

SUPPLEMENTARY INFORMATION

Supplementary Figures

Figure S1: Multiple deduced amino acid alignment of $\alpha 1$ domains of *SNC* genes and *XNC* subfamilies. The alignment of *XNC* subfamilies and *SNC* genes with representative *X. laevis* and *S. tropicalis* class Ia was generated using ClustalX and manually adjusted with GeneDoc v2.5. Black shading indicates identical residues among all sequences. Gray shading indicates similar residues among most sequences. Dotted lines are used to depict the grouping of *SNC* genes into subfamilies and the gene name is illustrated next to the sequence.

Figure S2: Multiple deduced amino acid alignment of $\alpha 2$ domains of *SNC* genes and *XNC* subfamilies. Deduced amino acid sequence alignment of *XNC* subfamilies and *SNC* genes with representative *X. laevis* and *S. tropicalis* class Ia is generated using ClustalX. Alignment is viewed and manually adjusted with GeneDoc v2.5. Shading is as described in Figure S1.

Figure S3: Nucleotide alignment of $\alpha 1$ and $\alpha 2$ domains of *SNC10* RACE-PCR Products. Alignment of *SNC10* RACE-PCR products was generated using ClustalX and manually adjusted with GeneDoc v2.5 from cDNA made from a pool of 20 *S. tropicalis* larval thymuses and spleen. The sequence labeled 'Genom' represents the original *SNC10* sequence that came from the genome sequencing project. Shading of the alignment is as described in Figure S1.

Figure S4: Multiple deduced amino acid alignment of $\alpha 3$ domains of *X. laevis* and *S. tropicalis* class Ia, *SNC* genes and *XNC* subfamilies. Alignment of $\alpha 3$ domains of *Xenopodinae* class Ia and class Ib sequences. Black triangles indicate putative $\beta 2m$ interaction sites and black circles represent putative CD8 interaction sites, modified from (12).

Fig. S2

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      *           20           *           40           *           60           *           80           *
Str_386177 : --GGDRDTHIYQRKAACELRDGGTSGGYQEIAFDGKKEFLIAYDKEKVVYIPSTQEAVMVSHLWNKHYS--STNSKMEMEIDCIQHMKMYLPYISTDLEKK : 95
Xla_XNC1  : ---GNGHIHVYQRKSACELHDDGTIGGYQDIAFDGKKEFLIVFDKERAVYITSTQEAVMVSHLWNKRYD--STDSKMFLEIDCIKHKMYLPYISNDLEKK : 94
Str_386184 : --KSNGNIHIYQRKACELHDDGTIGGYQEIAFDGKDFIVFDKEKVVYVPVTHEAVMVSHLWNKRYD--PTSSKFMETDCIQHMEMYLPYISTDLEKK : 95
Str_386268 : ---DNGDTHIYQTRNACELHDDGTIGGYQEIAFDGKEILVYDKERVVFKPVTHEAVMMSHLWNERYD--STYTEIFMEIDCIEHMKMYLPYISTDLEKK : 94
Xla_XNC4  : ---SNGDIHVYQTMNACELRDGTISGYQEIAFDGKELLVYDKERVTFFVPTQEAVMVAQLWNKRYD--STYTKIFMEIDCIEHMKMYLPYISTDLEKK : 94
Xla_XNC3  : ---GNGHIHVYQRKAACEINDATI DGYQEIAFDGKELLVFDKERVVYVPATHEVVMVSQLWNKLYD--STNNKVFVEIDCIEHMKLYLPYISVEIMKK : 94
Str_386185 : ---GEWDTHIYQRKACELHDDGTIGGYEEIAFDGKKEFFIFDKERVVYVPVPTQEAVMVSHLWNI RYD--PTDSKVYVENDCIEHMKLYLPYIISTDLEKK : 94
Xla_XNC2  : -SKGNEDIHIYQRKSACELHDDGTIGGYQEIAFDGKKEFFIFDKKRVMYLPVSDAVMVSRLWNI RYD--ATDSKHEIENECIEHMKLYLPYIISTDLEKK : 96
Str_386272 : ---G-EDIHVYQRKACERHDDGTVDGYQEIAFDGKELLVFDKERAEYVPVTEEAEMVAHLWNIHYE--SADSKVYVENDCIEHMKLYLPYIISTDLEKK : 93
Str_386297 : --RGKCNNGIYQRFLACELYEDGTIGGYEEIAFDGQELLVYDKERVVYVPVPTQEAEMLSFIWNI RCG--PTDTKIYMENDCIEHMKLYLPYIISTDLERK : 95
Str_386304 : --RGKCNNGIYQRFLACELYEDGTIGGYEEIAFDGQELLVYDKERVVYVPVTHEAEMLSFIWNI CYG--PTDTKIYMENDCIEHMKLYLPYIISTDLERK : 95
Str_182059 : -----GNGNIYQRFLACELYEDGTIGGYEEIAFDGKKEFFSFDKERVVYVPVPTQEAAMLSYLWNI RYD--PTDTKIYMENDCIEHMKLYLPYIISTDLEKK : 92
Str_386302 : ---SDRDTHIYQSFACELHDDGTIGGYQEIAFDGKALIIFDKENVTYVPVPTQEAELVAQLWNKHID--STNTKIYMENDCIEHMKLYLPYIISTDLERK : 94
Str_178628 : --YNGDFHVYQRFFACELHDDGTVSGYEEIAYNGKEVMMFDKVRVVYVPVPTQEVLTMTQQWNIHYND-AKINKIYMENECIHYMKMYLPYIISTDLERK : 96
Str_178629 : --YVNGGFNIYQRFFACELHDDGTVSGYEEIAYNGKEVMMFDKVRVVYVPASQEAALTMTQQWNIHYNH-AKINKIYMENECIQHMKMYLPYLSTDLERK : 96
Xla_XNC6  : --NDRVFBHVYQRFFACQLHDDGTVSGYEEIAYDNGKEVMMFDKVRVVYVPATQEVLTMTQQWNI RHYDH-AKINKIYMENECIQHMKLYLPYISVYLERK : 96
Xla_XNC8  : ---DKGQFHVYQRFFVCELNDDGTISGYEEIALNGKEI IALDKEKVVYVPMQEAALVMDQLNKRYDH-AVDNKMENECIQQIKLYLYL SADLNRK : 95
Str_386267 : ----NGDFHVYQRFFACELHDDGTVSGYEEIAFDGKKEFLIYVFDKERVVYVPVPTQEAALGITELWNI RYD--LQDNKIYLENECIQHMKMYLPYLSTDLERK : 93
Str_386203 : --SGKDAIHVYQTRKACEMHDDGTITAYQEVAFDNGKELIAYDYQGTFTPTTPEAQVVAQIWNKN--Y-AKIEKIFLEKFCNRLSKYINALASDLEKL : 94
Str_458818 : --SGKDAIHVYQTRKACEMHDDGTISAYQEVAFDNGKELIAYDYQMETFTPTTPEAQVVAQIWNED--Y-AKREKIYKLNLCYRFSKYINALASDLEKL : 94
Str_182055 : --SGKDAIHVYQTRKACVMHDDGTISAYQEVAFNGKELIAYDYQMGFTPTTPEAQVAAQVWNED--Y-AKIEKVFLENFCTHRI SWYLPALASHLEKL : 94
Str_386310 : --SGKDAIHVYQTRKACEMHDDGTITAYQEVAFDNGKELIAYDYQGTFTPTTPEAQVVAQIWNEN--Y-VKLEKVFLENYCTHRI STYLPALASDLEKL : 94
Str_182058 : --SGNDAFHIYQMFVGOVQDDGTGTGIYQEVAFDSKELITDYDKHTGTFTPTSQEARIVAQLWNKN--Y-AKVEKIYMENCOTPRIALFPALASDLEKK : 94
Str_386189 : --HD--INYVICTKAAACVLHDDGTVDVYEEVALDNGKELLVFDKERVEFVPATQKAVLLAQLLNKQ-AF-AMEDKIEMENECTQHILTLYLPYIKSYLDEK : 93
Str_386294 : --YD--INYVICTKAAACVLHDDGTVDVYKEVALDNGKELLVFDKERQEFVPATQEAULLAQLLNKQ-AN-AMEDKIEMENECTQHILTLYLPYIKNYLDDK : 93
Str_386240 : --YD--INYVFCIQAACVLHDDGTVDICKDTALDNGKQLLVFDKERVEIVPVTQEAULLAQVWNKQ-GY-AKKYKIEMENECTQHLPSPFPCIKSYLDDK : 93
Str_386261 : --YD--INYVFCIQAACVLHDDGTVDVYEEGALDNGKQLLVFDKETVEFVPVTREAVLLAQVWNKQ-AF-AKKYKIEMENECTQHILTLYLPYIKSYLDDK : 93
Str_386244 : --YD--INHVFCTKAAACVLHDDGTVDVYKEEALDNGKQLLVFDKETMEIVPATGEAAVLAQLLNKQ-AY-PKKYKISMENECTQHLPYLYLYIKNYLDDK : 93
Str_386300 : -----NHVYCTKAAACVLHDDGTVDVYQEVVALDNGKQLLVFDKDLVEFVPATQEAULLTQLWTKHYAN-AKKDKLFLENECTQHILKLYIPYIKSYLDDK : 91
Xla_XNC7  : --YDNRNNHVYQRKIVCELHEHGTVGFYEEVALDNGKELLVFDKEKVAYAPATQEAULLMQLWTKHYAD-AKSNKLFLENECTQQ----- : 81
Str_386246 : --SDRGTIHIYQRKFSCELEEDGTIGGYQEFALDNGREVITFDRENEVFVPATQEAVTMLPRWNIQYLGNI-AKGNKMYMENECIEHMKLYLPIMMDLEKK : 96
Xla_XNC5  : --SDKGAIHVYQRFFACELEEDGTIGGYQEFALDNGKEVITFDRENEVFVSATQEAIVMLPQWNIQYHGN-AKGNKMYMENECIEHMKLYLPITADLQKK : 96
Xla_XNC11 : --SDTGTIHVYQRFNACELHDDGTVGGYVEFALDNGEVITLDREKGVFVPEIQEAVTLIPWNI SKDLCC-AMWNKMYMENDCISYIKLYLP LIANNLEKK : 96
Str_374185 : --DGDGDFHIFCIKYACELLEDSISGKEELALNAKFTFITWNTENPEYI PVVPAALTAQAQKWT--ELY-AKLENDYMEHECVSHLWNIKLYLPYLKDKLEKK : 94
Xla_XNC10 : ---GVEDVHMCIKNGCELEDGSI RGNELAFDAKDYITFDTANPEYI PAVPGALIAVEKRR--ELY-SKLQPTVYVENVCI SQLKHLIPYLKNVLEKK : 93
Str_386214 : --YGSADIHVYQKRFICELDDGSGVGGYQEAFFDNGESFATFDKEKGVFVPLTQKASDVIQQCANCPLY-AKSDKRYMENYCIHDKLYLPYLIKMLDDK : 96
Str_386241 : AGEGNHHVHVYQRKYICELQDSGKVLGNIHAFVFNNGKEVIAFDRENEVFVIMPEAELLIPSWNI-KYLDVVKHKKAYLKNVCI EHKLYLSYMLPELDRK : 98
Xla_FF    : ---G---THMVQWMYGCELDGDSIRGYEQHVYDGRFFALDTEEWVYVPSVREAQLTTQKWN SPEVNAPERNNYLNQNICIEGLKRYLSYGQAELERR : 93
Xla_JJ    : ---G---THSLQMMCGCELREDNSIRGYNQYGDGKEFLI ALDTERSVMYVPTVREAQLTEQKWN SPEVNKPERDNNYLNQNICIEWLKRYLSYGQAELERR : 93
Str_UAA*01 : ---G---THSLQWMYGCELREDGSTRGYEQFGYDGRFLMALDTERWRYVPSMREAQLSTQKWN SPEVNEPERERNYLNQNICIPALKRYLGYGQAELERR : 93
Str_UAA*02 : ---G---THIVQSMYGCELREDGSTRGYEQDGYDGRFFALDTERWVYVPSMREAQLTTQKWN SPEVNEPERERNYLNQNICIEWLKRYLGYGQAELERR : 93
      Q           C           dg           y           a           lg           l           p           ea           wn           6           n           C           l

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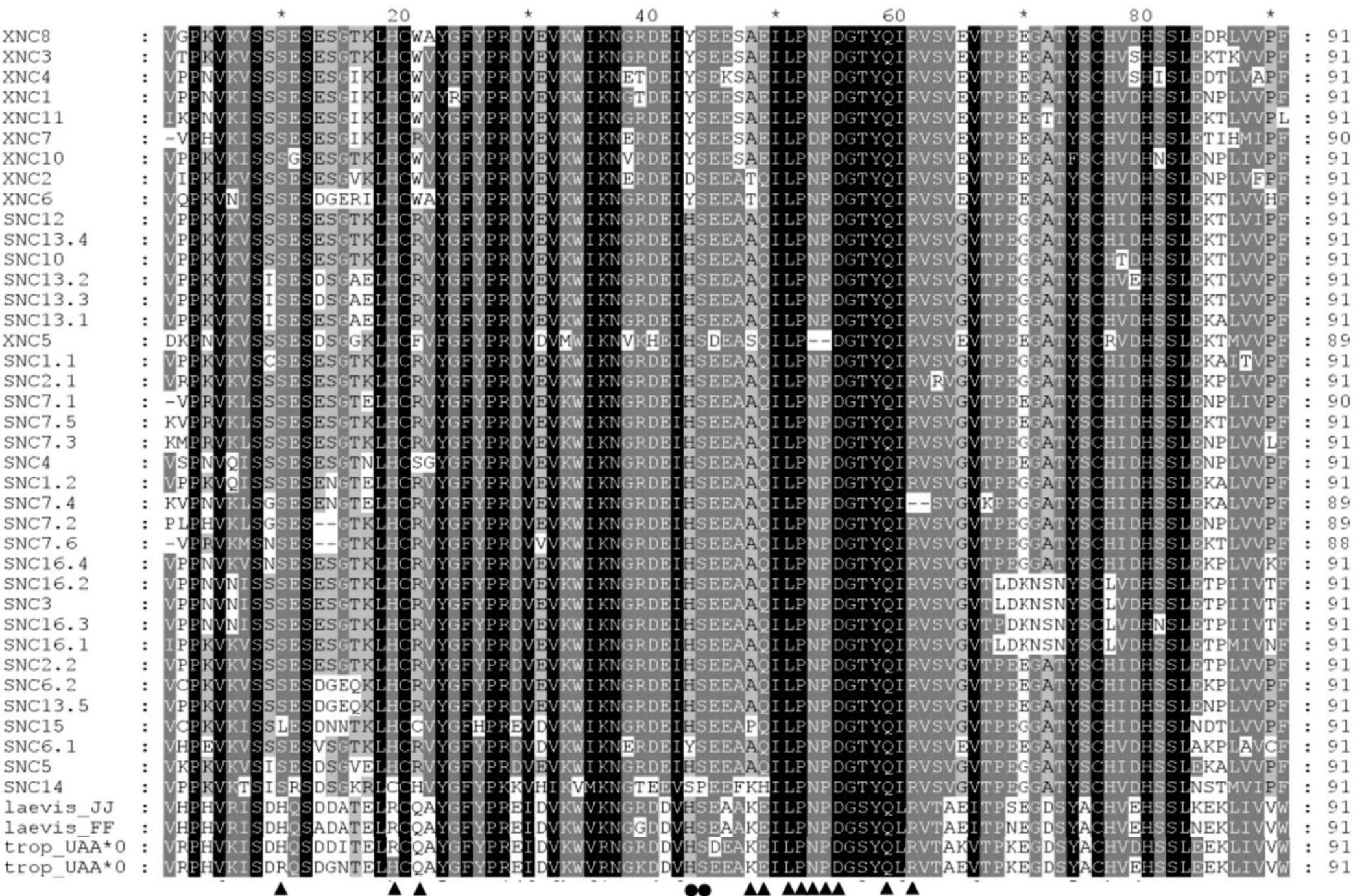



Fig. S4

Table SI: List of accession numbers for MHC class I sequences used in Figure 4

Sequence Name Accession Number

***Xenopus laevis* (African clawed frog)**

GG (class Ia – <i>g</i> haplotype)	AF185579
RR (class Ia – <i>r</i> haplotype)	AF185582
FF (class Ia – <i>f</i> haplotype)	AAF03402
JJ (class Ia – <i>j</i> haplotype)	AF185586
XNC1	M58019
XNC2	L20725
XNC3	L20726
XNC4	L20727
XNC5	L20728
XNC6	L20729
XNC7	L20730
XNC8	L20731
XNC9	L20732
XNC10	FJ589642
XNC11	FJ589643

***Xenopus laevis* x *Xenopus gilli* (hybrid clone)**

LG-ac-1	AF185583
LG-ac-2	AF185585
LG-bd-1	AF185581
LG-bd-2	AF185584

***Homo sapiens* (human)**

HLA-A2	Z30341
HLA-B	U11265
HLA-C	X58536
HLA-E	NM_005516
HLA-F	NM_001098479
HLA-G	NM_002127
HLA-H	U60319
hum_CD1a	NM_001763
hum_CD1b	NM_001764
hum_CD1c	CR457080
hum_CD1e	X14975
hum_CD1d	NM_001766
hum_MICA	AJ563426
hum_MR1	AJ249778
hum_FcRn	AF220542

***Pan troglodytes* (chimpanzee)**

Patr-MICA/B	NM_001045494
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***Pongo pygmaeus* (Bornean orangutan)**

Popy-BAB M30681

***Macaca fascicularis* (crab-eating macaque)**

Mafa_E1	U02976
Mafa_E2	U02977

***Macaca fascicularis* (cattle)**

Bota-BL3-6	M21044
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***Ovis aries* (sheep)**

Ovar-E	M34676
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***Macropus rufogriseus* (red-necked wallaby)**

Maru-UA1	L04950
Maru-UB1	L04952

***Monodelphis domestica* (gray short-tailed opossum)**

Modo-UA1	NM_001044223
Modo-UG	DQ138606
Modo-3	AF125540

***Mus musculus* (house mouse)**

H2-K	X01815
mus_H-2Dd	U47326
mus_TL	D14027
mus_MR1	NM_008209
mus_H2-M3	U18797
mus_Qa-2	D90146
mus_Q4	M18837
mus_Q10k	X16426
mus_T23	Y00629
mus_CD1d	NM_007639

***Mus spretus* (western wild mouse)**

mussp_H2-M3	L36072
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***Rattus rattus* (black rat)**

rat_FcRn	X14323
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***Gallus gallus* (chicken)**

ch_BF19	M84766
ch_BFw-02	AB178043
ch_RfpY	AF218783
ch_CD1.2	NM_001024582
ch_CD1.1	AY849319

***Coturnix japonica* (Japanese quail)**

quail_QF41	
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***Ameiva ameiva* (lizard)**

Amam-LCI	M81094
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***Rana pipiens* (northern leopard frog)**

Rapi-R6	AF185587
Rapi-R9	AF185588

***Ambystoma mexicanum* (axolotl)**

Amme_Ia3 U83137

Amme_Ia4 U83138

Latimeria chalumnae (coelacanth)

Lach_UB1 U08034

Cyprinus carpio (common carp)

Cyca-UA1*01 X91015

Cyca-UAW1 X91022

Cyca-ZE AJ420957

Cyca-NEW AB018581

Cyca-ZA1 M37107

Cyca-ZB1 L10420

Cyca-ZC1 L10421

Oncorhynchus mykiss (rainbow trout)

Onmy_UAA L63541

Onmy_UBA AF091785

Onmy-UCA AY523659

Onmy-UDA AY523666

Onmy-C32 U55380

Carassius auratus (goldfish)

Caau-ZA1 L10418

Danio rerio (zebrafish)

Dare-UAA01 Z46776

Dare-UBA01 Z46777

Takifugu rubripes (Fugu rubripes)

Furu-I2 AF001216

Salmo salar (Atlantic salmon)

Sasa-UBA101 AF504019

Ginglymostoma cirratum (nurse shark)

Gici_UAA*01 AF220063

Gici-11 AF028557

Gici-NC1 AF357923

Heterodontus francisci (horn shark)

Hefr-19 AF028558

Hefr-20 AF028559

Triakis scyllium (banded houndshark)

Trsc-UAA*101 AF034316

Trsc-UBA*201 AF034345