Revision 3

Store at -20C

#4930

SUMO-1 Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-P, IF-F, IF-IC	H M R Mk	Endogenous	Rabbit	#P63165	7341

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:50
Immunofluorescence (Frozen)	1:200
Immunofluorescence (Immunocytochemistry)	1:100 - 1:400

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

SUMO-1 Antibody detects recombinant SUMO-1 and endogenous levels of sumoylated proteins (e.g. SUMO-1-RanGAP, 90kD).

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to a sequence within human SUMO-1 that does not correspond to SUMO-2/3. Antibodies are purified by protein A and peptide affinity chromatography.

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

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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 **IHC-P:** Immunohistochemistry (Paraffin) **IF-F:** Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

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

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