

Fig. S1 Kawaguchi et al

(A)

O.mykiss	TGTSVETLLIEVRTYPNFNPVVSVDVAVLHVELRLANGRCOL
O.masou	TGTSVETLLIEVRTYPNFNPVVSVDVAVLKVVELRLANGRCOL
Salmo	TGTSVETLVIEVKTYPNFNPVVTVDVAVLNVELRLANGRCOL
Glossanodon	LGTSVSESVVFELR-LMDPFAPVITSGPLOVALRLASGECL
Gadus	RGVSVETLMTQTMNLAGVVAIAPVIGPIQVELRLGNGVCT
Liparis	IGTIVQIVVVEVSPLLDPPISVAAVGPIRVELRLGNGOCI
Gasterosteus	IGTAVETLVVEVLPKDPPLPVAAYGPIRVALRLANGVCS
P.sinensis	IGTAVETLVVEVLPKDPPLPVAAYGPIRVALRLANGVCS
P.pungitius	IGTAVETLVVEVLPKDPPLPVAAYGPIRVALRLASGVCS
Culaea	IGTAVETLVVDVSAIINVPPFPVAAYGPIRVALRLANGVCS
Spinachia	IGTAVETLVVEVLPREPPPLPVAAYGPIRVALRLANGVCS
Apeltes	IGTAVETLTAEVLPKDPPLPVAAYGPIRVALRLANGVCS
Sparus	TALSVETLVVEVLPLODPPPLPVAALGPISVHLRLANGVCS
Tetraodon	TATSVNSLVITFELPSSD-PPQPVASIGFVRVLMRLANGKCT
Takifugu	TAIL--SLVVELIPGTLPL-PVASTGFLRVHMLANGICT
Verasper	TGTSIETVVEVLPLODPPPLPVAALGPIRVQLRLANGECL
Pseudopleuro	TGLSIEETVVEVLPNTPPFPVAALGPIRVQLRLANGECE
Oreochromis	IGTDVETVVEVLPQNIPLPVSAMGPIINVVMRLANGRCOL
Fundulus	IGTSVETLVVEVLPDNPPLPVAELGPIRVALRLANGVCS
Cypselurus	VGTSVETLVVEVLPDNPPLPVADFGPQLVHMLRANGVCS
Hyporhamphus	VGTSVETLTAEVLPDNPPLPVAEFGPQLVHMLRANGVCS
Ablennes	IGTSVETLLAEVLPDNPPLPVADFGPIHVMHMLRANGVCS
Cololabis	IGTSVETLLVEVLPDNPPLPVADFGPIHVMHMLRANGVCS
O.latipes	RATSVETLVVEVLPDPSPLSIAELGPLNVYLQIANGVCS

(B)

O.latipes	RATSVETLVVEVLPDPSPLSIAELGPLNVYLQIANGVCS
O.luzonensis	HATSVETLVVEVLPDPSPLSIAELGPLNVYLQIANGVCS
O.mekongensis	HATSVETLVVEVLPVDSPLSIAELGPLNVYLQIANGVCS
O.celebensis	HATSVETLVVEVLPVDSPLSIAELGPLNVYLQIANGVCS
O.marmoratus	HATSVETLVVEVLPVDSPLSIAELGPLNVYLQIANGVCS
O.javanicus	HATSVETLVVEVLPVDSPLSIAELGPLNVYLQIANGVCS
O.dancena	HATSVETLVVEVLPVDSPLSIAELGPLNVYLQIANGVCS

(C)

O.mykiss	YLDIQSSGGCFGTMGTVGDRQTLISLAQFGCVQHGIIQH...	74	91	NWQYIYNYAVENFQKRDNTNNL...	135	IPDPSVAIGQRQGMSDIDVLR	183
O.masou	YLDIQSSGGCFGTMGTVGDRQTLISLAQFGCVQHGIIQH...			NWQYIYNYAVENFQKRDNTNNL...		IPDPSVAIGQRQGMSDIDVLR	
Esox	YLQIESRGGCFSSMGRVGEKQIISLAAYSCTQHGIIRH...			NWDYVADYASDNFQKRDNTNNL...		IPDESVRIGQRKEMSDIDILR	
Plecoglossus	YLHIVPKTGCFSGIGCYGDKQIVLSKAGCLQKGIIOH...			NWDNVNSY--SDFVKEDTNNL...		IPDPNVVLGQRVMSAIDIKR	
Spirinchus	YLNIVPKNGCFSGIGCYGDKQIVLSKAGCLQKGIIOH...			DWANVNSP--SDFAKEDTNNL...		IPNANVKIGQRVMSAIDIQR	
Hypomesus	YLHIVPKNGCFSGIGCYGDKQIVLSKAGCLQKGIIOH...			DWSNVRSF--SDFAKEDTNNL...		IPNANVDIGQRVMSAIDVQR	
Glossanodon	YVIFESRFGCSSLGHSGLFHSISLRFGLHHGIIQH...			NWENIPTHAAVNFQKRDNTNNL...		IPDPNVPIGQRISMSDIDILR	
Gadus	YLFKSLFGCFSSVGRIGERQVIVSLQRFQCVNNGIIOH...			NWENIHPDKLYNFQKRDNTNNL...		IPDASVRIKNGISGLDIOK	
Helicolenus	YLSIEPRSGCSSLIGTGGKQIVLSLQRFQCVRHGIIQH...			NWDNIYKVFVNFQKRDNTNNL...		IPDSSVPIGQRDELSDIDILR	
Setarches	YLSIEPRYGCSSLIGTGGKQIVLSLQRFQCVRHGIIQH...			NWDNIYKVFVNFQKRDNTNNL...		IPDSSVPIGQREELSKMDIVR	
Gasterosteus	YLSIEPRAGCFSGVGRIGDKQVVSQRFQCVQNGIIOH...			QFNNVPSYMQYNFVKQESDYL...		IPDSSVPIGQRVTMSDIDILR	
P.sinensisα	YLSIEPRAGCFSSVGRVGFQVVSQRFQCVVNGIVEH...			KWDNISDMQYNFVKQESDYL...		IPDPNVPIGQRVTMSDIDILR	
P.sinensisβ	YLSIEPRAGCFSSVGRVGFQVVSQRFQCVVNGIVEH...			KWDNISDMQYNFVKQESDYL...		IPDPNVPIGQRVTMSDIDILR	
P.pungitiusα	YLSIEPRAGCFSSVGRVGFQVVSQRFQCVVNGIVEH...			KWDNISDMQYNFVKQESDYL...		IPDPNVPIGQRVTMSDIDILR	
P.pungitiusβ	YLSIEPRAGCFSSVGRVGFQVVSQRFQCVVNGIVEH...			KWDNISDMQYNFVKQESDYL...		IPDPNVPIGQRVTMSDIDILR	
Culaea1	YLSIEPRAGCFSSVGRVGFQVVSQRFQCVVNGIVEH...			QWDNISGMQYNFVKQESDYL...		IPDSTVPIGQRVMSDIDILR	
Culaea2	YLSIEPRAGCFSSVGRVGFQVVSQRFQCVVNGIVEH...			QWDNISGMQYNFVKQESDYL...		IPDSTVPIGQRVMSDIDILR	
Spinachia	YLSIEPRAGCFSSVGRVGFQVVSQRFQCVVNGIVEH...			KWDNISDMQYNFVKQESDYL...		IPDSSVPIGQRVMSDIDILR	
Apeltes	YLSIEPRAGCFSSVGRVGFQVVSQRFQCVVNGIVEH...			QWDNISAMQYNFVKQESDYL...		IPDPNVPIGQRVTMSDIDILR	
Tetraodon	YLSIEPRAGCFSSVGRVGFQVVSQRFQCVVNGIVEH...			LWDNIIDHYVNFQKRDNTNNL...		IPDSSVDIGQRVMSAIDVLR	
Takifugu	YLSIEPRAGCFSSVGRVGFQVVSQRFQCVVNGIVEH...			LWENIIDHYVNFQKRDNTNNL...		YDSSVEIGQRDGMSEIDVLR	
Verasper	YLSIEPRYGCSSLIGHVGDQVVSQRFQCVVNGIVEH...			NWDNINEYFTYVNFQKRDNTNNL...		IPDTSVAIGQRGMSDIDVLR	
Paralichthys	YLSIEPRYGCSSLIGHVGDQVVSQRFQCVVNGIVEH...			NWDNINEYFTYVNFQKRDNTNNL...		IPDPSVAMQRNGMSHIDVLR	
Oxyeleotris	YLSIEPRYGCSSLIGHVGDQVVSQRFQCVVNGIVEH...			NWDNINEYFTYVNFQKRDNTNNL...		IPDPNVPIGQRDRMSDIDVLR	
Oreochromis	YLSIEPRYGCSSLIGHVGDQVVSQRFQCVVNGIVEH...			NWQNIKDYFINFQKRDNTNNL...		IPNPNVPIGQRVMSDIDILR	
Fundulus	YLSIEPRYGCSSLIGHVGDQVVSQRFQCVVNGIVEH...			NWDNINEYFTYVNFQKRDNTNNL...		IPDPNVPIGQRVMSDIDILR	
Cypselurus	YLNIEPKYGCSSLIGRTGDKQIVLSQRFQCVVNGIVEH...			NWENIKEYYLNFKKMDTNNL...		IPDSSVPIGESKSLSDIDVLR	
Ablennes	YLNIEPKYGCSSLIGRTGDKQIVLSQRFQCVVNGIVEH...			NWKNVKEYYLNFKKMDTNNL...		IPDSTVPIGESKSLSDIDILR	
Cololabis	YLNIEPKYGCSSLIGRTGDKQIVLSQRFQCVVNGIVEH...			NWKNVKEYYLNFKKMDTNNL...		IPDPNVPIGESKSLSDIDILR	
O.latipes	YLSIEPRFGCKSMGTVGDKQVVSQRFQCVVNGIVEH...			NWENIHKDFTHNFQKRDNTNNL...		IPNPKAAIGQTERMSDIDILR	

(D)

O.latipes	YLSIEPRFGCKSMGTVGDKQVVSQRFQCVVNGIVEH...	74	91	NWENIHKDFTHNFQKRDNTNNL...	135	IPNPKAAIGQTERMSDIDILR	183
O.luzonensis	YLSIEPRFGCKSMGTVGDKQVVSQRFQCVVNGIVEH...			NWENIKEYYTHNFQKRDNTNNL...		IPNPKAAIGQTVGMDIDILR	
O.mekongensis	YLSIEPRFGCKSMGTVGDKQVVSQRFQCVVNGIVEH...			NWENIQVYTHNFQKRDNTNNL...		IPNSKAAIGQTVGMSDIDILR	
O.celebensis	YLSIEPRFGCKSMGTVGDKQVVSQRFQCVVNGIVEH...			NWNNVIESYTHNFQKRDNTNNL...		IPNPNVAIGQTVGMSDIDILR	
O.marmoratus	YLSIEPRFGCKSMGTVGDKQVVSQRFQCVVNGIVEH...			NWNNVIESYTHNFQKRDNTNNL...		IPNPNVAIGQTVGMSDIDILR	
O.javanicus	YLSIEPRFGCKSMGTVGDKQVVSQRFQCVVNGIVEH...			LWDNIEYTHNFQKRDNTNNL...		IPNSNVAIGQTVGMSDIDILR	
O.dancena	YLSIEPRFGCKSMGTVGDKQVVSQRFQCVVNGIVEH...			NWDNIEYTHNFQKRDNTNNL...		IPNANAAIGQTVGMSDIDILR	