

SMG1 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54915

Specification

Epitope Specificity

Isotype

SMG1 Polyclonal Antibody - Product Information

Application IHC-P, IHC-F, IF, ICC, E

Primary Accession
Reactivity
Dog, Bovine
Host
Clonality
Calculated MW
Physical State

O96015
Pog, Bovine
Rabbit
Polyclonal
410 KDa
Liquid

Immunogen KLH conjugated synthetic peptide derived

laG

from human SMG1 3551-3661/3661

Purity
affinity purified by Protein A

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02%

Proclin300 and 50% Glycerol.

SUBCELLULAR LOCATION Nuclear. Cytoplasm.

SIMILARITY

Belongs to the PI3/PI4-kinase family.

Contains 1 FAT domain. Contains 1 FATC

domain. Contains 1 HEAT repeat. Contains

1 PI3K/PI4K domain.

SUBUNIT Component of the SMG1C complex

composed of SMG1, SMG8 and SMG9; the recruitment of SMG8 to SMG1 N-terminus induces a large conformational change in

the SMG1 C-terminal head domain containing the catalytic domain. Component of the transient SURF (SMG1-UPF1-eRF1-eRF3) complex.

Interacts with PRKCI. Interacts with TELO2 and TTI1. Interacts with RUVBL1 and

RUVBL2. Interacts with UPF2.

Post-translational modifications utophosphorylated.

Important Note

This product as supplied is intended for research use only, not for use in human,

therapeutic or diagnostic applications.

Background Descriptions

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. Alternatively spliced transcript variants have been described, but their full-length nature has yet to be determined. [provided by RefSeq, Mar 2013]

SMG1 Polyclonal Antibody - Additional Information



Gene ID 23049

Other Names

Serine/threonine-protein kinase SMG1, SMG-1, hSMG-1, 2.7.11.1, 61E3.4, Lambda/iota protein kinase C-interacting protein, Lambda-interacting protein, SMG1, ATX, KIAA0421, LIP

Target/Specificity

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

Dilution

IHC-P~~N/A<br \> <span class
="dilution_IHC-F">IHC-F~~N/A<br \> <span class
="dilution_IF">IF~~1:50~200<br \> ICC~~N/A<br \> E~~N/A

Storage

Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

SMG1 Polyclonal Antibody - 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 Polyclonal Antibody - Protocols

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

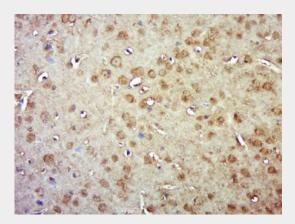
- Western Blot
- Blocking Peptides
- Dot Blot





- Immunohistochemistry
- Immunofluorescence
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

SMG1 Polyclonal Antibody - Images



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (SMG1) Polyclonal Antibody, Unconjugated (bs-12637R) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.