

**SOD2 (D3X8F) XP<sup>®</sup> Rabbit mAb**

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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:
W, 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<sup>®</sup> 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) *Cancer Res* 68, 10171-7.
2. Minig, V. et al. (2009) *J Biol Chem* 284, 14165-76.
3. Qiu, X. et al. (2010) *Cell Metab* 12, 662-7.
4. Iglesias-Bartolome, R. et al. (2012) *Cell Stem Cell* 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**

**W:** Western Blotting **IHC-P:** Immunohistochemistry (Paraffin)

**Cross-Reactivity Key**

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

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