

Synthetic genes sequences:

Gene name: HMFO-Wt, Length: 1738 bp, Vector name: pUC57-Kan, Cloning site: EcoRI/HindIII,

BsaI recognition sites

Nucleotides added for the scarless ligation

Sequence:

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GAATTCGGTCTCTTGGTATGACTGATACGATTTTTGACTACGTGATTGTTGGCGGTGGCACGGCGGGTAGC
GTTCTGGCCAACCGTCTGTCCGCCCCGTCCGGAGAATCGCGTGTTGCTGATTGAGGCCGGTATTGATACCCC
GGAAAAACAATATTCCGCCGGAGATCCACGATGGCCTGCGCCCCGTGGCTGCCGCGTCTGAGCGGTGATAAGT
TCTTTTGGCCGAATCTGACCATCCACCGTGCCGCGGAACACCCGGGTATCACGCGCGAGCCGCAGTTCTAT
GAACAAGGCCGTCTGCTGGGCGGTGGTAGCAGCGTGAACATGGTCGTTTCTAACC GTGTCTGCCTCGCGA
CTATGACGAATGGCAGGCACTGGGCGCAGATGGTTGGGATTGGCAGGGAGAGACCGGTCTCTAGGGTGTTT
TGCCGTACTTCATCAAGACCGAGCGTGACGCGGACTACGGTGACGACCCGTTGCATGGCAATGCGGGTCCG
ATTCCGATCGGTGCGCTCGATTTCGCGTCACTGGAGCGACTTCACGGTGGCGGCAACCCAAGCTCTGGAAGC
GGCTGGCCTGCCGAACATTCACGACCAAAACGCACGTTTTGATGACGGTTACTTCCCACCGGCATTTACGT
TGAAAGGTGAAGAGCGCTTCAGCGCCGCACGCGTTATCTGGATGCGAGCGTCCGTGTGCGTCCGAACCTG
AGCCTGTGGACTGAGAGCCGTGTCCTGAAGCTGCTGACCACTGGCAATGCAATCACCGGTGTGAGCGTGCT
GCGTGGTCGCGAAAGAGACCGGTCTCTCGAAACCCTGCAAGTTCAAGCGCGGAGGTCATCCTGACCGCCG
GTGCGTTGCAAAGCCAGCGATTCTGTTGCGCACCGGCATCGGCCCTGCGGCGGATCTGCACGCACTGGGT
ATTCTGTCTTCTGGCAGACCGTCCGGGTGTTGGTCGCAATCTGTGGGAGCACAGCTCTATCGGTGTGGTTGC
CCCGCTGACCGAGCAGGCACGTGCAGACGCCAGCACGGGTAAAGCCGGCTCTCGCCATCAACTGGGTATCC
GTGCGTCTGCCGCGTAGATCCGGCGACGCCTAGCGACCTGTTTCTGCATATCGGTGCTGATCCAGTCAAG
AGACCGGTCTCTAGTCAGCGGTCTGGCAAGCGCTGTGTTCTGGGTGAACAAGCCAAGCTCCACCGGTGGCT
GAAGCTGAAGGACGCGGACCCGTTTAGCAGAGACCGGTCTCTTAGCTACCCGGACGTAGACTTCAATCTGC
TGAGCGATCCGCGCGACTTGGGTGCTCTGAAAGCGGGCCTGCGTCTGATCACCCATTACAGAGACCGGTCT
CTTTACTTCGCAGCGCCGTCCCTGGCGAAATATGGTTTGGCGCTGGCATTGAGCCGTTTAGAGACCGGTCT
CTGTTTTTGCGGCACCGCAGCCGGGTGGTCCGCTGCTGAACGACCTGTTGCAGGACGAAGCCGCCCTGGAAC
GCTATTTGCGTACGAACGTGCGCGGTGTTTGGCATGCGAGCGGCACGGCGCGTATCGGCCGTGCGGATGAT
TCCCAGGCTGTTGTGCGATAAAGCGGGTCGTGTGTACGGCGTCACCGGCCTGCGTGTGCGGACGCAAGCAT
TATGCCGACCGTTCCGACCGCAATACCAATCTGCCGACGCTGATGCTGGCTGAGAAAATTGCGGATGCGA
TTCTGACCCAGGCTTAACTTGCGAGACCAAGCTT
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Gene name: HMFO-Mut, Length: 1738 bp, Vector name: pUC57-Kan, Cloning site: EcoRI/HindIII,

BsaI recognition sites

Nucleotides added for the scarless ligation

Mutated nucleotides

Sequence:

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GAATTCGGTCTCTTGGTATGACTGATACGATTTTTGACTACGTGATTGTTGGCGGTGGCACGGCGGGTAGC
GTTCTGGCCAACCGTCTGTCCGCCCCGTCCGGAGAATCGCGTGTTGCTGATTGAGGCCGGTATTGATACCCC
GGAAAAACAATATTCCGCCGGAGATCCACGATGGCCTGCGCCCCGTGGCTGCCGCGTCTGAGCGGTGATAAGT
TCTTTTGGCCGAATCTGACCGTACCGTGCCGCGGAACACCCGGGTATCACGCGCGAGCCGCAGTTCTAT
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GAACAAGGCCGTCTGCTGGGCGGTGGTAGCAGCGTGAACATGGTCGTTTCTAACCGTGGTCTGCCTCGCGA
CTATGACGAATGGCAGGCACTGGGCGCAGATGGTTGGGATTGGCAGGGAGAGACCGGTCTCTAGGGTGTTC
TGCCGTACTTCATCAAGACCGAGCGTGACGCGGACTACGGTGACGACCCGTTGCATGGCAATGCGGGTCCG
ATTCCGATCGGTTCGCTCGATTTCGCGTCACTGGAGCGACTTCACGGTGGCGGCAACCCAAGCTCTGGAAGC
GGCTGGCCTGCCGAACATTCACGACGAAAACGCACGTTTTTGATGACGGTTACTTCCCACCGGCATTTACGT
TGAAAGGTGAAGAGCGCTTTCAGCGCCGCACGCGGTTATCTGGATGCGAGCGTCCGTGTGCGTCCGAACCTG
AGCCTGTGGACTGAGAGCCGTGTCCTGAAGCTGCTGACCACTGGCAATGCAATCACCGGTGTGAGCGTGCT
GCGTGGTCGCGAAAGAGACCGGTCTCTCGAAACCCTGCAAGTTCAAGCGCGGAGGTCATCCTGACCGCCG
GTGCGTTGCAAAGCCAGCGATTCTGTTGCGCACCGGCATCGGCCCTGCGGCGGATCTGCACGCACTGGGT
ATTCTGTCTTCTGGCAGACCGTCCGGGTGTTGGTCGCAATCTGTGGGAGCACAGCTCTATCGGTGTGGTTGC
CCCGCTGACCGAGCAGGCACGTGCAGACGCCAGCACGGGTAAAGCCGGCTCTCGCCATCAACTGGGTATCC
GTGCGTCGTCCGGCGTAGATCCGGCGACGCCTAGCGACCTGTTTCTGCATATCCATGCTGATCCAGTCAAG
GACCGGTCTCTAGTCAAGCGGTCTGGCAAGCGCTCTGTTCTGGGTGAACAAGCCAAGCTCCACCGGTGGCT
GAAGCTGAAGGACGCGGACCCGTTTAGCAGAGACCGGTCTCTTAGCTACCCGGACGTAGACTTCAATCTGC
TGAGCGATCCGCGCGACTTGGGTTCGTCTGAAAGCGGGCCTGCGTCTGATCAAAACATTACAGAGACCGGTCT
CTTTACTTCGCATATCCGTCCCTGGCGAAATATGGTTTGGCGCTGGCATTGAGCCGTTTAGAGACCGGTCT
CTGTTTGTAGGCACCGCAGCCGGGTGGTCCGCTGCTGAACGACCTGTTGCAGGACGAAGCCGCCCTGGAAC
GCTATTTGCGTACGAACGTCGGCGGTGTTTGGCATGCGAGCGGCACGGCGCGTATCGGCCGTGCGGATGAT
TCCCAGGCTGTTGTGATAAAGCGGGTCGTGTGTACGGCGTCACCGGCCTGCGTGTGCGGACGCAAGCAT
TATGCCGACCGTTCCGACCGCAATACCAATCTGCCGACGCTGATGCTGGCTGAGAAAATTGCGGATGCGA
TTCTGACCCAGGCTTAACTTGCGAGACCAAGCTT