

Product datasheet for **MR218382**

Samhd1 (NM_001139520) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Samhd1 (NM_001139520) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Samhd1
Synonyms:	E330031J07Rik; Mg11
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide
Sequence:

>MR218382 representing NM_001139520
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGGACTCACTTTTGGGGTGTGGTGTCACTGCGGCTGCGCGCAGCCGGTGCCGCGTACTTAACTTCGC
 AGCCCCGGGTGTCGGAGGTAGCCATGCAGAGCGCACCTTGGAGCAGCCAGCTAAGCGACCCGCTGCGA
 TGGCAGCCCAAGGACGCCACCGAGCACTCCTCCTGCAACAGCTAATCTGTCTGCAGACGACGACTTCCAA
 AACACCGACTCCGAACCTGGGAACCGGAGGACGTGTGCTCCTTCTAGAGAATCGTGGTTTCCGAGAGA
 AGAAAGTCTGGACATCTTCAGAGACAATAAAATCGCCGGCTCGTTTCTGCCCTTTTGGATGAGGATCG
 TCTGGAAGATCTGGGAGTAAGTTCCTTGGAGGAGAGGAAGAAGATGATAGAATGTATCCAGCAGCTGAGT
 CAGTCTCGGATTGATCTAATGAAGGATTTAATGATCCCATTTCATGGCCACATTGAGTCCACCCTCTCC
 TTATCAGAATCATCGACACACCTCAGTTCAGCGACTTCGCTATATCAAGCAGCTGGGGGGCGGCTACTA
 TGTTTTCCCTGGAGCGTCCACAATCGCTTCGAACACAGTCTCGGAGTGGGGTACCTAGCAGGCTGCCTG
 GTGCGAGCACTTGCCGAAAAACAGCCAGAGCTACAGATCAGTGAAGCAGATATACTCTGTGTTCCAGATTG
 CGGGGCTCTGCCACGACCTAGGTCATGGGCCATTTTCTCATATGTTTGTGGAAGGTTTATCCCACGGGC
 TCGCCAGAGAAAAAGTGAAGCACGAACAGGGCTCCATTGAGATGTTTGTGAGCATCTGGTCAATTCTAAT
 GAACTCAAACCTTGTATGAAGAACTATGGTCTCGTCCCTGAAGAAGACATTACCTTTATCAAGGAACAAA
 TTATGGGACCACCTATAACACCAAGTCAAAGATTCCTTGTGGCCGTATAAAGGCCGCCCTGCCACGAAGAG
 CTTCTTTACGAGATAGTGTCTAACAAGAGGAATGGCATCGACGTAGACAAATGGGATATTTTGGCAGA
 GACTGTCAACATCTTGAATCCAAAATAATTTTGATTACAAGCGTTCATTAAGTTTGGCCGTATCTGTG
 AAGTGGAGTACAAGTCAAGGAGGACAAGACCTACATCCGTAAGGTGAAGCACATTTGTTTCGAGAGAAAA
 GGAGGTTGAAAATCTGTATGACATGTTCCACACTCGCAACTGCTTACACCGAAGAGCTTACCAACACAAG
 ATCAGCAACCTCATCGACATAATGATTACAGATGCCTTCTCAAAGCAGACCCCTACGTGGAGATTACAG
 GGACTGCCGGAAGAAGTCCGCATTTCCACAGCCATTGATGACATGGAAGCCTTCACTAAGTTGACGGA
 TAACATTTTTCTGGAGGTTTACTACTACTGATCCACAGTTGTCTGAGGCCAAAGTATTTAAGGAAC
 ATTGAATGCCGAATCTATAACAAGTATTTGGGTGAGACCCAGCCAAAGCGTGAGAAGATTAGGAAGGAAG
 AATATGAACGGCTTCCCCAAGAAGTTGCTAAAGCCAAACCTGAAAAGCCCCGGATGTTGAACTGAAGGC
 CGAAGATTTATAGTTGATGTTATCAATGTGGATTATGGGATGGAAGACAAGAATCCAATCGATCGTGT
 CACTTCTATTGTAAGAGCAACAGCAAGCAAGCGGTGAGGATCAATAAAGAGCAGGTGCACAACCTGCTGC
 CAGAGAAATTTGCAGAGCAGCTCATTCCGGTGTACTGTAAAGAAGAAAGACGGGAAGAGCCTGGACGCCGC
 CGGAAGCACTTTGTTAGTGGTGTGCGCTCAGGACTTCACCAAGCCACAGCAATGTGGGGCTGGAGAG
 ATGGCTGAGGACCTGATTCAATCCCAGCACCCAGCAGCCACATGCGGCTCACAAACCAGCTG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR218382 representing NM_001139520
 Red=Cloning site Green=Tags(s)

MDSLLGCGVSAAREPVPRLTSQPRVSEVAMQSAPLEQPAKRPRCDGSPRTPPSTPPATANLSADDDFQ
 NTDLRTWEPEDVCSFLENRGFREKKVLDIFRDNKIAGSFLPFLDEDRLEDLGVSSLEERKKMIECIQQLS
 QSRIDLKMKVFNDPIHGHIEFHPLLRIRIIDTPQFQRLRYIKQLGGGYVFPGASHNRFHSLGVGYLAGCL
 VRALAEKQPELQISERDILCVQIAGLCHDLGHGPF SHMFDGRFIPRARPEKKWKHEQGSIEMFHSLVNSN
 ELKLVMKNYGLVPEEDITFIKEQIMGPPITPVKDSLWPKGRPATKSFLYEIVSNKRNIDVDKWDYFAR
 DCHHLGIQNNFDYKRFIKFARICEVEYKVKEDKTYIRKVKHICSREKEVGNLYDMFHTRNCLHRRAYQHK
 ISNLIIDIMITDAFLKADPYVEITGTAGKKFRISTAIDDMEAFKLTDNIFLEVLHSTDPQLSEAQSILRN
 IECRNLYKYLGETQPKREKIRKEEYERLPQEVAKAPEKAPDVELKAEDFIVDVINVDYGMEDKNPIDRV
 HFYCKSNSKQAVRINKEQVSQLLPEKFAEQLIRVYCKKDGKSLDAAGKHVQWCALRDFTKPQQCGAGE
 MAEDPDSIPSTQQPHAAHNQL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

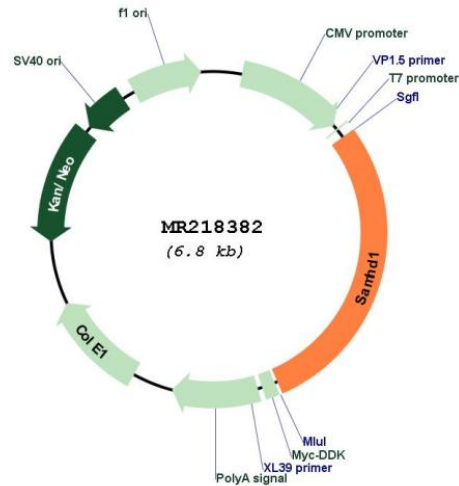
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001139520

ORF Size: 1953 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_001139520.1](#), [NP_001132992.1](#)

RefSeq Size: 4010 bp

RefSeq ORF: 1956 bp

Locus ID: 56045

UniProt ID: [Q60710](#)

Cytogenetics: 2 H1

MW: 75.4 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]