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Store at -20C
#9149

SMG-1 (D42D5) Rabbit mAb

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

Applications: W, IP	Reactivity: H Mk	Sensitivity: Endogenous	MW (kDa): 410	Source/Isotype: Rabbit IgG	UniProt ID: #Q96Q15	Entrez-Gene Id: 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, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

SMG-1 (D42D5) Rabbit mAb recognizes endogenous levels of total SMG-1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human SMG-1 protein.

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 **Mk:** Monkey

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