

#13141 Store at -20°C

SOD2 (D3X8F) XP® Rabbit mAb**Cell Signaling**
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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, IHC-P	H M R Mk	Endogenous	22	Rabbit IgG	#P04179	6648

Product Usage Information	Application Western Blotting Immunohistochemistry (Paraffin)	Dilution 1:1000 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. For a carrier free (BSA and azide free) version of this product see product #30204.	
Specificity / Sensitivity	SOD2 (D3X8F) XP® Rabbit mAb recognizes endogenous levels of total SOD2 protein.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human SOD2 protein.	
Background	Manganese superoxide dismutase (MnSOD or SOD2) is a mitochondrial detoxification enzyme that catalyzes the conversion of superoxide to hydrogen peroxide (1,2). Hydrogen peroxide is then decomposed to water by catalase, glutathione peroxidase, or peroxiredoxins (2). MnSOD/SOD2 and other enzymes involved in antioxidant defense protect cells from reactive oxygen species (ROS) (2). Calorie restriction leads to SIRT3-mediated deacetylation of MnSOD/SOD2 and the subsequent increase of its antioxidant activity (3). MnSOD/SOD2 also plays an essential role in mediating the protective effect of mTOR inhibition to reduce epithelial stem cell senescence (4).	
Background References	1. Cooper, M.L. et al. (2008) <i>Cancer Res</i> 68, 10171-7. 2. Minig, V. et al. (2009) <i>J Biol Chem</i> 284, 14165-76. 3. Qiu, X. et al. (2010) <i>Cell Metab</i> 12, 662-7. 4. Iglesias-Bartolome, R. et al. (2012) <i>Cell Stem Cell</i> 11, 401-14.	

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	WB: Western Blotting IHC-P: Immunohistochemistry (Paraffin)
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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