

SUMO-1 (2A12) Mouse mAb

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Applications: W	Reactivity: H M R Mk	Sensitivity: Endogenous	Source/Isotype: Mouse IgG1	UniProt ID: #P63165	Entrez-Gene Id: 7341
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Product Usage Information**Application**

Western Blotting

Dilution

1:1000

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

SUMO-1 (2A12) Mouse mAb detects recombinant SUMO-1 and endogenous levels of SUMOylated proteins (e.g. SUMO-1-RanGAP at 90 kD). This antibody does not detect recombinant SUMO-2 or SUMO-3.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to a sequence within human SUMO-1 that does not correspond to SUMO-2/3.

Background

Small ubiquitin-related modifier 1, 2 and 3 (SUMO-1, -2 and -3) are members of the ubiquitin-like protein family (1). The covalent attachment of the SUMO-1, -2 or -3 (SUMOylation) to target proteins is analogous to ubiquitination. This post-translational modification is a reversible, multi-step process that is initiated by cleaving a precursor protein to a mature protein. Mature SUMO-1, -2 or -3 is then linked to the activating enzyme E1, conjugated to E2 and in conjunction with E3, SUMO-1, -2 or -3 is ligated to the target protein (2). Ubiquitin and the individual SUMO family members are all targeted to different proteins with diverse biological functions. Ubiquitin predominantly regulates degradation of its target (1). In contrast, SUMO-1 is conjugated to RanGAP, PML, p53 and IκB-α to regulate nuclear trafficking, formation of subnuclear structures, regulation of transcriptional activity and protein stability (3-7). SUMO-2/-3 forms poly-(SUMO) chains, is conjugated to topoisomerase II and APP, regulates chromosomal segregation and cellular responses to environmental stress, and plays a role in the progression of Alzheimer disease (8-11).

Background References

- Schwartz, D.C. and Hochstrasser, M. (2003) *Trends Biochem. Sci.* 28, 321-8.
- Kim, K.I. et al. (2002) *J. Cell Physiol.* 191, 257-68.
- Matunis, M.J. et al. (1996) *J. Cell Biol.* 135, 1457-70.
- Duprez, E. et al. (1999) *J. Cell Sci.* 112, 381-93.
- Gostissa, M. et al. (1999) *EMBO J.* 18, 6462-74.
- Rodriguez, M.S. et al. (1999) *EMBO J.* 18, 6455-61.
- Desterro, J.M. et al. (1998) *Mol. Cell* 2, 233-9.
- Tatham, M.H. et al. (2001) *J. Biol. Chem.* 276, 35368-74.
- Azuma, Y. et al. (2003) *J. Cell Biol.* 163, 477-87.
- Li, Y. et al. (2003) *Proc. Natl. Acad. Sci. USA* 100, 259-64.
- Saitoh, H. and Hinchev, J. (2000) *J. Biol. Chem.* 275, 6252-8.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

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

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