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SMG1 Antibody (N-term G14) Blocking Peptide

Synthetic peptide
Catalog # BP8055d

Specification

SMG1 Antibody (N-term G14) Blocking Peptide - Product Information

Primary Accession	Q96Q15

SMG1 Antibody (N-term G14) 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 AP8055d 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 G14) 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 G14) Blocking Peptide - Protocols

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

- Blocking Peptides

SMG1 Antibody (N-term G14) Blocking Peptide - Images

SMG1 Antibody (N-term G14) 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 G14) Blocking Peptide - References

DNA Repair (Amst.) 3 (8-9), 919-925 (2004)Mol. Cell 14 (5), 585-598 (2004)Genes Dev. 15 (17), 2215-2228 (2001)J. Biol. Chem. 276 (25), 22709-22714 (2001)