

## Product datasheet for **RC212608**

### **MSH5 (NM\_172166) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	MSH5 (NM_172166) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MSH5
Synonyms:	G7; MUTSH5; NG23; POF13
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide  
Sequence:**

>RC212608 representing NM\_172166  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCTCCTTAGGAGCGAACCCAAAGGAGGACACCGCAGGGACCGAGACCTGGGGCGGCCTCCTCCGGCT  
 TCCCAGCCCGCCAGTGCCGGGCCAGGGAGGCCGAGGAGGAAAGTTCGAGGAGGAGGAGGAGCT  
 GGCCGAGATCCATCTGTGTGTGCTGTGGAATTCAGGATACTTGGGCATTGCCTACTATGATACTAGTGAC  
 TCCACTATCCACTTCATGCCAGATGCCCCAGACCAGAGACCTCAAGCTTCTCCAGAGAGTTCTGGATG  
 AGATCAATCCCCAGTCTGTTGTTACGAGTGCCAAACAGGATGAGAATATGACTCGATTTCTGGGAAAGCT  
 TGCCTCCAGGAGCACAGAGAGCCTAAAAGACCTGAAATCATATTTTTGCCAAGTGTGGATTTTGGTCTG  
 GAGATAAGCAAACAACGCCTCCTTTCTGGAACTACTCCTTCATCCAGACGCCATGACTGCCACTGAGA  
 AAATCCTCTTCTCTTCCATTATCCCTTTGACTGCCTCCTCACAGTTCGAGCACTTGGAGGGCTGCT  
 GAAGTTCTCGGGTGAAGAAGAATCGGGTTGAACTGGAAGACTATAATGTCAGCGTCCCATCCTGGGC  
 TTTAAGAAATTTATGTTGACTCATCTGGTGAACATAGATCAAGACTTACAGTGTCTACAGATTTTAA  
 AGAGTGAGTCTCACCCCTCAGTGTACAAAAGTGGCCAGTGGACTGAAGGAGGGGCTCAGCCTCTTGGAA  
 CCTCAACAGATGCCACTGTAAGTGGGAGAGAAGCTGCTCAGGCTATGGTTCACACGTCCGACTCATGAC  
 CTGGGGGAGCTCAGTTCCTGCTGACGTCATTGAGTTTTTCTGCTGCCCCAGAATCTGGACATGGCTC  
 AGATGCTGCATCGGCTCCTGGGTACATCAAGAACGTGCCTCTGATTCTGAAACGCATGAAGTTGCCCA  
 CACCAAGTCCAGCAGTGGCAGGTTCTCAAGACTGTGTACAGTGCCTGGGCTGAGGGATGCCTGC  
 CGCTCCCTGCCGAGTCCATCCAGCTCTTTCGGGACATGCCCAAGAGTCTCTGATGACCTGCACCATA  
 TCGCCAGCCTCATTGGGAAAGTAGTGGACTTTGAGGGCAGCCTTGCTGAAAATCGCTTACAGCTCCTCC  
 CAACATAGATCCTGAAATTTGATGAGAAAAGCGAAGACTGATGGGACTTCCAGTTTCTTACTGAGGTT  
 GCCCGCAAGGAGCTGGAGAATCTGGACTCCCGTATTCTTCATGCAAGTGTATCTACATCCCTCTGATTG  
 GCTTCTTCTTTTATTCCCGCCTGCCTTCCATGGTAGAGGCCAGTGAATTTGAGATTAATGGACTGGA  
 CTTTCTGTTTCTCAGAGGAGAAGCTGCACTATCGTAGTGCCCGAACCAAGGAGCTGGATGCATTGCTG  
 GGGGACCTGCACTGCGAGATCCGGGACCAGGAGACGCTGCTGATGTACCAGTACAGTGCAGGTGCTGG  
 CACGAGCAGTGTCTTAACCCGAGTATTGGACCTTGCTCCCGCCTGGACGCTCTGCTGGCTCTTGCCAG  
 TGCTGCCCGGACTATGGCTACTCAAGGCCGCTTACTCCCAAGTCCCTGGGGTACGAATCCAGAAT  
 GGCAGACATCCTCTGATGGAACCTGTGCCGAACCTTTGTGCCAACTCCACAGATGTGGTGGGGACA  
 AAGGGAGGGTCAAAGTCACTGACCCAACTCATCAGGGAAGAGCATATACCTCAAACAGGTAGGCTT  
 GATCACATTCATGGCCCTGGTAGGCAGCTTTGTGCCAGCAGAGGAGGCCGAAATTTGGGGCAGTAGACCC  
 ATCTTACACGAATTCATAGCTGCGAATCCATCTCCCTTGGCCTCTCCACCTTCATGATCGACCTCAACC  
 AGGTGGCGAAAGCAGTGAACAATGCCACTGCACAGTGCCTGGTCTTATTGATGAATTTGGAAAGGGAAC  
 CAACACGGTGGATGGGCTCGCGCTTCTGGCCGCTGTGCTCCGACACTGGCTGGCACGTGGACCCACATGC  
 CCCCACATCTTTGTGGCCACCACTTTCTGAGCCTTGTTCAGCTACAGTGTGCCACAAGGGCCCTGG  
 TGCAGTATTTGACCATGGAGACCTGTGAGGATGGCAACGATCTTGTCTTCTATCAGGTTTGCGAAGG  
 TGTTGCGAAGGCCAGCCATGCCTCCACACAGCTGCCAGGCTGGGCTTCTGACAAGCTTGTGGCTCGT  
 GGCAAGGAGTCTCAGACTTGTCCGCAGTGGAAAACCCATCAAGCCTGTCAAGGATTTGCTAAAGAAGA  
 ACCAAATGGAAAATTTGCCAGACATTAGTGGATAAGTTTATGAAACTGGATTTGGAAGATCCTAACCTGGA  
 CTTGAACTTTTTCATGAGCCAGGAAGTGTGCTGCTGCCACCAGCATCCTC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC212608 representing NM\_172166  
Red=Cloning site Green=Tags(s)

MASLGANPRRTPQGPRPGAASSGFPPAPVPGPREAEEEEVEEEEEELAEIHLCVLWNSGYLGIAYYDTS  
STIHFMPDAPDHESLKLQRLVDEINPQSVVTSAKQDENMTRFLGKLASQEHREPKRPEIIFLPSVDFGL  
EISKQRLLSGNYSFIPDAMTATEKILFLSSIIPFDCLLTVRALGGLLKFLGRRRIGVELEDYNVSVPIG  
FKKFMLTHLVNIDQDTYSVLQIFKSESHPSVYKVASGLKEGLSLFGILNRCHCKWGEKLLRWFTRPTH  
LGELSSRLDVIQFFLLPQNLDMAQMLHRLLGHIKNVPLILKRMKLSHTKVSDWQVLYKTVYSALGLRDAC  
RSLPQSIQLFRDIAQEFSDDLHHIASLIGKVDFEGSLAENRFTVLPNIDPEIDEKRRMLMGLPSFLTEV  
ARKELENLDSRIPSCSVIYIPLIGFLLSIPRLPSMVEASDFEINGLDFMFLSEEKHYRSARTKELDALL  
GDLHCEIRDQETLLMYQLQCQVLARAVALTRVLDLASRLDVLLALASAARDYGYSRPRYSPQVLGVRION  
GRHPLMELCARTFVNSTECGGDKGRVKVITGPNSSGKSIYKQVGLITFMALVGSFVPAEEAEIGAVDA  
IFTRIHSCEISISLGLSTFMIDLNQVAKAVNNATAQSLVLIDFEGKGTNTVDGLALLAAVLRHWLARGPTC  
PHIFVATNFLSLVQLQLLPQGPLVQYLTMETCEDGNDLVFFYQVCEGVAKASHASHTAAQAGLPDKLVAR  
GKEVSDLIRSGKPIKPVKDLLKKNQMCQTLVDKFMKLDLEPNLDLNVFMSQEVLPAAATSIL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: [https://cdn.origene.com/chromatograms/mk6385\\_h12.zip](https://cdn.origene.com/chromatograms/mk6385_h12.zip)

Restriction Sites: Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_172166

**ORF Size:** 2502 bp

**OTI Disclaimer:** 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 clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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\\_172166.1](#), [NP\\_751898.1](#)

**RefSeq Size:** 3968 bp

**RefSeq ORF:** 2505 bp

**Locus ID:** 4439

**UniProt ID:** [O43196](#)

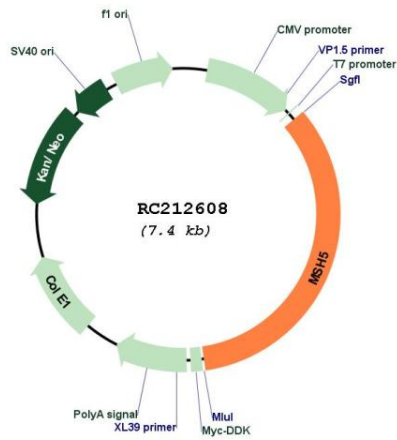
**Cytogenetics:** 6p21.33

**Protein Families:** Druggable Genome

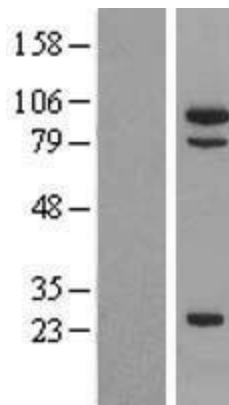
**MW:** 92.7 kDa

**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]

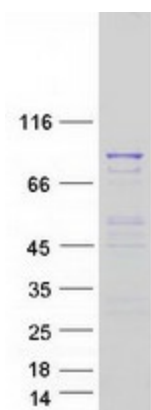
Product images:



Circular map for RC212608



Western blot validation of overexpression lysate (Cat# [LY406777]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC212608 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MSH5 protein (Cat# [TP312608]). The protein was produced from HEK293T cells transfected with MSH5 cDNA clone (Cat# RC212608) using MegaTran 2.0 (Cat# [TT210002]).