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Product datasheet for SC119995

MSH2 (NM_000251) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MSH2 (NM_000251) Human Untagged Clone
Tag:	Tag Free
Symbol:	MSH2
Synonyms:	COCA1; FCC1; hMSH2; HNPCC; HNPCC1; LCFS2; MMRCS2
Mammalian Cell Selection:	None
Vector:	pCMV6-XL5
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF:

>OriGene ORF within SC119995 sequence for NM_000251 edited (data generated by NextGen Sequencing)

ATGGCGGTGCAGCCGAAGGAGACGCTGCAGTTGGAGAGCGCGGCCGAGGTCGGCTTCGTG
CGCTTCTTTCAGGGCATGCCGGAGAAGCCGACCACCACAGTGCGCCTTTTCGACCGGGGC
GACTTCTATACGGCGCACGGCGAGGACGCGCTGCTGGCCGCCCGGGAGGTGTTCAAGACC
CAGGGGGTGATCAAGTACATGGGGCCGGCAGGAGCAAAGAATCTGCAGAGTGTTGTGCTT
AGTAAAATGAATTTTGAATCTTTTGTAAAAGATCTTCTTCTGGTTCGTCAGTATAGAGTT
GAAGTTTATAAGAATAGAGCTGGAAATAAGGCATCCAAGGAGAATGATTGGTATTTGGCA
TATAAGGCTTCTCCTGGCAATCTCTCTCAGTTTGAAGACATTCTCTTTGGTAACAATGAT
ATGTCAGCTTCCATTGGTGTTGTGGGTGTTAAAATGTCCGCAGTTGATGGCCAGAGACAG
GTTGGAGTTGGGTATGTGGATTCCATACAGAGGAAACTAGGACTGTGTGAATTCCCTGAT
AATGATCAGTTCTCCAATCTTGAGGCTCTCCTCATCCAGATTGGACCAAAGGAATGTGTT
TTACCCGGAGGAGAGACTGCTGGAGACATGGGGAAACTGAGACAGATAATTCAAAGAGGA
GGAATTCTGATCACAGAAAGAAAAAAAGCTGACTTTTCCACAAAAGACATTTATCAGGAC
CTCAACCGGTTGTTGAAAGGCAAAAAGGGAGAGCAGATGAATAGTGCTGTATTGCCAGAA
ATGGAGAATCAGGTTGCAGTTTCATCACTGTCTGCGGTAATCAAGTTTTTAGAACTCTTA
TCAGATGATTCCAACTTTGGACAGTTTGAACTGACTACTTTTGACTTCAGCCAGTATATG
AAATTGGATATTGCAGCAGTCAGAGCCCTTAACCTTTTTCAGGGTTCTGTTGAAGATACC
ACTGGCTCTCAGTCTCTGGCTGCCTTGCTGAATAAGTGTAAAACCCCTCAAGGACAAAGA
CTTGTTAACCAGTGGATTAAGCAGCCTCTCATGGATAAGAACAGAATAGAGGAGAGATTG
AATTTAGTGGAAGCTTTTGTAGAAGATGCAGAATTGAGGCAGACTTTACAAGAAGATTTA
CTTCGTCGATTCCCAGATCTTAACCGACTTGCCAAGAAGTTTCAAAGACAAGCAGCAAAC
TTACAAGATTGTTACCGACTCTATCAGGGTATAAATCAACTACCTAATGTTATACAGGCT
CTGGAAAAACATGAAGGAAAACACCAGAAATTATTGTTGGCAGTTTTTGTGACTCCTCTT
ACTGATCTTCGTTCTGACTTCTCCAAGTTTCAGGAAATGATAGAANCAACTTTAGATATG
GATCAGGTGGAAAACCATGAATTCCTTGTAAAACCTTCATTTGATCCTAATCTCAGTGAA
TTAAGAGAAATAATGAATGACTTGGAAAAGAAGATGCAGTCAACATTAATAAGTGCAGCC

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AGAGATCTTGGCTTGGACCCTGGCAAACAGATTAAACTGGATTCCAGTGCACAGTTTGGA
TATTACTTTCGTGTAACCTGTAAGGAAGAAAAAGTCCTTCGTAACAATAAAAACTTTAGT
ACTGTAGATATCCAGAAGAATGGTGTTAAATTTACCAACAGCAAATTGACTTCTTTAAAT
GAAGAGTATACCAAAAATAAAACAGAATATGAAGAAGCCCAGGATGCCATTGTTAAAGAA
ATTGTCAATATTTCTTCAGGCTATGTAGAACCAATGCAGACACTCAATGATGTGTTAGCT
CAGCTAGATGCTGTTGTCAGCTTTGCTCACGTGTCAAATGGAGCACCTGTTCCATATGTA
CGACCAGCCATTTTGGAGAAAGGACAAGGAAGAATTATATTAAAAGCATCCAGGCATGCT
TGTGTTGAAGTTCAAGATGAAATTGCATTTATTCCTAATGACGTATACTTTGAAAAAGAT
AAACAGATGTTCCACATCATTACTGGCCCCAATATGGGAGGTAAATCAACATATATTCGA
CAAACTGGGGTGATAGTACTCATGGCCCAAATTGGGTGTTTTGTGCCATGTGAGTCAGCA
GAAGTGTCCATTGTGGACTGCATCTTAGCCCGAGTAGGGGCTGGTGACAGTCAATTGAAA
GGAGTCTCCACGTTCATGGCTGAAATGTTGGAAACTGCTTCTATCCTCAGGTCTGCAACC
AAAGATTCATTAATAATCATAGATGAATTGGGAAGAGGAACTTCTACCTACGATGGATTT
GGGTTAGCATGGGCTATATCAGAATACATTGCAACAAAGATTGGTGCTTTTTGCATGTTT
GCAACCCATTTTCATGAACTTACTGCCTTGGCCAATCAGATACCAACTGTTAATAATCTA
CATGTCACAGCACTCACCACTGAAGAGACCTTAACTATGCTTTATCAGGTGAAGAAAGGT
GTCTGTGATCAAAGTTTTGGGATTCATGTTGCAGAGCTTGCTAATTTCCCTAAGCATGTA
ATAGAGTGTGCTAAACAGAAAGCCCTGGAACTTGAGGAGTTTCAGTATATTGGAGAATCG
CAAGGATATGATATCATGGAACCAGCAGCAAAGAAGTGCTATCTGGAAAGAGAGCAAGGT
GAAAAAATTATTCAGGAGTTCCTGTCCAAGGTGAAACAAATGCCCTTTACTGAAATGTCA
GAAGAAAACATCACAATAAAGTTAAAACAGCTAAAAGCTGAAGTAATAGCAAAGAATAAT
AGCTTTGTAAATGAAATCATTTCACGAATAAAAGTTACTACGTGA

Clone variation with respect to NM_000251.1
1366 a=>n

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_000251 unedited
TGTATACGACTCACTATAGGGCGGCCGCGAATTCGCACGAGGAGGAGGTTTCGACATGGC
GGTGCAGCCGAAGGAGACGCTGCAGTTGGAGAGCGCGGCCGAGGTCGGCTTCGTGCGCTT
CTTTCAGGGCATGCCGGAGAAGCCGACCACCACAGTGCGCCTTTTCGACCGGGGCGACTT
CTATACGGCGCACGGCGAGGACGCGCTGCTGGCCGCCCGGGAGGTGTTCAAGACCCAGGG
GGTGATCAAGTACATGGGGCCGGCAGGAGCAAAGAATCTGCAGAGTGTTGTGCTTAGTAA
AATGAATTTTGAATCTTTTGTAAAAGATCTTCTTCTGGTTCGTCAGTATAGAGTTGAAGT
TTATAAGAATAGAGCTGGAAATAAGGCATCCAAGGAGAATGATTGGTATTTGGCATATAA
GGCTTCTCCTGGCAATCTCTCTCAGTTTGAAGACATTCTCTTTGGTAACAATGATATGTC
AGCTTCCATTGGTGTTGTGGGTGTTAAAATGTCCGCAGTTGATGGCCAGAGACAGGTTGG
AGTTGGGTATGTGGATTCCATACAGAGGAAACTAGGACTGTGTGAATTCCCTGATAATGA
TCAGTTCTCCAATCTTGAGGCTCTCCTCATCCAGATTGGACCAAGGAATGTGTTTTACCC
GGAGGAGAGACTGCTGGAGACATGGNGAAACTGAGACAGATAATTAAAGAGGAGGAATTC
TGATCACAGAAGAANAAAGCTGACTNTTCACAAAGACATTATCAGACCTCACCCGNNTGT
GAAGGCAAAGGGAGAGCAATGATAGTGCTNGATGCCAGATGGAGAATCAGGTGCAGTTCA
NACTGGCTGCGGNATCAGTTTTAGACTCTATAGATGATCCACTTGGGACGTTGAACTGCT
ACTTTGACTCGCCGNTATGATTGGATGGCGCNTCAGCCTAG

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_000251 unedited
CTCTGCATTTTTTTATAAAATTCAGCACATCACTTATTATTGCCTATGTCAATTGCAAAC
AGTCCTCAGTTACAGCTCTCATTTTTCAAAATAAAAATCTTTGAAAATGTCCTCAAAGTA
AAATATTACTAAATATCTTATTAAGTTGATAGCCCATGGGCACTGACAGTTAACACTATG
GAAAAAGGGTTAATATAAAACAATATAAAACTATTACAGACAATAGCTTATCAATATTAC
CTTCATTCCATTACTGGGATTTTTCACGTAGTAACTTTTATTCGTGAAATGATTTCATTT
ACAAAGCTATTATTCTTTGCTATTACTTCAGCTTTTAGCTGTTTTAACTTTATTGTGATG
TTTTCTTCTGACATTTCAGTAAAGGGCATTTGTTTCACCTTGGACAGGAACTCCTGAATA
ATTTTTTCACCTTGCTCTCTTTCCAGATAGCACTTCTTTGCTGCTGGTTCCATGATATCA
TATCCTTGCGATTCTCCAATATACTGAAACTCCTCAAGTTCCAGGGCTTTCTGTTTAGCA
CACTCTATTACATGCTTAGGGAAATTAGCAAGCTCTGCAACATGAATCCCAAAACTTTGA
TCACAGACACCTTTCTTCACCTGATAAAGCATAGTTAAGGTCTCTTCAGTGGTGAGTGCT
GTGACATGTAGATTATTAACAGTTGGTATCTGATTGGCCAAGGCAGTAAGTTCATGACAA
TGGGTTGCAAACATGCANAAAGCACCAAATCTTGTTGCAATGTATTCTGATATAGCCCAT
GCTAACCAAATNCATCGTAGGTAGAAAGTTCTCTTCCAANTCATCTATGATTATTAATGA
AATCTTTGGTGCAGACCTGAGGATAGAAGCAGTTTCCAACATTTCACCATGAACCGTGAG
ACTNCTTTCAATNGACTGTTCACAGCCCCTACTCGGGCTAAGATGCAGTCACAATGGACA
CCTCTGCTGACTAAT

Restriction Sites: NotI-NotI

ACCN: NM_000251

Insert Size: 3660 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. More info

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:
1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: NM_000251.1, NP_000242.1

RefSeq Size:	3145 bp
RefSeq ORF:	2805 bp
Locus ID:	4436
UniProt ID:	P43246
Cytogenetics:	2p21-p16.3
Domains:	MutS_V, MutS_I, MutS_III, MutS_II, MutS_IV
Protein Families:	Druggable Genome, Stem cell - Pluripotency
Protein Pathways:	Colorectal cancer, Mismatch repair, Pathways in cancer

Gene Summary: This locus is frequently mutated in hereditary nonpolyposis colon cancer (HNPCC). When cloned, it was discovered to be a human homolog of the E. coli mismatch repair gene mutS, consistent with the characteristic alterations in microsatellite sequences (RER+ phenotype) found in HNPCC. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Apr 2012]
Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (1).