

Product datasheet for **RC205848**

MSH2 (NM_000251) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Tag:	Myc-DDK
Symbol:	MSH2
Synonyms:	COCA1; FCC1; hMSH2; HNPCC; HNPCC1; LCFS2; MMRCS2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide
Sequence:**

>RC205848 ORF sequence

Red=Cloning site Blue=ORF Green=Tags(s)

 TTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGGCGGTGCAGCCGAAGGAGACGCTGCAGTTGGAGAGCGCGCCGAGGTGCGCTTCGTGCGCTTCTTTT
 AGGGCATGCCGGAGAAGCCGACCACCACAGTGCGCCTTTTCGACCGGGCGACTTCTATACGGCGCACGG
 CGAGGACGCGCTGCTGGCCGCCGGGAGGTGTTCAAGACCCAGGGGTGATCAAGTACATGGGGCCGCA
 GGAGCAAAGAATCTGCAGAGTGTGTGCTTAGTAAATGAATTTGAATCTTTGTAAAAGATCTTCTTC
 TGGTTCGTAGTATAGAGTTGAAGTTTATAAGAATAGAGCTGGAATAAGGCATCCAAGGAGAATGATTG
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 CG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC205848 protein sequence
Red=Cloning site Green=Tags(s)

MAVPQKETLQLESAAEVGFVRFFQGMPEKPTTTVRLFDRGDFYTAHGEDALLAAREVFKTQGVIKYMGPA
GAKNLQSVVL SKMNFESFVKDLLLVRQYRVEVYKNRAGNKASKENDWYLAYKASPGNL SQFEDILFGNND
MSASIGVVGKMSAVDGGQRQVGVGVD SIQRKLG LCEFPDNDQFSNLEALLIQIGPKECVLPGETAGDM
GKLRQIIQRGGILITERKKADFSTKDIYQDLNRLKGGKGEQMNSAVLPEMENQVAVSSL SAVIKFLELL
SDDSNFGQFELTTFDFSQYMKLDIAAVRALNLFQGSVEDTTGSQSLAALLNKCKTPQGQRLVNQWIKQPL
MDKNRIEERLNLVEAFVEDAELRQTLQEDLLRRFPDLNRLAKKFQQAANLQDCYRLYQGINQLPNVIQA
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KMQSTLISAARDLGLDPGKQIKLDSQAQFGYYFRVTCKEEKVLRNNKNFSTVDIQKNGVKFTNSKLTSLN
EETKNKTEYEEAQDAIVKEIVNISSGYVEPMQTLNDVLAQLDAVVSFAHVSNGAPVPYVPAILEKGQG
RIILKASRHACVEVQDEIAFIPNDVYFEKDKQMFHIITGPNMGGKSTYIRQTVGIVLMAQIGCFVPCESA
EVSIVDCILARVGAGDSQLKGVSTFMAEMLETASILRSATKDSLIIIDELGRGTSTYDGFGLAWAISEYI
ATKIGAFCMFATHFHELTAALQIPTYNNLHVLTALTEETLTMLYQVKKGVCDQSFGIHVAELANFPKHV
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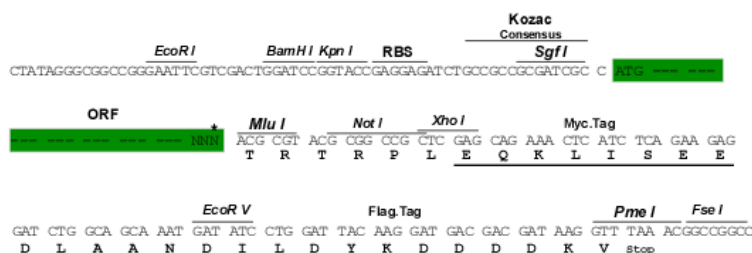
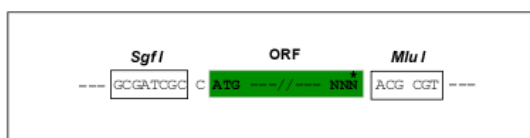
TRTRPLEOKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6258_a09.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:

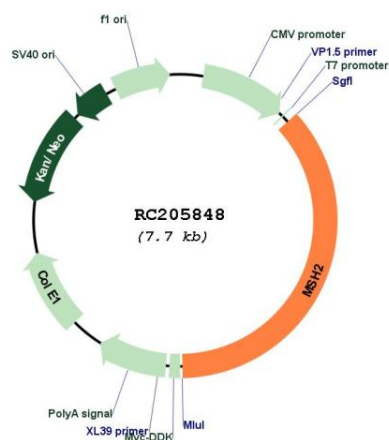


* The last codon before the Stop codon of the ORF

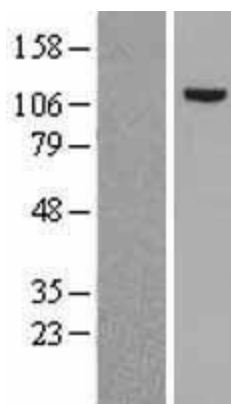
ACCN: NM_000251

ORF Size:	2802 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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_000251.3
RefSeq Size:	3226 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
MW:	104.7 kDa
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]

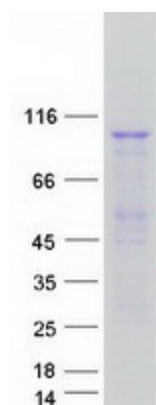
Product images:



Circular map for RC205848



Western blot validation of overexpression lysate (Cat# [LY424843]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC205848 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MSH2 protein (Cat# [TP305848]). The protein was produced from HEK293T cells transfected with MSH2 cDNA clone (Cat# RC205848) using MegaTran 2.0 (Cat# [TT210002]).