Supplementary Material

Table S1 Primers used for RACE-PCR.

Genes	5'RACE (5'-3')	3'RACE (5'-3')
MmedOR14	CCGTCGCACAAACGCCAGTAGTTAATGT	CAACAGCGACTGGAATCGTCTTGTCAAG
MmedOR15	GGACGACTATCAGAGCGAGCATTTGTGA	TATTGTGTTACATGTGCGGGCACATTCAC
MmedOR16	CTCGTCTAATGCCGATCCAAGTTGCTGT	CGTGACGGTAGTTATGACCAAGATCGGA
MmedOR17	CAATAACGGCCAAACGCCACTGTACCT	GCCTATACGAGCTATTTACCCATTCGACACA
MmedOR18	CTTGTAGGACAACGAAGCTCCCTGGAA	GTCTGTTTGTCGGCTAATTCAGACATTGG
MmedOR19	TCCACATCGTTTAGTAGCAATGTCCAATCACG	CGTACACTACAACATCATGCGAACCTCGGT
MmedOR20	AGCAAGATAACATCCGTCATCAGTGGCA	TGTTGATGGACGGAATGGGTTTAGGAAT
MmedOR21	TCGGCAATACGGACTCGACAGATAGTCCA	TGGGGGAATTTGGATATGATTATTGAGTGC
MmedOR22	GAAGAAGCTTTCGCGATCTCATAGACGTC	CACGGATCAGTGAAACCACAACCAGATG
MmedOR23	ACGAGAGGTCCCAAAATTACTCCAACACTTGC	TCAGAGCCTCCCAACTGAGGCCAAGTATC
MmedOR24	TAAGGTTCCAATACCGGTGGCCAAGTTC	CTTCCGGTCATCAAGCTGTTGCAGTTCT
MmedOR25	TGGAATTGAGAGGCAATGTAGTGTCGCAGC	GAACTGGTCTATGCCCACCAAAGTGCTGC
MmedOR26	TTGCACAAAGGTGATGTACATGATGTCACATG	GACATCATGTACATCACCTTTGTGCAACACG
MmedOR27	TCGGTGACCTGTAATTGCAAACAATCCACAG	GTCACCGAATTGAAAATTTGCCACACGAC
MmedOR28	CAATACTCTGGCCCATTTTGAGCAATCGG	AGTCAACGATTCAAGAACATGGGCACTGACG
MmedOR29	GAGTGATAAAGGAACAACCCCAATTGCTCG	AACTGAGCGCTGCAGCGGATTCATTG
MmedOR30	GAACTCCGCTGGAAATTGCGGTTAGTATGC	AACTCCTCTACCTGCATCAAAGCTGTGCGAC
MmedOR31	TCTGCTGCTCTGGTACGCTGGTGCGAG	TCGCGACGATTCATTGTATGTCTATACCAG
MmedOR32	CAGATACCATTCTGCAAAGTATGCAGATTCGG	ATGCTGATAATGATAAGATCAAGTAAGCCAGC
MmedOR33	CTCCATGTGTGACAACAAGTACGCAATCGTAC	ACTTGTTGTCACACATGGAGCCTACGACG
MmedOR34	TTATACCATCCGCAATTCCAATATGCCTCG	CTTCTATGCATGATTGGCTATCAGATACTCGTC
MmedOR35	ACCATTTGAGATAGAGCGTAAACGCTGCTGC	TTCTGTAGTTCTCTGCAGCAGCGTTTACGC
MmedOR36	CGAAGGCTAGATTAATGGATGCCGCACTG	ACAACAACAGGCGTCTACTGGTTGACAGCA
MmedOR37	AAGTTGTCAACGAATGCGTCAAGGTCGAC	CGACCTTGACGCATTCGTTGACAACTTG
MmedOR38	TGAAGCACCTGTGACAGCAAATACTGCACC	TGTGGTGCAGTATTTGCTGTCACAGGTGC
MmedOR39	CAAGGTATTGCGCTTCTTAGTAGTAATGGCACC	CAAGCGAACTGGAATAATACATCAACACGTTC
MmedOR40	ACCGCTAATTGACCACAAATGTGAAGCACC	TCAATTAGCGGTCGTTGGCATATCATTGC
MmedOR41	GCTGACAACTGTCACAATGACGAAAGTCGG	ATTCCACGTATCTGCGATCCATCCACCG
MmedOR42	TCGTAAGCTAAATTAACCCATGCACCACTGC	GTATGCGGGGCTGTTTACTGTAGCGGTATC
MmedOR43	TGCAGGCAGTCAAAGTTAGTGGTCTCTGTGC	CATTCATGTACGCATGGAGCGGATCG
MmedOR44	CAACTGCCGAATGTCCGATTCCACTGAC	TATGCGCGTATTCTGATGCTTCGTGTGC
MmedOR45	GCTTAATCCGACCACAATAACGCCAAGTAGC	CATGCCTGCAGCATGTTCACTATCATCG
MmedOR46	TTGCTTCGGGTGTCGTCAAGCAAATGAG	GCTAGAATAATGATGGTCTGCGGGTTGTCG
MmedOR47	AAGAAGCATTACGTACGTTGTCATCCCTCCAG	ACGGTATTAATTACACACGCATGTGGACAGC
MmedOR48	CACTAACGTGATAGTCCTTCAATGCTTCGGAC	CCGAAGCATTGAAGGACTATCACGTTAGTGC
MmedOR49	TCTCTTGGCTAAAATCGCGAGCCTACCG	TTATGCTCTCGTTTCATGTCACCGGTAGGC
MmedOR50	AACATACTGCAAACATGGTGGCCGCAAG	CACGGCTACATGGCATTGCCAATTACG
MmedOR51	CTCTTGACACTCCACACCACTCCGATCAG	CAAACTGATCGGAGTGGTGTGGAGTGTCA
MmedOR52	ACCAATGACTGCTAGTTGGCCACAAATATGG	TATGGTGCTCCATATTTGTGGCCAACTAGC
MmedOR53	AAGTGTATAGAATGGACTTCCGTCCGTGCC	TATGGAAGCCAGCAACTTGGCACGGAC
MmedGR64f	ACATTCCCGAGCGCTTATGTATCCGGAGG	CCTGTCACTTGCCTCCGGATACATAAGCG
MmedGR6	CATAAATGACACGTTGTGCAGCCAGGGTTC	GGCAGTGGTCAGTTCTTCAGGAATGAATGC
MmedIR8a	CCAAATCATAATTGCTGTCGCTACTATCGCC	GTCGAAAGAATGCAAGTGCCCGTACAATC
MmedIR25a.1	AACTGTACGGTGACCAACGATCAAATATCCAC	CGATTAGTTGCTGCTACCTGGTGGCTATTTGG
MmedIR25a.2	GTTGTAACCGGGAGACTGTCAAATAAGCTGC	CTACTCGAGGGTGAATTTTCACGGAAGCCA
MmedIR64a	GGGCTGCTTCATAACCAGCTTGTGTTCG	AGTGACGGGCCACGATTTTATGCAGGAC
MmedIR75u	ATCACACCGATGGCGTACCAAACGGTG	TGATTACATGGGTGTACTGGACCCGATGC
MmedIR76b	TATGAATGCCACTGCCACATCTGCTTTCG	TGTGTTGTGCCGACTCTTGCACCTGTTG

Table S2 Primers used for RT-PCR and qPCR.

Genes	Forward (5'-3')	Reverse (5'-3')	Forward (5'-3')	Reverse (5'-3')
	RT-PCR		qRT-PCR	
MmedOR14	TCGCTACCCTAACTGTTGGA	CGCACAAACGCCAGTAGTTA	TGCGTCTTTGTATGAACGGA	TCCAACAGTTAGGGTAGCGA
MmedOR15	GCTCTGATAGTCGTCCGTCA	TATTCAACCCACTCAGCCGT	CCATTTCAGGGCTGGTTTCC	AAGGCAGCAACAGGTCTAGT
MmedOR16	GATGCAGTGTACCCGTTTCC	TTTGACATTGCGGTGCTTGA	GATGCAGTGTACCCGTTTCC	AATCCAAAGCCATTCCAGCC
MmedOR17	CAGGTGGTCGACATTGCAAA	TGACAACCGCAAGTAACGTG	CTGGGTGGGAGTGTGCATAT	TGACAACCGCAAGTAACGTG
MmedOR18	TGTGCAGCTGGTAATCAAGTG	CGAGCCTACTGTCATACCGT	AGACACGGTATGACAGTAGGC	ATCGGACACACGGTAGTATCC
MmedOR19	GCGAGCTCTAGAATATGCGG	TAGCAGCTGTCAACTTGCAG	TCCCAACGGTTAGCAGACAT	TAGCAGCTGTCAACTTGCAG
MmedOR20	TACCAATTCCACCGTCACCA	CCCATTCCGTCCATCAACAC	ACCATTGACGAACTGAACGC	CCAGAACGGCTTGAAAACCA
MmedOR21	ATGGTTGTACAATGCGCAGT	ACTTCCAGCTCGATACCAGT	GGGCACTAGACTACGCTGAT	TCTAATGGCTTCAGTGGGCT
MmedOR22	CTTGCGCAATTTTCGCTGTT	CGCATCTGGTTGTGGTTTCA	TTTATGCTGGGTCCACTGGT	CGACGTGGAAAAGTACTGGC
MmedOR23	GCCAATGTGCGGTGAAAATG	CCGATTGAGGAGCAGAGGAT	CTCCCAACTGAGGCCAAGTA	CCGATTGAGGAGCAGAGGAT
MmedOR24	GAACTTGGCCACCGGTATTG	GCCTTGTGTTTCCTGCAACT	TGCTGTTCTATGTTGGGGCT	ACAGCTTGATGACCGGAAGT
MmedOR25	CAATGCCAGAGAAGACGAGC	TCGAGCCAAAAGTTCAAGGC	AAGCCCTGCATTTGAACTGG	GCGCCAGAATACCACAGAAG
MmedOR26	TGGGCAGGATTCGCGTATAT	CCCCAGCTTTGTGTCTTTCC	AAGTGTCACCGGATTCCAGA	CTCATGTCTGTCAACCGCTG
MmedOR27	ATGCCTGTGGATTGTTTGCA	TCTGAGCTCCGGTGAACATT	GGATGACGTTGCAGCAGAAA	CTCATGTCCGTCAGCTGTTG
MmedOR28	CCGTCAACTTGGTGAGGTTG	TACGTCAGTGCCCATGTTCT	AATGGAAAACGCGACGATGT	CTGTTTGACCGAACCCACTG
MmedOR29	GCGAGTTCTTGGTGCTGATT	ACCATCGCTATCCTCGTGTT	GCAGCGGATTCATTGACGAT	CAACCCCAATTGCTCGAAGT
MmedOR30	GCATCAAAGCTGTGCGACTA	ATGGGACCTTGAAAGCCACT	CCCAGCCATTTCCGAACATC	CACAGCAGCATCGCAATTTG
MmedOR31	GCTGGTGCGAGACTTGAATT	CAGTATAACGCGGCTCCAAC	GCTGGTGCGAGACTTGAATT	ACCGTCGTTGCTAGAATGTG
MmedOR32	TCACCTGGTTACGAAATGCT	TTACCGTCTTCCCAGTCCAC	GTGGACTGGGAAGACGGTAA	GTTCTTTCAAGCGCTCACCA
MmedOR33	TCGACAACTTGGCATTGGTC	TATTTGGTAGACGGCCGTGA	GGTGGCACGGAATAAAAGCA	GACCAATGCCAAGTTGTCGA
MmedOR34	CCCTCGCCTCCAGTTGATAA	CCGTAGCAAAAGCACTTCGA	CCATGGACCGCATGTTGTC	TGATTCGCTCAGCCAAAACC
MmedOR35	AGTCCATTTAGTCCGCGTGA	GCATCATCATCCCGGGAAAC	GTGTTACCCTGCAGAGCTTG	GCATCATCATCCCGGGAAAC
MmedOR36	ATTTCTGACAATGAGCCGCG	TAGAGAGCGGTGGTGATGTC	ATTTGTCACATGTGCGCTCA	GTCAACCCACTCTCCCATCA
MmedOR37	ACATCCTCGACTCACTTGCT	ATGGCAGCAACAGGTCTAGT	CGTTGACAACTTGGCCTTGA	AGCAAGTGAGTCGAGGATGT
MmedOR38	TGGCTTTCATGAGTCCAGAGT	GATGGAGAAGATTGTACGCCG	GGAGGTTTGGTATGTGGTGC	AATCCGGTGCTGTTGTCATG
MmedOR39	TCATCAAGCCTCAACCGGAA	GGCGCCAGTGTACCATAAAG	TCGACACGATGCTTATGGTT	GGAGGTATGACGGTCGATGT
MmedOR40	CCGAGCTATTTCCGTGACATC	AATGATATGCCAACGACCGC	GATCGCTCAATTGGTCGCAA	AATGATATGCCAACGACCGC
MmedOR41	AGCGCAGTTTTAATGGGACC	GTCAGCACAATCAGCCGAAT	TGTACTTGGGCTGCCGATAA	CGTTATCGGCTTCAGTGCTC
MmedOR42	GTATGCGGGGCTGTTTACTG	TCGCCGATCATTTTCCGTTC	GAACGGAAAATGATCGGCGA	ACTGCACAAATATGGCCGTG
MmedOR43	TGAGATGTCGCGAAATACTTGA	TAGTGGTCTCTGTGCAAGCA	TGGAGCGGATCGTGTTTAAC	TAGTGGTCTCTGTGCAAGCA
MmedOR44	GGTGAAATGATAACGCAGGCA	CAACTGCCGAATGTCCGATT	ATGACGGGTCCTAATTCGGA	GCTTCGCAAACTTTGTTGCT
MmedOR45	GCTTTGACAGTTCTCGTGGG	ATCGCGTACCAAAGACATCG	GCTTTGACAGTTCTCGTGGG	CAGTCAAATTCTCCAGGCGC
MmedOR46	GGGTGTGCTCATTTGCTTGA	GAATCCGAACAAAACGCTGC	TCCTCTGCGGCTCTTATCAG	CGGTTCGAGCCAATCACTTT
MmedOR47	AATATGCTCGCTTTGGTCGT	ATTTCCAGCTGTCCACATGC	GTGCTGCCTTTATGTACGGC	GCAAATGTTCGTTCAGTCGG
MmedOR48	TTGGCCAGACGAATCAATGC	ACTCGCAACTGTAGAAGGCT	CGTTCCCTTATGTCAGCGTT	GCATTGATTCGTCTGGCCAA
MmedOR49	GCTCGCGATTTTAGCCAAGA	GCTCCAAAACGCTTCGCTAA	TTCACATGCTCCCTTCGCTA	CTAAAATCGCGAGCCTACCG
MmedOR50	GGCCACCATGTTTGCAGTAT	TGGGTCAATTGTCCGAAAGC	GCGGCCAAAAGTTTACCTCT	GCGGTACAGAGAGTCATCGT
MmedOR51	AACTGATCGGAGTGGTGTGG	GAACGAGCACTGAGAAACCA	TGTGGAGATCGGTGCATCTT	ACTCAAAGTTAGACTCGCCAA
MmedOR52	AGCTAGCGATCGTTACCATGA	ACAGGTCGCGAAACATTGAG	CTCAATGTTTCGCGACCTGT	CCAATGACTGCTAGTTGGCC
MmedOR53	TGTCAGCGGTAATTTCAAGCT	TGTCATCCAATAAGCCATGGG	TTACGTGGGCCTATGGAAGC	TCAAGAATGTGCTCGCCATT
MmedGR64f	TCAGCTTCACTTGGGGAAGT	CAGGGCATGTTCGAGGAATG	GTCTTCTGGGCGACAATGAC	GCACGACAATTCCCTTCCAT
MmedGR6	TGCATTTAACGAACCCTGGC	GCAAACACTGTGGAAGCTCA	TGAGCTTCCACAGTGTTTGC	GGAAGCTACGAACCAAGCAG
MmedIR8a	ATGAGAAAGCCGGTCAAGGA	TAGCGGTAAATGTTGCGAGC	GATTTGGCCACCCGTAGAAC	TCCTTGACCGGCTTTCTCAT
MmedIR25a.1	ACGGCATTTACAGGAGGCTA	CCTTCCCAATGTCCTGTTGC	CTTTGTACGCGTCGGAGTTG	AGCCTCCTGTAAATGCCGTA
MmedIR25a.2	CAAAATCTCCTACCAGCGCC	TCCAGAGACCCAAATCGTCC	GTGCTGTCTGGGATCCGATA	CGCCCGGAAATTTTCGGTAT
MmedIR64a	AACGCGTCGATTGTTGTTGA	GGTCGTAGGATGCCGGAATA	GCCCGCAGATTGAGAAATGT	AATAACGCGGGGCTGAATTC
MmedIR75u	GCGCGATACTTGGGGTTATC	ATTCGTCTTGTTCTCCCGGT	TACTGGACCCGATGCTTGTT	TCACGTTGCTGTAGTCCTGT
MmedIR76b	ATCGAAAGCAGATGTGGCAG	GAGTGAGTGCTGATCCCTGT	TTGTGTTGTGCCGACTCTTG	CGTTGTTATGGTCGGAGGTG
β-actin	CCATCTACGAGGGTTACGCT	TACCACAGGCTTCCATACCC	CACTGCCGCATCATCATCAA	TACCACAGGCTTCCATACCC

Table S3: MmedOR54~61 sequences

>MmedOR54
RFSVLVENLQKINEGNDGSVNVREIERKMIGDWVDYHNDILDLVKFVKSLFSTAIFVQYAASSLLICSIAYTLSHT
ETRSMNFAGDFFYLTAMTIQIFFQCIAADQVTVEFADITNALYNTNWYNLSNNVR
>MmedOR55
PGMMFLVCAQINIFKHRFKIMLNTLEVSDHNNNNIADNDCRKINNIFGESVKHHNYIFQLFDNINTVFSTVIFVQY
SVGSVIFCTSIYHMSDIKITTVEFVSNIFYIGSMLSQIFLLCVSANQVTLEFEDL
>MmedOR56
ALSITQKKINCVIENRTSITHIIDLLQRSPFKLRDHQEELIFSRFDKFARSVFTHYVLAHTGFLSIYSLGRMTLMDPP
HTLPYNGWFPYNYTRTTKTYWITAIFQFYAVFSLGVIDLLLDLLLPCIMCYMCGHIHILRYRF
>MmedOR57
VLELNFSLLSILGVWKPRHWHGMKSIFYHIYRSIVVVINHFLLLSGILDLEFKNVDLDAFVDNLSLIFAMIVVRQK
VICMIENRTSISYVLDSLGKGPFKLRDHQEEVIFKRFTDFIRN
>MmedOR58
ASIAEDIDNISDDYDEGELNITTFCPFDEDIAGTSDCFVTRFKRCTKNHQQLLDTVDQLNDCFSSGMLMQLFASF
SMIC
>MmedOR59
KSGFFHVFGSVSVWAVCLSYIIEPILMSHRYPTDTAYPFVVKSQVLRTILYLQQIMALFFVAAALTIDFQVATLLWF
TCVRFEVLGHYFREVSNETELVTCIKKHQKILWYA
>MmedOR60
LLRNYPIYIIAISGNYNDLFIEFVPTKIQSSRQCARRSGVCKRLTGDFRFVLSTMEVLKFNFCLLSIMGVWKPRGW
RGIKAIFYYIYRSFVVIIILNSLVSGILDLRLKNVQLDTFVDNLSLTLAWVVARQ
>MmedOR61
TITKLYLPWDTKTVAGYWTAWVLQAISRLFGGPVNVACDSLVSGVMYRASAQFKILAARLRGFLLEPANFENSK
YDYHRVEKHEAKKMAELVKEHLEIIQIITKLNDIFGFVIFMQYCVSSTVLCVTVFV

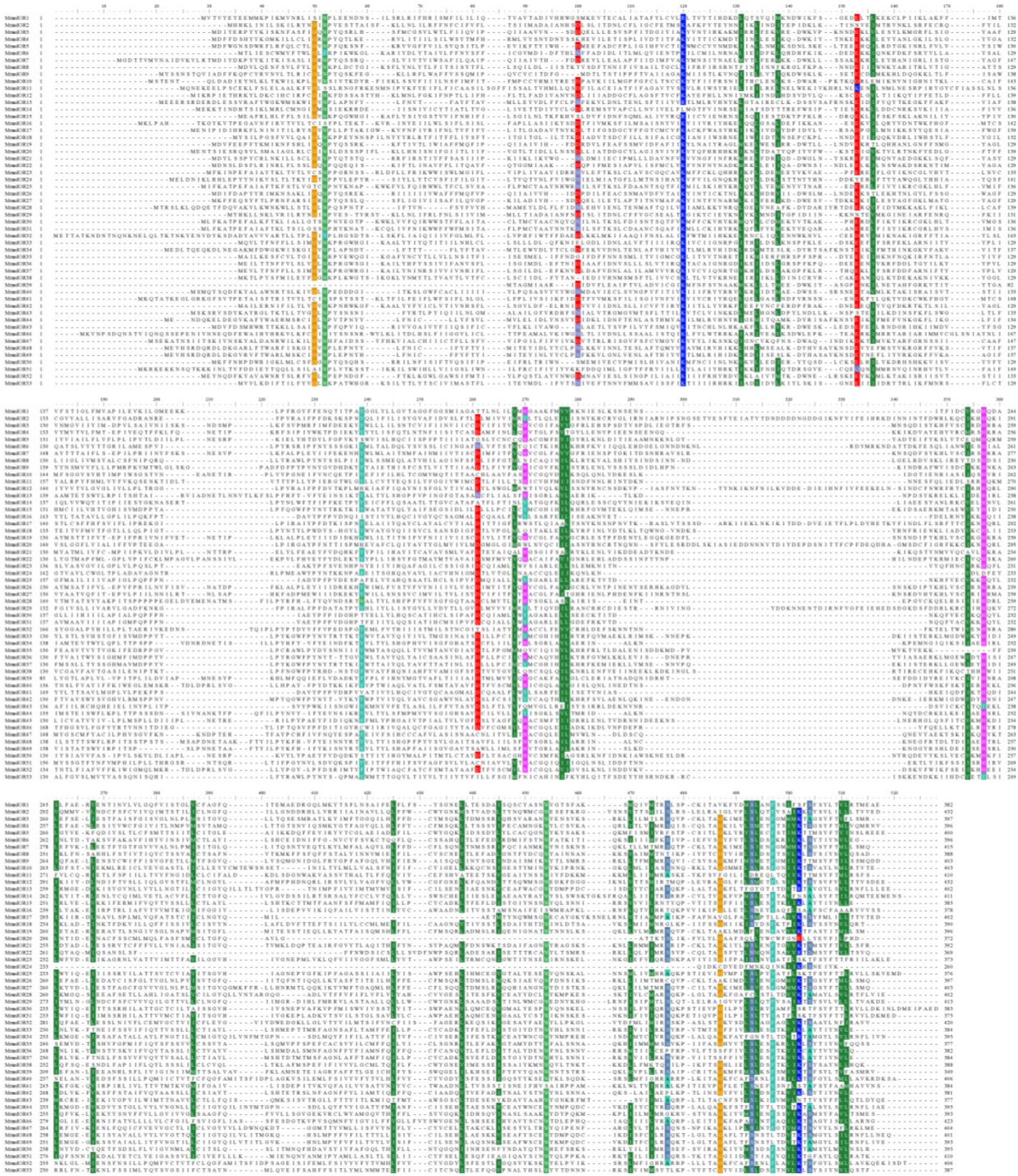

Figure S1. Amino acid sequence alignment of *M. mediator* ORs. Numbers in the right of figure represent the number of the last amino acid in the line.