

Product datasheet for **SC309165**

MSH5 (NM_172165) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MSH5 (NM_172165) Human Untagged Clone
Tag:	Tag Free
Symbol:	MSH5
Synonyms:	G7; MUTSH5; NG23; POF13
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >NCBI ORF sequence for NM_172165, the custom clone sequence may differ by one or more nucleotides

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ATGGCCTCCTTAGGAGCGAACCCAAGGAGGACACCGCAGGGACCGAGACCTGGGGCGGCC
TCCTCCGGCTTCCCCAGCCCGGCCAGTGCCGGGCCCCAGGGAGGCCGAGGAGGAGGAA
GTCGAGGAGGAGGAGGAGCTGGCCGAGATCCATCTGTGTGTGTGTTGGAATTCAGGATAC
TTGGGCATTGCCTACTATGATACTAGTGACTCCACTATCCACTTCATGCCAGATGCCCA
GACCACGAGAGCCTCAAGCTTCTCCAGAGAGTTCTGGATGAGATCAATCCCCAGTCTGTT
GTTACGAGTGCCAAACAGGATGAGAATATGACTCGATTTCTGGGAAAGCTTGCCTCCAG
GAGCACAGAGAGCCTAAAAGACCTGAAATCATATTTTTGCCAAGTGTGGATTTTGGTCTG
GAGATAAGCAAACAACGCCTCCTTTCTGAAAACACTCCTTCATCCCAGACGCCATGACT
GCCACTGAGAAAACTCTTCTCTCTTCCATTATCCCTTTGACTGCCTCCTCACAGTT
CGAGCACTTGGAGGGCTGCTGAAGTTTCTGGTGAAGAAGAATCGGGTTGAACTGGAA
GACTATAATGTCAGCGTCCCATCCTGGGCTTTAAGAAATTTATGTTGACTCATCTGGT
AACATAGATCAAGACACTTACAGTGTCTACAGATTTTTAAGAGTGAGTCTCACCCCTCA
GTGTACAAAGTGGCCAGTGGACTGAAGGAGGGGCTCAGCCTCTTTGGAATCCTCAACAGA
TGCCACTGTAAGTGGGGAGAGAAGCTGCTCAGGCTATGGTTCACACGTCGGACTCATGAC
CTGGGGGAGCTCAGTTCTCGTCTGGACGTCATTAGTTTTTCTGCTGCCCCAGAATCTG
GACATGGCTCAGATGCTGCATCGGCTCCTGGGTACATCAAGAACGTGCCTCTGATTCTG
AAACGCATGAAGTTGTCCACACCAAGGTCAGCGACTGGCAGGTTCTCTACAAGACTGTG
TACAGTGGCCTGGGCTGAGGGATGCCTGCCGCTCCCTGCCGAGTCCATCCAGCTCTTT
CGGGACATTGCCAAGAGTTCTCTGATGACCTGCACCATATCGCCAGCCTCATTGGGAAA
GTAGTGGACTTTGAGGGCAGCCTTGCTGAAAATCGTTACAGTCTCCCAACATAGAT
CCTGAAATTTGATGAGAAAAAGCGAAGACTGATGGGACTTCCCAGTTTCTTACTGAGGT
GCCCGCAAGGAGCTGGAGAATCTGGACTCCCGTATTCCTTCATGCAAGTGCATCTACATC
CCTCTGATTGGCTTCTTCTTTCTATTCCCGCCTGCCTTCCATGGTAGAGGCCAGTGAC
TTTGAGATTAATGGACTGGACTTCATGTTTCTCTCAGAGGAGAAGCTGCACTATCGTAGT
GCCCGAACCAAGGAGCTGGATGCATTGCTGGGGGACCTGCACTGCAGATCCGGGACCAG
GAGACGCTGCTGATGTACCAGCTACAGTCCAGGTGCTGGCACGAGCAGCTGTCTTAACC
CGAGTATTGGACCTTGCCTCCCGCCTGGACGCTCCTGCTGGCTCTTGCCAGTGTGCCGG
GACTATGGCTACTCAAGCCCGCTTACTCCCCACAAGTCTTGGGGTACGAATCCAGAAT
GGCAGACATCCTCTGATGGAACCTGTGCCCCAACCTTTGTGCCAACTCCACAGATGT
GGTGGGGACAAAGGGAGGGTCAAAGTCATCACTGGACCCAACCTATCAGGGAAGAGCATA
TACCTCAAACAGGTAGGCTTGATCACATTCATGGCCCTGGTAGGCAGCTTTGTGCCAGCA
GAGGAGGCCGAAATTGGGGCAGTAGACGCCATCTTACACGAATTCATAGCTGCGAATCC
ATCTCCCTTGGCCTCTCCACCTTCATGATCGACCTCAACCAGCAGGTGGCGAAAGCAGTG
AACAAATGCCACTGCACAGTCGCTGGTCTTATTGATGAATTTGGAAAGGGAAACCAACAG
GTGGATGGGCTCGCGCTTCTGGCCGCTGTGCTCCGACACTGGCTGGCACGTGGACCCACA
TGCCCCACATCTTTGTGGCCACCAACTTCTGAGCCTTGTTCAGCTACAACCTGCTGCCA
CAAGGCCCTTGGTGCAGTATTTGACCATGGAGACCTGTGAGGATGGCAACGATCTTGTC
TTCTTCTATCAGGTTTGGCAAGGTGTTGCGAAGGCCAGCCATGCCTCCACACAGCTGCC
CAGGCTGGGCTTCTGACAAGCTTGTGGCTCGTGGCAAGGAGGTCTCAGACTTGATCCGC
AGTGGAAAACCCATCAAGCCTGTCAAGGATTTGCTAAAGAAGAACCAATGGAAAATTGC
CAGACATTAGTGGATAAGTTTATGAAACTGGATTTGGAAGATCCTAACCTGGACTTGAAC
GTTTTTCATGAGCCAGGAAGTGTGCTGCTGCCACCAGCATCCTCTGA

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Restriction Sites: Please inquire

ACCN: NM_172165

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](#)

OTI Annotation: This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

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_172165.1](#), [NP_751897.1](#)

RefSeq Size: 3971 bp

RefSeq ORF: 2790 bp

Locus ID: 4439

UniProt ID: [O43196](#)

Cytogenetics: 6p21.33

Protein Families: Druggable Genome

Gene Summary:

This gene encodes a member of the mutS family of proteins that are involved in DNA mismatch repair and meiotic recombination. This protein is similar to a *Saccharomyces cerevisiae* protein that participates in segregation fidelity and crossing-over events during meiosis. This protein plays a role in promoting ionizing radiation-induced apoptosis. This protein forms hetero-oligomers with another member of this family, mutS homolog 4. Polymorphisms in this gene have been linked to various human diseases, including IgA deficiency, common variable immunodeficiency, and premature ovarian failure. Alternative splicing results multiple transcript variants. Read-through transcription also exists between this gene and the downstream chromosome 6 open reading frame 26 (C6orf26) gene. [provided by RefSeq, Feb 2011]

Transcript Variant: This variant (2) uses alternate in-frame splice sites in both the central and 3' coding regions, compared to variant 1, resulting in an isoform (b) that is longer than isoform a.