

## Product datasheet for **MC224318**

### **Msh6 (NM\_010830) Mouse Untagged Clone**

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Msh6 (NM\_010830) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Msh6  
**Synonyms:** AU044881; AW550279; GTBP; Gtmbp  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >MC224318 representing NM\_010830  
**Red**=Cloning site **Blue**=ORF **Orange**=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTCCCGACAAAGCACCTTGTACAGCTTCTTCCCAAGTCCCCGGCACTCGGCGACACCAAGAAGGCCG  
CGGCCGAGGCCTCAGCCAAGGTGCCGTGCCTCTGGAGCCTCCGCTTCCCGCGCGGGGATGCGGCCTG  
GAGCGAGGCTGAACCCGGTCCCGGTCCGCGCGGTATCCGCCTCGTCGCGGAGGCAAAGGATCTCAAC  
GGAGGGCTGCGGAGGGCCTCCTCCTCCGCGCAGGCCGTGCCTCCAGTTCCTTGTGACTTCTCACCAGGTG  
ATTTGGTTTGGGCTAAGATGGAAGGTTACCCCTGGTGGCCTTGCCCTAGTTTATAATCATCCCTTTGATGG  
AACGTTTATCCGGAAGAAAGGAAATCTGTCCGTGTTTATGTACAGTTCTTTGATGACAGCCCAACAAGG  
GGCTGGTTAGCAAAAGGATGTTAAAGCCATATACAGGTTCAAAGTCAAAGGAAGCCAAAAGGGAGGTC  
ATTTCTACAGTTCAAAGTCTGAGATACTCAGAGCAATGCAACGTGCAGATGAGGCCTTAAGTAAAGACAC  
GGCTGAGAGGCTGCAGCTGGCAGTGTGTGATGAGCCTCAGAGCCGAGGAGGAGGAGGAGACAGAGGTG  
CATGAGGCTTATTTATCTGATAAGAGTGAAGAGGATAATTACAACGAGAGTGAAGAAGAAGCACAGCCCA  
GTGTTCCAGGGCCTAGGCGAAGCAGCCGCAAGTCAAGAAGCAGCGGTCATCTCAGACTCGGAGAGTGA  
CATTGGTGGCTCTGATGTAGAATTCAAGCCAGACACTAAGCAGGAAGGAAGCAGTATGACGCGAGCAGT  
GGAGTTGGGACAGCGATAGTGAGGACCTAGGCACCTTTGGCAAAGGCGCTCCAAAGCGGAAGAGAGCCA  
TGGTTGCTCAGGGTGGACTTAGAAGGAAAAGTCTGAAGAAGGAAACAGGCTCAGCCAAACAGGAACTCC  
CATTCTCTCAGAAACCAAGAGTACCTTGAGCGCTTTTTCTGCCCTCAGAATTCTGAATCCAGACCCAC  
GTCAGTGGAGGAGTAACGACAGTAGTGGACCCACTGTTTGGTATCACGAACTTTAGAATGGCTTAAGC  
CAGAAAAGAGAAGAGATGAGCACAGGAGACGCCCGATCACCTGAATTTAACCCACCACACTGTATGT  
GCCTGAAGAGTTCCTCAATTCTTGTACCCAGGGATGAGGAAGTGGTGGCAGCTCAAGTCTCAGAACTTT  
GACCTCGTCATCTTTATAAGGTGGGAAGTTTTATGAGTTGTATCACATGGATGCTGTTATTGGAGTCA  
GTGAGCTGGGGCTGATATTCATGAAGGGCAACTGGGCCATTCTGGTTTTCCAGAGATTGCGTTTGGCCG  
GTTCTCGGATTCCTTGGTGCAGAAGGGCTATAAGGTAGCACGAGTGGAGCAGACCAGACTCCAGAAATG  
ATGGAGGCGCGATGTCGGAAAATGGCACACGTGTCCAAGTTTGTAGAGTGGTGAAGAAGGAGATTGCA



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GGATCATTACCAAGGGCACACAGACCTACAGTGTGCTGGATGGTATCCCTCTGAGAACTACAGTAGGTA  
TCTTCTAGCCTCAAAGAGAAGGAGGAAGAGACTTCTGGTCACTCGTGTGTATGGTGTGGTCTTTGTG  
GACACTTCACTGGGCAAGTTTTTCATCGGCCAGTTTTCGGATGACCGCCACTGTTCCAGATTTAGGACGC  
TAGTGGCTCACTATCCTCCAGTACAAAATTTTGTTCGAGAAAGGAAATCTCTAACAGAGACAAAACCTGT  
CCTAAAGGGTTCAGTGTATCTTGTCTTCAGGAAGGTCTCATACCAGGTTCCCAATTTGGGATGCCACT  
AAGACCTTGCAGCACTCCTTGAAGGAGGGTACTTTACTGGAAATGGAGACAGTAGTACAGTGTGCCTC  
TGGTGTCTAAAGGAATGACCTCGGAGTCAGATTCTGTTGGGTTGACACCAGGCGAGGAGAGTGAATTGGC  
TCTCTGCTCTAGGTGGTATTGTTTTCTACCTCAAAAAATGCCTGATTGATCAGGAGCTTCTGTCAATG  
GCTAATTTTGAAGAGTATTTCCCTTTGGATTCTGACACGGTCAGCACAGTAAAACCTGGGCTGTCTTTA  
CTAAAGCCAGTCAGCGGATGGTGTAGACGCAGTGACATTAACAACCTGGAGATTTTCTGAATGGGAC  
AAATGGCTCTACTGAAGGGACCTGCTAGAGAGATTGGATACTTGCCATACGCCCTTTGGCAAGCGGCTC  
TAAAACAGTGGCTCTGTGCCCCCTCTGCAGCCCTTCTGCCATCAGTGACCGTCTAGATGCGGTGGAAG  
ATCTGATGGCCGTGCCTGACAAGGTCAGTGAAGTTCAGACCTCTAAAGAAGCTGCCAGACCTTGAGAG  
GCTACTGAGTAAGATTCATAATGTTGGTCTCCCCTGAAGAGCCAGAACCATCCAGACAGCAGGGCTATA  
ATGTACGAAGAAACGACATACAGCAAAAAGAAGATCATTGATTTCTCTGCTCTAGAAGATTCAAAG  
TAATGTGTAAAGTCTCAGGGCTTCTGGAGGAGTCCGGGGTGGTTTTACGTCCAAAACCTCAAGCAGGT  
TGTTACTCTGCAGTCAAAAAGTCTAAAGGCCGCTTCTGACCTGACTGCAAGACTGCAGCGATGGGAC  
ACAGCCTTTGACCATGAGAAGGCTCGGAAGACCGGACTCATCTCCAAAAGCAGGGTTTACTCTGATT  
ATGACCAAGCACTTGCTGACATCAGAGAGAATGAACAGAGCCTCTGGAGTACTTAGACAAAACAGCGCAG  
TCGGCTTGGCTGTAAAGAGCATAGTCTACTGGGGAATCGGTAGGAACCGTTACCAGTTAGAGATCCAGAG  
AATTTGCTACCCGTAATCTACCTGAAGAATATGAGCTGAAATCTACTAAAAAGGCTGTAACGATACT  
GGACAAAACGATTGAGAAGAAATAGCTAATCTTATTAATGCTGAAGAACGAGGGACACATCCTTAAA  
GGACTGCATGCGGCGCTGTTCTGTAACTTCGACAAGAACCACAAGGACTGGCAGTCTGCTGTAGAGTGC  
ATTGCAGTGTGGATGTCTTACTGTGCCTGGCTAACTACAGTCAAGGAGGAGATGGTCTATGTGTCGCC  
CAGAAATTGTGTTACCAGGAGAAGACACACATCCCTTCTTAGAGTTTAAAGGGTACAGACATCCCTGCAT  
TACAAAGACTTTTTTTGGAGACGATTTTATTCTAACGACATTCTAATAGGCTGCGAGGAAGAAGCAGAG  
GAACATGGCAAAGCCTATTGTGTGCTTGTGACTGGACCAATAAGGGGGCAAGTCTACACTCATAAGAC  
AGGCTGGTCTGTTGGCTGTGATGGCCAGCTGGGTTGTTACGTACCTGCTGAGAAGTGCAGGCTCACACC  
AGTTGACAGAGTGTACTAGGCTTGGTGCCTCAGATAGAATAATGTCAGGAGAAAGCACATTTTTTGT  
GAGTTGAGTGAAGTGTAGCATACTCAGGCATGCAACAGCACATTCTTTGGTACTTGTGGATGAATTAG  
GAAGAGGCACCGCACTTTTGTGAGGACAGCGATAGCCAATGCGGTTGTTAAAGAAGTGTGAAACCAT  
AAAGTGTGCAACTGTTTTCTACACACTATCATTCAATAGTAGAAGATTATTCTAAAAGTGTGTTGTG  
CGCTAGGACATATGGCATGCATGGTAGAAAATGAATGTGAGGACCCAGCCAGGAGACTATTACTTTCC  
TCTATAAATTCATTAAGGGAGCTTGTCTTAAGAGCTATGGCTTTAATGCAGCAAGGCTTGTAAATCTCC  
GGAGGAGGTTATTCAGAAGGGACACAGAAAGGCAAGAGAAATTTGAGAGGATGAATCAGTCATTACAGCTA  
TTTTCGGAAGTTGTCTGGCTACTGAAAAGCCGACTATAAACGGTGAAGCTATCCATAGGCTGCTGGCT  
TGATTAACGGATTG**TAG**

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:**

Sgfl-Mlul

**ACCN:**

NM\_010830

**Insert Size:**

4077 bp

**OTI Disclaimer:**

Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u><a href="#">NM_010830.2</a></u> , <u><a href="#">NP_034960.1</a></u>
<b>RefSeq Size:</b>	4288 bp
<b>RefSeq ORF:</b>	4077 bp
<b>Locus ID:</b>	17688
<b>UniProt ID:</b>	<u><a href="#">P54276</a></u>
<b>Cytogenetics:</b>	17 57.87 cM
<b>Gene Summary:</b>	<p>Component of the post-replicative DNA mismatch repair system (MMR). Heterodimerizes with MSH2 to form MutS alpha, which binds to DNA mismatches thereby initiating DNA repair. When bound, MutS alpha bends the DNA helix and shields approximately 20 base pairs, and recognizes single base mismatches and dinucleotide insertion-deletion loops (IDL) in the DNA. After mismatch binding, forms a ternary complex with the MutL alpha heterodimer, which is thought to be responsible for directing the downstream MMR events, including strand discrimination, excision, and resynthesis. ATP binding and hydrolysis play a pivotal role in mismatch repair functions. The ATPase activity associated with MutS alpha regulates binding similar to a molecular switch: mismatched DNA provokes ADP--&gt;ATP exchange, resulting in a discernible conformational transition that converts MutS alpha into a sliding clamp capable of hydrolysis-independent diffusion along the DNA backbone. This transition is crucial for mismatch repair. MutS alpha may also play a role in DNA homologous recombination repair. Recruited on chromatin in G1 and early S phase via its PWWP domain that specifically binds trimethylated 'Lys-36' of histone H3 (H3K36me3): early recruitment to chromatin to be replicated allowing a quick identification of mismatch repair to initiate the DNA mismatch repair reaction (By similarity).[UniProtKB/Swiss-Prot Function]</p>