10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SMG1 Rabbit pAb

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Catalog # AP54915

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q96Q15
Reactivity	Mouse
Predicted	Dog, Human, Rabbit, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	410501
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SMG1
Epitope Specificity	3551-3661/3661
Isotype	IgG
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.
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]

Additional Information

Gene ID	23049
Other Names	Serine/threonine-protein kinase SMG1, SMG-1, hSMG-1, 2.7.11.1, Lambda/iota protein kinase C-interacting protein, Lambda-interacting protein, Nonsense mediated mRNA decay-associated PI3K-related kinase SMG1 {ECO:0000312|HGNC:HGNC:30045}, SMG1 (HGNC:30045)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
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.

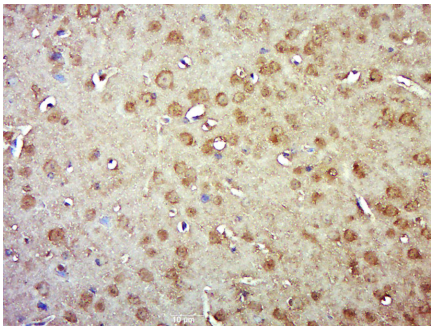
Protein Information

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.

Background

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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 (AP54915) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.