

#4993 Store at -20C

**SMG-1 (Q25) Antibody**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W, IP	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 410	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #Q96Q15	<b>Entrez-Gene Id:</b> 23049
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**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation

**Dilution**

1:1000  
1:50

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

SMG-1 (Q25) Antibody recognizes endogenous levels of total SMG-1/ATX protein.

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to amino terminal residues of human SMG-1. Antibodies are purified using protein A and peptide affinity chromatography.

**Background**

SMG-1 is a member of the phosphoinositide 3-kinase-related kinase (PIKK) family, which includes ATM, ATR, mTOR, DNA-PKcs, and TRRAP (1,2). Activated by DNA damage, SMG-1 has been shown to phosphorylate p53 and hUpf1 (SMG-2) (1-4). hUpf1 is a subunit of the surveillance complex that allows degradation of messenger RNA species containing premature termination codons (PTCs). This process, known as nonsense-mediated mRNA decay (NMD), prevents the translation of truncated forms of proteins that may result in gain of function or dominant negative species. NMD occurs under normal cellular conditions as well as in response to damage (5,6). SMG-1 has also been shown to affect cell death receptor signaling and to protect cells from extrinsically induced apoptotic cell death (7).

**Background References**

- Denning, G. et al. (2001) *J Biol Chem* 276, 22709-14.
- Yamashita, A. et al. (2001) *Genes Dev* 15, 2215-28.
- Brumbaugh, K.M. et al. (2004) *Mol Cell* 14, 585-98.
- Ohnishi, T. et al. (2003) *Mol Cell* 12, 1187-200.
- Li, Z.Y. et al. (2006) *Curr Med Chem* 13, 1693-705.
- Mendell, J.T. et al. (2004) *Nat Genet* 36, 1073-8.
- Oliveira, V. et al. (2008) *J Biol Chem* 283, 13174-84.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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