

**SMG1 Antibody (N-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP8055a****Specification**

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**SMG1 Antibody (N-term) Blocking Peptide - Product Information**Primary Accession [Q96Q15](#)**SMG1 Antibody (N-term) Blocking Peptide - Additional Information**

Gene ID 23049

**Other Names**

Serine/threonine-protein kinase SMG1, SMG-1, hSMG-1, Lambda/iota protein kinase C-interacting protein, Lambda-interacting protein, SMG1, ATX, KIAA0421, LIP

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP8055a](/product/products/AP8055a) was selected from the N-term region of human SMG1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**SMG1 Antibody (N-term) Blocking Peptide - Protein Information**Name SMG1 ([HGNC:30045](#))**Function**

Serine/threonine protein kinase involved in both mRNA surveillance and genotoxic stress response pathways. Recognizes the substrate consensus sequence [ST]-Q. Plays a central role in nonsense-mediated decay (NMD) of mRNAs containing premature stop codons by phosphorylating UPF1/RENT1. Recruited by release factors to stalled ribosomes together with SMG8 and SMG9 (forming the SMG1C protein kinase complex), and UPF1 to form the transient SURF (SMG1-UPF1-eRF1-eRF3) complex. In EJC-dependent NMD, the SURF complex associates with the exon junction complex (EJC) through UPF2 and allows the formation of an UPF1-UPF2-UPF3 surveillance complex which is believed to activate NMD. Also acts as a genotoxic stress-activated protein kinase that displays some functional overlap with ATM. Can phosphorylate p53/TP53 and is required for optimal p53/TP53 activation after cellular exposure to genotoxic stress. Its depletion leads to spontaneous DNA damage and increased sensitivity to ionizing radiation (IR). May



activate PRKCI but not PRKCZ.

**Cellular Location**

Nucleus. Cytoplasm. Note=Present in the chromatoid body {ECO:0000250|UniProtKB:Q8BKX6}

**Tissue Location**

Widely expressed, with highest level in heart and skeletal muscle. Expressed in placenta, brain, lung and spleen, but not in liver.

**SMG1 Antibody (N-term) Blocking Peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

**SMG1 Antibody (N-term) Blocking Peptide - Images****SMG1 Antibody (N-term) Blocking Peptide - Background**

This gene encodes a protein involved in nonsense-mediated mRNA decay (NMD) as part of the mRNA surveillance complex. The protein has kinase activity and is thought to function in NMD by phosphorylating the regulator of nonsense transcripts 1 protein. Alternative spliced transcript variants have been described, but their full-length natures have not been determined.

**SMG1 Antibody (N-term) Blocking Peptide - References**

Blume-Jensen P, et al. Nature 2001. 411: 355.Cantrell D, J. Cell Sci. 2001. 114: 1439.Jhiang S Oncogene 2000. 19: 5590.Manning G, et al. Science 2002. 298: 1912.Moller, D, et al. Am. J. Physiol. 1994. 266: C351-C359.Robertson, S. et al. Trends Genet. 2000. 16: 368.Robinson D, et al. Oncogene 2000. 19: 5548.Van der Ven, P, et al. Hum. Molec. Genet. 1993. 2: 1889.Vanhaesebroeck, B, et al. Biochem. J. 2000. 346: 561.Van Weering D, et al. Recent Results Cancer Res. 1998. 154: 271.