

## Product datasheet for **MC218733**

### Samhd1 (NM\_018851) Mouse Untagged Clone

#### Product data:

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



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**Fully Sequenced ORF:** >MC218733 representing NM\_018851  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGACTCACTTTGGGGTGTGGTGTCACTGCGGCTGCGCGCAGCCGGTCCCGGTACTTAACCTCGC  
 AGCCCCGGGTGTCGGAGGTAGCCATGCAGAGCGCACCTTGGAGCAGCCAGCTAAGCGACCCGCTGCGA  
 TGGCAGCCCAAGGACGCCACCGAGCACTCCTCCTGCAACAGCTAATCTGTCTGCAGACGACGACTTCCAA  
 AACACCGACTCCGAACCTGGGAACCGGAGGACGTGTGCTCCTTCTAGAGAATCGTGGTTTCCGAGAGA  
 AGAAAGTCTGGACATCTTCAGAGACAATAAAATCGCCGGCTCGTTTCTGCCCTTTTGGATGAGGATCG  
 TCTGGAAGATCTGGGAGTAAGTTCCTTGGAGGAGAGGAAGAAGATGATAGAATGTATCCAGCAGCTGAGT  
 CAGTCTCGGATTGATCTAATGAAGGATTTAATGATCCCATTATGGCCACATTGAGTCCACCCTCTCC  
 TTATCAGAATCATCGACACCTCAGTTCAGCGACTTCGCTATATCAAGCAGCTGGGGGGCGGCTACTA  
 TGTTTTCCCTGGAGCGTCCACAATCGCTTCGAACACAGTCTCGGAGTGGGGTACCTAGCAGGCTGCCTG  
 GTGCGAGCACTTGCCGAAAAACAGCCAGAGCTACAGATCAGTGAAGCAGATATACTCTGTGTTCAGATTG  
 CGGGGCTCTGCCACGACCTAGGTCATGGGCCATTTTCTCATATGTTTGTGGAAGGTTTATCCCACGGGC  
 TCGCCAGAGAAAAAGTGAAGCACGAACAGGGCTCCATTGAGATGTTTGTGATCTGGTCAATTCTAAT  
 GAACTCAAACCTGTATGAAGAACTATGGTCTCGTCCCTGAAGAAGACATTACCTTTATCAAGGAACAAA  
 TTATGGGACCACCTATAACACAGTCAAAGATTCCTTGTGGCCGTATAAAGGCCGCCCTGCCACGAAGAG  
 CTTCTTTACGAGATAGTGTCTAACAAGAGGAATGGCATCGACGTAGACAAATGGGATATTTTCCGAGA  
 GACTGTCAACATCTTGAATCCAAAATAATTTTGATTACAAGCGCTTCATTAAGTTTCCCGTATCTGTG  
 AAGTGGAGTACAAGTCAAGGAGGACAAGACCTACATCCGTAAGGTGAAGCACATTTGTTTCGAGAGAAAA  
 GGAGTTGGAAATCTGTATGACATGTTCCACACTCGCAACTGCTTACACCGAAGAGCTTACCAACACAAG  
 ATCAGCAACCTCATCGACATAATGATTACAGATGCCTTCTCAAAGCAGACCCCTACGTGGAGATTACAG  
 GGACTGCCGGAAGAAGTCCGCATTTCCACAGCCATTGATGACATGGAAGCCTTCACTAAGTTGACGGA  
 TAACATTTTTCTGGAGTTTTACTCTACTGATCCACAGTTGTCTGAGGCCAAAGTATTTAAGGAAC  
 ATTGAATGCCGAATCTATAAAGTATTTGGGTGAGACCCAGCCAAAGCGTGAGAAGATTAGGAAGGAAG  
 AATATGAACGGCTTCCCCAAGAAGTGTAAAGCCAAACCTGAAAAGCCCCGGATGTTGAACTGAAGGC  
 CGAAGATTTATAGTTGATGTTATCAATGTGGATTATGGGATGGAAGACAAGAATCCAATCGATCGTGT  
 CACTTCTATTGTAAGAGCAACAGCAAGCAAGCGGTGAGGATCAATAAAGAGCAGGTGCACAACCTGCTGC  
 CAGAGAAATTTGCAGAGCAGCTCATTCCGGTGTACTGTAAGAAGAAAGACGGGAAGAGCCTGGACGCCGC  
 CGGAAGCACTTTGTTAGTGGTGTGCGCTCAGGACTTCACCAAGCCACAGGATGGTGACATTATAGCT  
 CCACTCATAACACCTCTGAAATGGAATAATAAGACTTCATCTTGCTCCAAGAAGTATCCAAAGTAAAAA  
 CATGTCTAAAATTTAA

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-MluI
- ACCN:** NM\_018851
- Insert Size:** 1977 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).
- 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

**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]

Transcript Variant: This variant (1) encodes the longest isoform (1).