

- Electronic Supplementary File -

Multiple Divergent Haplotypes Express Completely Distinct Sets of Class I MHC Genes in Zebrafish

Immunogenetics

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<i>uba</i> e2 FOR	TTCTACTGGGCTATCCTGAAGTATT
<i>uba</i> e3 REV	TCATCCATCTCACAGCCGTA
<i>uca</i> e2 FOR	AGCGCCATACTGCAAAATTCA
<i>uca</i> e3 REV	TCATCCCCTCACAACCGTAAA
<i>uda</i> e2 FOR	TGGCAATTGGCTATCATCAG
<i>uda</i> e3 REV	AGACAAAATCCTCCCCATCA
<i>uea</i> e2 FOR	TGCCAAAGACAGAGTGGATG
<i>uea</i> e3 REV	AGCCGTACATTTGCTGGAAT
<i>ufa</i> e2 FOR	GGTCAGAGGGGCTGTAGATG
<i>ufa</i> e3 REV	CCGACCATGAACTGGAAAGT
<i>uga</i> e2 FOR	CCACACATCAAGCCTTCAAA
<i>uga</i> e3 REV	CCCTCGAGTACTGCCATCAT
<i>uha</i> e2 FOR	AGGGCCATACTGCATCATTC
<i>uha</i> e3 REV	AGCCGTACATTCGTTGATTTG
<i>uia</i> e2 FOR	TGGCATTGTTCCAGTCTTCA
<i>uia</i> e3 REV	TTCCAGAGTCAGCCAGTCCT
<i>uja</i> e2 FOR	AATGGACAAATTGCCTCTGG
<i>uja</i> e3 REV	TACATTGCCTGAACTGTGTGAA
<i>uka</i> e2 FOR	ACTGCAACGTTCAAGAACAACA
<i>uka</i> e3 REV	ACTCACAGCCGTACATTTCTT
<i>β2m</i> e1 FOR	GGAAAGTCTCCACTCCGAAA
<i>β2m</i> e2 REV	GGATGGAAGCTGCTCACATAG

Table S1 qPCR primers specific for zebrafish Class I genes

Primers were designed flanking intron 2, typically the largest intron for teleost Class I genes, within exon 2 (e2) and exon 3 (e3). For β_2 -microglobulin, primers were designed in exon 1 (e1) and exon 2 (e2).

<i>uba</i> TOPO FOR	caccATGCAGTCGCTAATAGGTCTGC
<i>uba</i> TOPO REV	TTATGTACGAGATGAGTTGTCTGATC
<i>uca</i> TOPO FOR	caccATGGAGTACATACTGCTGCTGGT
<i>uca</i> TOPO REV	TCAGTTTTCTTTGTCATATTTTTGTC
<i>uda</i> TOPO FOR	caccATGCAGCAGATTGTGCTTTTG
<i>uda</i> TOPO REV	TTATGCCTGTGGAAGTGCAT
<i>uea</i> TOPO FOR	caccATGCAGCAGGTTTTGCTTATG
<i>uea</i> TOPO REV	TTATGCTTGTGGAAGTGCATGA
<i>ufa</i> TOPO FOR	caccATGCGGCAGCTTGTGCTT
<i>ufa</i> TOPO REV	TCACCTGAACAGTTGGTGGA
<i>uga</i> TOPO FOR	caccATGCAGCAGGTTTTGCTTTTTTC
<i>uga</i> TOPO REV	CTACTTCACCTCAACAGCTCGTG
<i>uha</i> TOPO FOR	caccATGCAGTCGCTAACAGGTCTG
<i>uha</i> TOPO REV	TCATGCTCGTGGACCATCTT
<i>uia</i> TOPO FOR	caccATGCAGACGATTATTCTTTTTGC
<i>uia</i> TOPO REV	TTATGCTTGTGGAAGTGCATGA
<i>uja</i> TOPO FOR	caccATGAGGGCTATTCTGATCTTTCTC
<i>uja</i> TOPO REV	TTATGCTTGTGGCACTGCAT
<i>uka</i> TOPO FOR	caccATGGAGTACATACTGCTGCTGGT
<i>uka</i> TOPO REV	TTAGCTTTTGTGTGAAACACTGTC

Table S2 TOPO primers specific for zebrafish Class I genes

Forward primers begin with the sequence ATG from the presumed start codon. The sequence CACC was added to the 5' end of the forward primer to facilitate directional cloning. For the reverse primer, sequences begin with the presumed stop codon.

<i>uba</i> 5' FOR	gaagtagttcttctgaatctcgta
<i>uba</i> 5' REV	atcatcatccatctcacage
<i>uda</i> 5' FOR	gaggtgttcggatcacttat
<i>uda</i> 5' REV	ggattgtgtgaataccctgt
<i>uea</i> 5' FOR	cgcataattaagtaatttctccag
<i>uea</i> 5' REV	agtcctctccatcataacca
<i>ufa</i> 5' FOR	gaggggttcggttctttc
<i>ufa</i> 5' REV	tgatgaagtcctctccatca
<i>uga</i> 5' FOR	tcgggtctctatTTTTatgtca
<i>uga</i> 5' REV	tcacctgaaatgtgtgaaca
<i>uha</i> 5' FOR	tggggatttgagaaggaaag
<i>uha</i> 5' REV	cgttgttcttgaatgatgca
<i>uia</i> 5' FOR	gtcaagggccgattetaac
<i>uia</i> 5' REV	tttgaagactggaacaatgc
<i>uja</i> 5' FOR	cccggacctcagattataga
<i>uja</i> 5' REV	cattcctgttccagaagtca
<i>uka</i> 5' FOR	tcttcgggatttgtgaatga
<i>uka</i> 5' REV	gcacaccttggtttgattt

Table S3 5' sequencing primers specific for zebrafish Class I genes

Primers were designed flanking the presumed start codon.

<i>uba</i> 3' FOR	ggagcatcagagcaaaacta
<i>uba</i> 3' REV	ttgcatgtttctcaaaact
<i>uda</i> 3' FOR	acgaagttctgttccttt
<i>uda</i> 3' REV	aggttctgtgatcaatgtgt
<i>uea</i> 3' FOR	cttgattgtcggagtgttg
<i>uea</i> 3' REV	cagccctccaattagtgat
<i>ufa</i> 3' FOR	aagaagcctacagatgtgtg
<i>ufa</i> 3' REV	tgccaatgatgatttcaaca
<i>uga</i> 3' FOR	gcaattattgttgctgtgt
<i>uga</i> 3' REV	ttgtccccctgaaatcaaa
<i>uha</i> 3' FOR	ggcaattgaggattctgttt
<i>uha</i> 3' REV	gcaaaaagaggaagagagagt
<i>uia</i> 3' FOR	cttgattgctggagtgttg
<i>uia</i> 3' REV	atgtgcatacataggcat
<i>uja</i> 3' FOR	cttgattgctggagtgttg
<i>uja</i> 3' REV	acagacataattcgetcaca
<i>uka</i> 3' FOR	ctccattggcatcatcatt
<i>uka</i> 3' REV	catgcaagtgtcagaacatt

Table S4 3' sequencing primers specific for zebrafish Class I genes

Primers were designed flanking the presumed stop codon.

Table S5 Primers for generating probe against zebrafish Class I U lineage genes

Primers for generating the genomic Southern probe were designed in the relatively conserved $\alpha 3$ domain of the *uda* gene.

<i>uda</i> $\alpha 3$ probe FOR	tctcctcaggtgtctctgct
<i>uda</i> $\alpha 3$ probe REV	tgatgctccaccacacatct