIKDVFKILDEDNSGFIEESELKYFLQRFVP  
GARTLTEAETKRFISAADDDSDGRIGAEFQTMVLS

**>Sparus\_aurata\_(gilthead\_seabream)\_pvalb10**

Sequence: GenBank XP\_030255320  
MAITDFLAASDITSAINACKGKDSFSPKMFFKTVGLSKKTPTEIEGVFKILDQDKSGFIEQDELQLFLQNFSK  
GARTLTAAETRAFLLEGDSGDGDKIGWEEFSALVKSS

**>Sparus\_aurata\_(gilthead\_seabream)\_pvalb-like**

Sequence: GenBank XP\_030256701  
MEDDFRPQMKKMAVAMGASLTEQDIDHMPPGMTSQGIFHYSRFLEYMRQFKTSEQREEAIKKAFFVMLDKDASG  
YIEWNEIKYILSTVPTATPSAPLSDEEVEAMIQAVDTDGDGRISYREFSDMVKKEKELKK

***Oreochromis niloticus* (Nile tilapia)**

**>Oreochromis\_niloticus\_(Nile\_tilapia)\_pvalb1**

Sequence: GenBank XP\_003452874  
MAFAGVLSADADVKAALDGCAAADSFYKFFKASGLAAKTADDVKKAFKIIDQDNSGFIEEEELKLFLQNFS  
GARALTDKETKAFLSAGDSGDGDKIGIDEFAALVKA

**>Oreochromis\_niloticus\_(Nile\_tilapia)\_pvalb3**

Sequence: GenBank XP\_013129480  
MAFAGILTADITAAALACQAADSFKHKDFFAKVGLAGKSADDIKKAFAVIDQDKSGFIEEDELKLFLQNFS  
SARALTDKETKATFLKAGDSGDGDKIGVDEFAALVKS

**>Oreochromis\_niloticus\_(Nile\_tilapia)\_pvalb4**

Sequence: GenBank XP\_003452873  
MAFAGVLTADIAAALDASKDAGTFDHHKFFKSCGLHGKSADDIKKAFAIIDQDKSGFIEEDELKLFLQNFS  
GARVLNDAETKAFLGAGDTDGDGDKIGADEFVVLVKAT

**>Oreochromis\_niloticus\_(Nile\_tilapia)\_pvalb5**

Sequence: GenBank XP\_005457817  
MAFAGMLSDEDIQAAVQACQAPGTFNFKSFFEQVGLTGLSEADRRKVFTVLDQDKSGYIEEEELKLFLQNFS  
GARELTVAETKALMAAGDKDSDGDKIGIEEFCDLLK

**>Oreochromis\_niloticus\_(Nile\_tilapia)\_pvalb6**

Sequence: GenBank XP\_003443184  
MAMSSILNTDDIKKALDAFAVADSFDHKKFFEMVGLKSKSADDVKKVFTVLDADNSGFIEEEELKFVLKGF  
DGRDLTDKETKAFLKAADKDGDKIGVDEFTALVKE

**>Oreochromis\_niloticus\_(Nile\_tilapia)\_pvalb7**

Sequence: GenBank XP\_003459401  
MVMTDLLKPEEIKKALDAFAAETFDPKKFFEMVGMKAMSAENVKKVFQVLDVDGSGFIEEEELKFVLKGF  
GRDLTDAETKAFLTAADKDGDKIGIDEFEALVHE

**>Oreochromis\_niloticus\_(Nile\_tilapia)\_pvalb8**

Sequence: GenBank XP\_003452872  
MSLSSILSADAIDSAIKDCQAPDSFCAKKFFQMCGLTKKSPQDIKKVFGILDNDASGFIEEEELKFFLQ  
GARVLTDKETKAFLSAADDDSDGMIGADEFQAMVLS

**>Oreochromis\_niloticus\_(Nile\_tilapia)\_pvalb9**

Sequence: GenBank XP\_005448188  
MSLTSILSADDIQNAIKDCEAPDTFCYKKFFKLCGLSSKTPKEVKDVFQILDEDNSGYIEHSELKFFLQ  
SARTLTDAETKSFISAADDDSDGDKIGVEEFQSMVLS

***Oryzias latipes* (Japanese medaka)**

**>Oryzias latipes \_(Japanese\_medaka\_drRD)\_pvalb1**

Sequence: GenBank XP\_004071520

MAFAGLNDADVKAALDGC AAADSFDYKKFFKACGLASKSADEVKKAFATIDQDNSGFIEEEEELKLFLQNFSAG  
ARALTDKETKTFLAAGDSDGDGKIGVDEFASLVKA

**>Oryzias latipes \_(Japanese\_medaka\_drRD)\_pvalb3**

Sequence: GenBank XP\_011486186

MAFAGVLNDADITAALAACKAADSFKHKEFFAKVGLAAKSADEIKKAFGIIDQDQSGFIEEEEELKLFLQNFAA  
GARVLTD AETKTFLKAGDSDGDGKIGVDEFAAMVKG

**>Oryzias latipes \_(Japanese\_medaka\_drRD)\_pvalb4**

Sequence: GenBank XP\_004071524

MAFAGVLNDADITKALDECKGADTFDYKKFFKTCGLAGKSADEVKKAFYIIDQDKSGFIEEDELKLFLQNFS A  
GARVLS DGETKTFLKAGD VDGDKIGADEFSALVKA

**>Oryzias latipes \_(Japanese\_medaka\_drRD)\_pvalb5**

Sequence: GenBank XP\_004071522

MAFAGMLSEENIKA AVQACQAPGTFDFRSFFAQVGLIDSSEADRRKVFTVLD RDESGYIEEEEELKLFLQNFFP  
GARELTGAETKALIAAGDKDCDGKIGMDEFCDLLE

**>Oryzias latipes \_(Japanese\_medaka\_drRD)\_pvalb6**

Sequence: GenBank XP\_023813489

MAMSSILNADDIKKALDAFAVADSF DHKKFFEILGLRAKSADDVKKVFTVLDADNSGYIEEEEELKFVLKGFAK  
DGRDLTDKETKAFLKAADKDGDKIGVDEFTALVKE

**>Oryzias latipes \_(Japanese\_medaka\_drRD)\_pvalb7**

Sequence: GenBank XP\_023814662

MVMTDLLKP EEIKKALDAFAAETFDPKKFFEMIGMRAMTAENVKKVFQVLDVDASGYIEEDELKFVLKGF SKD  
GRDLTDAETKAFLQAADKDGDKIGIDEFEALVHE

**>Oryzias latipes \_(Japanese\_medaka\_drRD)\_pvalb8**

Sequence: GenBank XP\_020561005

MSLSSILSADAIDKAIKDCQAPDSFCPKKFFQICGLTQKSPQDIKKVFGILDNDASGYIEDEELKFFLQRFTP  
SARVLTDKETKAFLVAADGSDGGRIGAAEFQTLVLS

**>Oryzias latipes \_(Japanese\_medaka\_drRD)\_pvalb9**

Sequence: GenBank XP\_004080202

MSLSSILSAEAIENAVKDCQAPDSFSFKKFSQLCGLSSKTPQEIRDVFQILDEDNSGYIEESELKFFLQRFLP  
GARTLTEAETKSFISAADDNSDGRIGVDEFQAMVLS

## Other parvalbumin sequences

(The below sequences are listed in alphabetic order based on the species names)

### *Amphiura means* (two-toed amphiura)

#### >Amphiura\_means\_(two-toed\_amphiura)\_pvalb-beta

Sequence: GenBank P02616

AITDILSAKDIEAALSSVKAASFNYKTFFTKCGLAGKPTDQVKKVF DILDQDKSGYIEEDELQLFLKNFCSS  
ARSLSNAETKAFLFAGDSDGDGKIGVDEFQALVRS

#### >Amphiura\_means\_(two-toed\_amphiura)\_pvalb-alpha

Sequence: GenBank P02626

SMTDVIPEADINKAIHAFKAGEAFDFKKFVHLLGLNKRSPADVTKAFHILDKDRSGYIEEEELQLILKGF  
SKEGRELTDKETKDLLIKGDKDGDGKIGVDEFTSLVAES

### *Coryphaenoides rupestris* (roundnose grenadier)

#### >Coryphaenoides\_rupestris\_(Roundnose\_grenadier)\_pvalb1\_(partial,\_maybe\_pseudogene)

Sequence: Encoded by GenBank genomic sequence PIJE02000705

MAFEGLAEADVKAALAGCTAADSFNKYKTFFAACGLAKKSDADVKKAFFVIDQDQSGFIEEDEL

#### >Coryphaenoides\_rupestris\_(Roundnose\_grenadier)\_pvalb4

Sequence: Encoded by GenBank genomic sequence PIJE02000705

MALRGILKDADVTAALDACKVAGSFDHKKFFSSCGLSSKSSADVKKAFGIIDQDKSDFIEEDELKLFLQNFS  
GARALSDAETKVFLQAGD TDGDGKIGVDEFAAMVKA

#### >Coryphaenoides\_rupestris\_(Roundnose\_grenadier)\_pvalb5

Sequence: Encoded by GenBank genomic sequence PIJE02000705

MTFTEMLKDEDVKA AVQACQAPGTFDHKAFFEQVGLSGSAEDMAERVFTALDQDKSGYIEEEELKTSSPGARV  
LTVAETKALLAAGDKDGDGKIGMAEFCALLK

#### >Coryphaenoides\_rupestris\_(Roundnose\_grenadier)\_pvalb8\_(maybe\_pseudogene)

Sequence: Encoded by GenBank genomic sequence PIJE02000705

MSLSSILSADAIDNAIKDCQAPRSSKLKCLGLSKKSAADVKKAFSIMDNDASGFIEEEELKFFLQRFSPGARV  
TASETKAFLNAADDDSDGKIGADEFQSLVLS

### *Ctenopharyngodon idella* (grass carp)

#### >Ctenopharyngodon\_idella\_(grass\_carp)\_pvalb4

Sequence: GenBank QCY53440

MAFAGILNDADIAAAL EACKAADSFNHKAFFAKVGLSAKSGDDVKKAFAIIDQDKSGFIEEDELKLFLQNFKA  
DARALTD AETKIFLKAGDSDGDGKIGVDEFAALVKA

### *Cyprinus carpio* (common carp)

**Cyprinus carpio (common carp) \_cyp\_c 1.01\_pvalb3 (Chr.B12)**

Sequence: GenBank XP\_018969314

MAFAGILNDADITAALQGCQAADSFYKSFFAKVGLSAKTPDDIKKAFVIDQDKSGFIEEDELKLFLQNFS  
GARALTDGETKTFLKAGDSGDGKIGVDEFAALVKA

**>Cyprinus carpio (common carp) \_pvalb4 (Chr.A3)**

Sequence: GenBank XP\_018966256

MAFAGVLNDADIAAALEACKAADSFNHKAFFAKVGLTSKSADDVKKAFIIDQDKSGFIEEDELKLFLQNFK  
DARALTDGETKTFLKAGDSGDGKIGVDEFTALVKA

**>Cyprinus carpio (common carp) \_pvalb4 (Chr.B3)**

Sequence: GenBank XP\_018966236

MAFAGVLNDADITAALQGCQAADSFNHTFFAKVGLTSKSADDVKKAFIIDQDKSGFIEEDELKLFLQNFK  
GARALTDGETKTFLKAGDSGDGKIGVDEFTALVKA

**Lates calcarifer (barramundi perch)**

**>Lates calcarifer (barramundi perch) \_pvalb3**

Sequence: GenBank XP\_018528002

MAFAGILNEADITAALQGCQAADSFHKHDFVVKVGLAGKSDDDVKKAFIIDQDKSGFIEEDELKLFLQNFS  
SARALTDGETKTFLKAGDSGDGKIGVDEFAALVKV

**>Lates calcarifer (barramundi perch) \_pvalb4**

Sequence: GenBank XP\_018526999

MAFSNVLSDSVAALDGCCKDAGTFDHKKFFSACGLSNKTSDDVKKAFIIDQDKSGFIEEEEELKLFLQNFK  
DARVLTDTVETSTFLKAGDSDGDKIGADEFTALVKP

**Mustelus griseus (spotless smooth-hound shark)\_**

**>Mustelus griseus (spotless smooth-hound shark) \_SPV-II**

Sequence: GenBank 5ZH6

GSITTVLNATDIAKALQAGSFNHKTFFVTSGLTNKSANLAKVFDILDQDRSGFIEVDELKLFLQNFSATA  
RELDETETNAFLAAGDSDDHDKIGVDEFKAMVKA

**>Mustelus griseus (spotless smooth-hound shark) \_SPV-I**

Sequence: GenBank 5ZGM

MPMTKVLKADDINKAVSAFKDPGTFDYKRFFQLVGLKGKSEAQVKEVFEILDQDKSGFIEEEEELKSVLKGFS  
HGRDLSDTETKALLAAGDSDDHDKIGADEFAKMVAQA

**Pelophylax lessonae (pool frog) pvalb-beta**

**>Pelophylax lessonae (pool frog) pvalb-beta**

Sequence: GenBank CAC95152

MSITDIVSEKDIDALESVKAAGSFNYKIFFQKVGLAGKSAADAKKVFEILDRDKSGFIEQDELGLFLQN  
FRASARVLSDAETSAFLKAGDSGDGKIGVEEFQALVKA

**>Pelophylax lessonae (pool frog) pvalb-alpha**

Sequence: GenBank CAC83046

MPMTDLAAGDISKAVSAFAAPESFNHKKFFELCGLKSKSKEIMQKVFHVLDQDQSGFIEKEELCLILKG  
FTPEGRSLSDKETALLAAGDKDGDGKIGVDEFVTLVSES



### **Plecoglossus altivelis (ayu)**

#### **>Plecoglossus\_altivelis\_(ayu)\_pvalb2**

Sequence: Encoded by GenBank genomic sequence BNHK01000005  
MAFAGILKDDDVAAAIKACAAADSFKYKEFFAKVGLSAKSADDVKKAFYVIDQDKSGFIEEDELKFLQNFAA  
GARALTAETKAFLKAGDADGDMIGVDEFAALVKA

#### **>Plecoglossus\_altivelis\_(ayu)\_pvalb3**

Sequence: Encoded by GenBank genomic sequence BNHK01000005  
MAFAGVLKDDDDITAALAACKAADSFKYKDFFAKVGLASKSADDVKKAFGIIDQDKSGFIEEEEELKFLQNFAA  
GARALTAETKAFLKAGDADGDMIGMDEFAALVKS

### **Salmo salar (Atlantic salmon)**

#### **>Salmo\_salar\_(Atlantic\_salmon)\_pvalb4\_(Chr.3)**

Sequence: GenBank NP\_001117190  
MACAHLCKEADIKTALEACKAADTFSFKTFFHTIGFASKSADDVKKAFKVIDQDASGFIEVEELKFLQNFCP  
KARELTAETKAFLKAGDADGDMIGIDEFAVLVKQ

#### **>Salmo\_salar\_(Atlantic\_salmon)\_pvalb5\_(Chr.3)**

Sequence: GenBank XP\_014049628  
MAFTGLLREEDIRAAVKACQAPSTFNFKLFFAQVGLTGKPEAEGQRVFRVLDQDQSGYIEEEEELKFLQNFSS  
GARELTAETRLLAAGDRDGDGKIGMEEFCALLK

#### **>Salmo\_salar\_(Atlantic\_salmon)\_pvalb10\_(Chr.28)**

Sequence: GenBank NP\_001134150  
MALTDFLAASDITSAINACRÄNDSFSPKKFFAMVGLSKKSPPEIEKIFMILDQDKSGYIEQDELQLFLQNFSK  
GARPLTAAETRAFLLAGDKDGDGKIGWDEFSNLVMSS

### **Sardinops melanostictus (crimson seabream)**

#### **>Sardinops\_melanostictus\_(crimson\_seabream)\_pvalb4**

Sequence: GenBank BAF98921  
MALAGLVKEADITAALAEACKAADSFDHKAFFHKVGMMSGKSADELKKSFAIIDQDKSGFIEEEEELKFLQNFKK  
KARALTDGETKNFLKAGDTDGDGKIGIDNFNHLVKH

### **Scomber japonicus (Pacific mackerel)**

#### **>Scomber\_japonicus\_(Pacific\_mackerel)\_pvalb4**

Sequence: GenBank ABJ98932  
MAFASVLKDAEVTAAALDGCKAAGSFDHKKFFKACGLSGKSTDEVKKAFAIIDQDKSGFIEEEEELKFLQNFKA  
GARALSDAETKAFLKAGDSGDGKIGIDEFAAMIKG

### **Triakis semifasciata (leopard shark)**

#### **>Triakis\_semifasciata\_(leopard\_shark)\_pvalb-alpha**

Sequence: GenBank P30563  
PMTKVLKADDINKAISAFKDPGTFDYKRFFHLVGLKGKTDQVKEVFEILDQDKSGFIEEEEELKGV  
LKGFSAHGRDLNDTETKALLAAGDSDHDGKIGADEFAKMVAQA