

Supplementary Table S1: Nucleotide Sequences

Human MC2R (accession number: AA067714.1)

ATGAAGCACATTATCAACTCGTATGAAAACATCAACAACACAGCAAGAAATAATTCCGACTGTCCTCGTGTGGTTTT
GCCGGAGGAGATATTTTTTACAATTTCCATTGTTGGAGTTTTGGAGAATCTGATCGTCCTGCTGGCTGTGTTCAAGA
ATAAGAATCTCCAGGCACCCATGTACTTTTTTCATCTGTAGCTTGGCCATATCTGATATGCTGGGCAGCCTATATAAG
ATCTTGGAAAATATCCTGATCATATTGAGAAACATGGGCTATCTCAAGCCACGTGGCAGTTTTGAAACCACAGCCGA
TGACATCATCGACTCCCTGTTTGTCTCTCCCTGCTTGGCTCCATCTTCAGCCTGTCTGTGATTGCTGCGGACCGCT
ACATCACCATCTTCCACGCACTGCGGTACCACAGCATCGTGACCATGCGCCGCACTGTGGTGGTGTACGGTCATC
TGGACGTTCTGCACGGGGACTGGCATCACCATGGTGATCTTCTCCCATCATGTGCCACAGTGATCACCTTCACGTC
GCTGTTCCCGCTGATGCTGGTCTTCATCCTGTGCCTCTATGTGCACATGTTCTGCTGGCTCGATCCCACACCAGGA
AGATCTCCACCCTCCCCAGAGCCAACATGAAAGGGGCCATCACACTGACCATCCTGCTCGGGGTCTTCATCTTCTGC
TGGGCCCCCTTTGTGCTTCATGTCTCTTGTGATGACATTCTGCCAAGTAACCCCTACTGCGCCTGCTACATGTCTCT
CTTCCAGGTGAACGGCATGTTGATCATGTGCAATGCCGTCAATTGACCCCTTCATATATGCCTTCCGGAGCCCAGAGC
TCAGGGACGCATTCAAAAAGATGATCTTCTGCAGCAGGTACTGGTGA

Xenopus tropicalis Mc1r (accession number: XP 012817790)

ATGCTTCACTCAACAGTCAACTCCACCAATGCCACCATCAATGTTGGGACTGAACTTAAGCCAACCAACACATCCGA
CACTGTTATGGACGTTCCAGAAGAGCTCTTCTGTTCTGTGTGTGTTGAGTTTGTAGAAAACATACTTGTGGTCA
TTGCCATTTTTAGGAACCACAACCTGCACTCTCCCATGTATTATTTTCATCTGCTGCCTGGCTGCATCTGATATGCTT
GTAAGTTCTAGCAACCTAGGTGAGACCCTCATCATTTTTATGCTTAAGCAAGGGATTATAAAATCTGAGCCACTGCT
TGTCAAAAAAATGGATTATATATTTGATACAATGATCTGCTGCTCTTTAGTAACCTCTCTCTCTCTTTCTTGGGGCCA
TTGCAATTGACCGATACATCACCATCTTCTATGCCTTGCCTATCACAGCATTATGACACTGCGCAGAGTAGTTATT
GCCATAGGCGTGATCTGGTCGGTCAGTTTAGTTTGTGCGGCCATATTCATTGTCTATCATGAGAGTCGTGCTGTCTAT
CTTATGTCTTATTGTATTTTTTCTCTTCATGTTGGCCTTGATGGTGGCTTTATATATCCACATGTTTGTCTCTGGCTC
GCCAGCACGCACGTAGCATCTCTGCCCTGCAGAAGGGGAAGAGTAGGAGAATTACCCACATCAAGCTAGGGCAAAC
ATGAAAGGAGCCATAACACTAACATTGTTGCTTGGCGTCTTTTTTCTTTGTTGGGGGCCTCTGTTCTCTCCACCTCAC
TTTGTGTGTCTGCTGCCCCGGTCATCATATTTGCAATAGCTATTTTTACTATTTCAACATCTACCTCCTTCTTGTCA
TCTGCAATTCGTATTGACCCCTTAATCTACGCCTTCAGGAGTCAGGAGCTAAGGAAGACCCTCAAGGAAATTGTC
TGGTGCTCTTGGTGA

Chimeric hMC2R/N-terminal xtMC1R (**in red**) Cys codon underlined

ATGCTTCACTCAACAGTCAACTCCACCAATGCCACCATCAATGTTGGGACTGAACTTAAGCCAACCAACACATCCTG
CACTGTTATGGACGTTCCAGAAGAGATATTTTTTACAATTTCCATTGTTGGAGTTTTGGAGAATCTGATCGTCCTGC
TGGCTGTGTTCAAGAATAAGAATCTCCAGGCACCCATGTACTTTTTTCATCTGTAGCTTGGCCATATCTGATATGCTG
GGCAGCCTATATAAGATCTTGGAAAATATCCTGATCATATTGAGAAACATGGGCTATCTCAAGCCACGTGGCAGTTT
TGAAACCACAGCCGATGACATCATCGACTCCCTGTTTGTCTCTCCCTGCTTGGCTCCATCTTCAGCCTGTCTGTGA
TTGCTGCGGACCGCTACATCACCATCTTCCACGCACTGCGGTACCACAGCATCGTGACCATGCGCCGCACTGTGGTG
GTGCTTACGGTCATCTGGACGTTCTGCACGGGGACTGGCATCACCATGGTGATCTTCTCCCATCATGTGCCACAGT
GATCACCTTCACGTCGCTGTTCCCGCTGATGCTGGTCTTCATCCTGTGCCTCTATGTGCACATGTTCTGCTGGCTC
GATCCCACACCAGGAAGATCTCCACCCTCCCAGAGCCAACATGAAAGGGGCCATCACACTGACCATCCTGCTCGGG
GTCTTCATCTTCTGCTGGGCCCTTTGTGCTTCATGTCTCTTGTGATGACATTCTGCCAAGTAACCCCTACTGCGC
CTGCTACATGTCTCTTCCAGGTGAACGGCATGTTGATCATGTGCAATGCCGTCAATTGACCCCTTCATATATGCCT
TCCGGAGCCCAGAGCTCAGGGACGCATTCAAAAAGATGATCTTCTGCAGCAGGTACTGGTAG

Chimeric hMC2R/EC1 xtMC1R (in red)

ATGAAGCACATTATCAACTCGTATGAAAACATCAACAACACAGCAAGAAATAATTCCGACTGTCCTCGTGTGGTTTT
GCCGGAGGAGATATTTTTTACAATTTCCATTGTTGGAGTTTTGGAGAATCTGATCGTCCTGCTGGCTGTGTTCAAGA
ATAAGAATCTCCAGGCACCCATGTACTTTTTTCATCTGTAGCTTGGCCATATCTGATATGCTGGGCAGCCTATATAAG
ATCTTGGAATATCCTGATT**TTTATGCTTAAGCAAGGGATTATAAAATCTGAGCCACTGCTTGTCAAAAAATGGA**
TGACATCATCGACTCCCTGTTTGTCTCTCCCTGCTTGGCTCCATCTTCAGCCTGTCTGTGATTGCTGCGGACCGCT
ACATCACCATCTTCCACGCACTGCGGTACCACAGCATCGTGACCATGCGCCGCACTGTGGTGGTGCTTACGGTCATC
TGGACGTTCTGCACGGGGACTGGCATCACCATGGTGATCTTCTCCCATCATGTGCCACAGTGATCACCTTCACGTC
GCTGTTCCCGCTGATGCTGGTCTTCATCCTGTGCCTCTATGTGCACATGTTCTGCTGGCTCGATCCACACCAGGA
AGATCTCCACCCTCCCCAGAGCCAACATGAAAGGGGCCATCACACTGACCATCCTGCTCGGGGTCTTCATCTTCTGC
TGGGCCCCCTTTGTGCTTCATGTCTCTTGATGACATTCTGCCCAAGTAACCCCTACTGCGCCTGCTACATGTCTCT
CTTCCAGGTGAACGGCATGTTGATCATGTGCAATGCCGTCATTGACCCCTTCATATATGCCTTCCGGAGCCCAGAGC
TCAGGGACGCATTCAAAAAGATGATCTTCTGCAGCAGGTACTGGTGA

Chimeric hMC2R/EC2 xtMC1R (in red)

ATGAAGCACATTATCAACTCGTATGAAAACATCAACAACACAGCAAGAAATAATTCCGACTGTCCTCGTGTGGTTTT
GCCGGAGGAGATATTTTTTACAATTTCCATTGTTGGAGTTTTGGAGAATCTGATCGTCCTGCTGGCTGTGTTCAAGA
ATAAGAATCTCCAGGCACCCATGTACTTTTTTCATCTGTAGCTTGGCCATATCTGATATGCTGGGCAGCCTATATAAG
ATCTTGGAATATCCTGATCATATTGAGAAACATGGGCTATCTCAAGCCACGTGGCAGTTTTGAAACCACAGCCGA
TGACATCATCGACTCCCTGTTTGTCTCTCCCTGCTTGGCTCCATCTTCAGCCTGTCTGTGATTGCTGCGGACCGCT
ACATCACCATCTTCCACGCACTGCGGTACCACAGCATCGTGACCATGCGCCGCACTGTGGTGGTGCTTACGGTCATC
TGGACGTTCTGCACGGGGACTGGCATCACCATGGTGATC**TATCATGAGAGTCGTGCTGTCACTTAA**ACCTTCACGTC
GCTGTTCCCGCTGATGCTGGTCTTCATCCTGTGCCTCTATGTGCACATGTTCTGCTGGCTCGATCCACACCAGGA
AGATCTCCACCCTCCCCAGAGCCAACATGAAAGGGGCCATCACACTGACCATCCTGCTCGGGGTCTTCATCTTCTGC
TGGGCCCCCTTTGTGCTTCATGTCTCTTGATGACATTCTGCCCAAGTAACCCCTACTGCGCCTGCTACATGTCTCT
CTTCCAGGTGAACGGCATGTTGATCATGTGCAATGCCGTCATTGACCCCTTCATATATGCCTTCCGGAGCCCAGAGC
TCAGGGACGCATTCAAAAAGATGATCTTCTGCAGCAGGTACTGGTGA

Chimeric hMC2R/EC3 xtMclr (in red) Cys codon underlined

ATGAAGCACATTATCAACTCGTATGAAAACATCAACAACACAGCAAGAAATAATTCCGACTGTCCTCGTGTGGTTTT
GCCGGAGGAGATATTTTTTACAATTTCCATTGTTGGAGTTTTGGAGAATCTGATCGTCCTGCTGGCTGTGTTCAAGA
ATAAGAATCTCCAGGCACCCATGTACTTTTTTCATCTGTAGCTTGGCCATATCTGATATGCTGGGCAGCCTATATAAG
ATCTTGGAATATCCTGATCATATTGAGAAACATGGGCTATCTCAAGCCACGTGGCAGTTTTGAAACCACAGCCGA
TGACATCATCGACTCCCTGTTTGTCTCTCCCTGCTTGGCTCCATCTTCAGCCTGTCTGTGATTGCTGCGGACCGCT
ACATCACCATCTTCCACGCACTGCGGTACCACAGCATCGTGACCATGCGCCGCACTGTGGTGGTGCTTACGGTCATC
TGGACGTTCTGCACGGGGACTGGCATCACCATGGTGATCTTCTCCCATCATGTGCCACAGTGATCACCTTCACGTC
GCTGTTCCCGCTGATGCTGGTCTTCATCCTGTGCCTCTATGTGCACATGTTCTGCTGGCTCGATCCACACCAGGA
AGATCTCCACCCTCCCCAGAGCCnAACATGAAAGGGGCCATCACACTGACCATCCTGCTCGGGGTCTTCATCTTCTG
CTGGGCCCCCTTTGTGCTTCATGTCTCTTGATG**GTGTTCTGCCCCGGTCATCATATTTGCAAT****TGCTATTTTTACT**
ATTTCCAGGTGAACGGCATGTTGATCATGTGCAATGCCGTCATTGACCCCTTCATATATGCCTTCCGGAGCCCAGAG
CTCAGGGACGCATTCAAAAAGATGATCTTCTGCAGCAGGTACTGGTGA

The nucleotide sequences for *hmc2r* and *xtmc1r* and the four chimeric receptor cDNAs: hMC2R/N-terminal xtMC1R, Chimeric hMC2R/EC1 xtMC1R, hMC2R/EC2 xtMC1R, and hMC2R/EC3 xtMclr are presented. The location the xtMclr nucleotide sequence in each chimeric construct is highlighted in red. The location of the cysteine codon in the NT and EC3 chimeric constructs is highlighted in green and underlined.