

**SMG1 Polyclonal Antibody**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP54915****Specification****SMG1 Polyclonal Antibody - Product Information**

Application	IHC-P, IHC-F, IF, ICC, E
Primary Accession	<a href="#">O96Q15</a>
Reactivity	Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	410 KDa
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SMG1
Epitope Specificity	3551-3661/3661
Isotype	IgG
<b>Purity</b>	
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**

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

**Format**

0.01M TBS(pH7.4), 0.09% (W/V) sodium azide and 50% Glyce

**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**

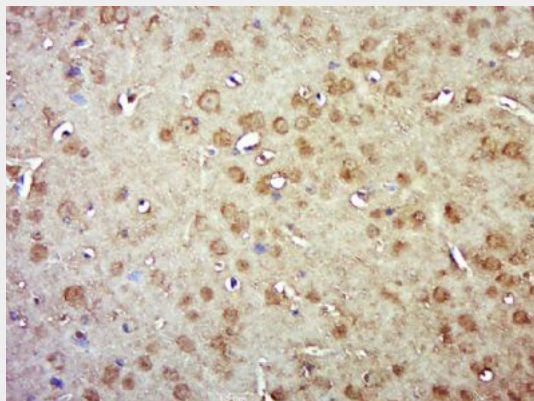
Widely expressed, with highest level in heart and skeletal muscle. Expressed in placenta, brain, lung and spleen, but not in liver.

**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](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [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.