Revision 1

#11929 Store at -20C

SENP1 (D16D7) Rabbit mAb

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H	Endogenous	76	Rabbit IgG	#Q9P0U3	29843

Product Usage Information

Application	Dilution
Western Blotting	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

SENP1 (D16D7) Rabbit mAb recognizes endogenous levels of total SENP1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gln175 of human SENP1 protein.

Background

SENP1 is a member of the sentrin/SUMO-specific protease (SENP) family. SENP1 localizes to the nucleoplasm and catalyzes the release of SUMO1, SUMO2, and SUMO3 monomers from sumoylated substrates (1,2). SENP1 has been reported to be responsible for intracellular SUMO homeostasis in the control of normal cellular function (2). The removal of sumoylation by SENP1 from many important target proteins, such as HDAC1, HIF-1α, Stat5, p300, Elk-1, and SirT1, leads to the regulation of the related biological pathways (3-8). SENP1-induced desumoylation of HIF-1α stabilizes the target during hypoxia (5), activating downstream VEGF expression and angiogenesis (9). SENP1 desumoylates Stat5 and contributes to Stat5 acetylation and subsequent signaling during normal lymphocyte development (6). Under stress conditions, SENP1 interacts with and inactivates SirT1 by desumoylation, protecting cells from apoptosis (8). SENP1 has been reported to target the progesterone and androgen receptors, either directly or indirectly through HDAC1, thereby upregulating their transcriptional function and potentially affecting receptor-related cancer progression (3,10-13).

Background References

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6. Van Nguyen, T. et al. (2012) *Mol Cell* 45, 210-21.
7. Witty, J. et al. (2010) *Biochem J* 428, 247-54.
8. Yang, Y. et al. (2007) *Nat Cell Biol* 9, 1253-62.
9. Xu, Y. et al. (2010) *J Biol Chem* 285, 36682-8.
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11. Abdel-Hafiz, H.A. and Horwitz, K.B. (2012) *BMC Mol Biol* 13, 10.
12. Wang, Q. et al. (2012) *Oncogene* , .
13. Knutson, T.P. et al. (2012) *Breast Cancer Res* 14, R95.

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

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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