

Product datasheet for **MR218369**

Samhd1 (NM_018851) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Samhd1 (NM_018851) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Samhd1
Synonyms:	E330031J07Rik; Mg11
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide
Sequence:

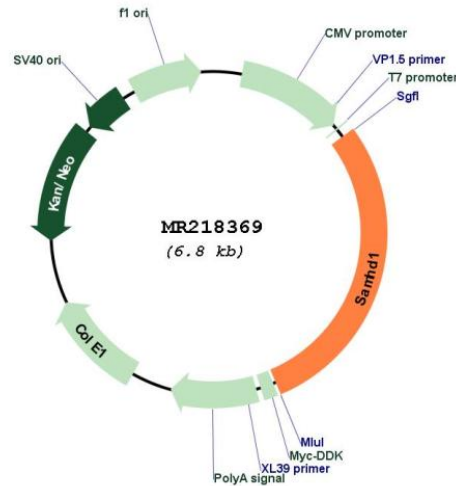
>MR218369 representing NM_018851
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGGACTCACTTTTGGGGTGTGGTGTCACTGCGGCTGCGCGCAGCCGGTCCCGGTACTTAACTTCGC
 AGCCCCGGGTGTCGGAGGTAGCCATGCAGAGCGCACCTTGGAGCAGCCAGCTAAGCGACCCGCTGCGA
 TGGCAGCCCAAGGACGCCACCGAGCACTCTCCTGCAACAGCTAATCTGTCTGCAGACGACGACTTCCAA
 AACACCGACTCCGAACCTGGGAACCGGAGGACGTGTGCTCCTTCTAGAGAATCGTGGTTTCCGAGAGA
 AGAAAGTCTGGACATCTTCAGAGACAATAAAATCGCCGGCTCGTTTCTGCCCTTTTGGATGAGGATCG
 TCTGGAAGATCTGGGAGTAAGTTCCTTGGAGGAGAGGAAGAAGATGATAGAATGTATCCAGCAGCTGAGT
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 TTATCAGAATCATCGACACACCTCAGTTCAGCGACTTCGCTATATCAAGCAGCTGGGGGGCGGCTACTA
 TGTTTTCCCTGGAGCGTCCACAATCGCTTCGAACACAGTCTCGGAGTGGGGTACCTAGCAGGCTGCCTG
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 CGGGGCTCTGCCACGACCTAGGTCATGGGCCATTTTCTCATATGTTTGTGGAAGGTTTATCCCACGGGC
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 TAACATTTTTCTGGAGGTTTACTACTACTGATCCACAGTTGTCTGAGGCCAAAGTATTTAAGGAAC
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 CGAAGATTTCATAGTTGATGTTATCAATGTGGATTATGGGATGGAAGACAAGAATCCAATCGATCGTGT
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 CAGAGAAATTTGCAGAGCAGCTCATTCCGGTGTACTGTAAAGAAGAAAGACGGGAAGAGCCTGGACCGGC
 CGGAAGCACTTTGTTAGTGGTGTGCGCTCAGGACTTCACCAAGCCACAGGATGGTGACATTATAGCT
 CCACTCATAACACCTCTGAAATGGAATAATAAGACTTCATCTTGCTCCAAGAAGTATCCAAAGTAAAAA
 CATGTCTAAAATTT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Plasmid Map:



ACCN: NM_018851

ORF Size: 1974 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_018851.3](#), [NP_061339.3](#)

RefSeq Size: 3887 bp

RefSeq ORF: 1977 bp

Locus ID: 56045

UniProt ID: [Q60710](#)

Cytogenetics: 2 H1

MW: 76.3 kDa

Gene Summary: Isoform 1: Protein that acts both as a host restriction factor involved in defense response to virus and as a regulator of DNA end resection at stalled replication forks (By similarity). Has deoxynucleoside triphosphate (dNTPase) activity, which is required to restrict infection by viruses: dNTPase activity reduces cellular dNTP levels to levels too low for retroviral reverse transcription to occur, blocking early-stage virus replication in dendritic and other myeloid cells (PubMed:23972988, PubMed:23872947, PubMed:26667483, PubMed:29379009). Likewise, suppresses LINE-1 retrotransposon activity (PubMed:26667483). In addition to virus restriction, dNTPase activity acts as a regulator of DNA precursor pools by regulating dNTP pools (By similarity). Phosphorylation at Thr-634 acts as a switch to control dNTPase-dependent and -independent functions: it inhibits dNTPase activity and ability to restrict infection by viruses, while it promotes DNA end resection at stalled replication forks (By similarity). Functions during S phase at stalled DNA replication forks to promote the resection of gapped or reversed forks: acts by stimulating the exonuclease activity of MRE11, activating the ATR-CHEK1 pathway and allowing the forks to restart replication (By similarity). Its ability to promote degradation of nascent DNA at stalled replication forks is required to prevent induction of type I interferons, thereby preventing chronic inflammation (By similarity). Ability to promote DNA end resection at stalled replication forks is independent of dNTPase activity (By similarity). Enhances immunoglobulin hypermutation in B-lymphocytes by promoting transversion mutation (PubMed:29669924).[UniProtKB/Swiss-Prot Function]