

**SOD1 Antibody**

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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	H	Endogenous	18	Rabbit	#P00441	6647

**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 and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

SOD1 Antibody detects endogenous levels of total SOD1 protein.

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino- terminus of human SOD1. Antibodies were purified by protein A and peptide affinity chromatography.

**Background**

SOD1, Cu/Zn superoxide dismutase, is a major antioxidant enzyme that catalyzes the conversion of superoxide anion to hydrogen peroxide and molecular oxygen (1). SOD1 is ubiquitously expressed and is localized in the cytosol, nucleus, and mitochondrial intermembrane space. The SOD1 gene locus is on chromosome 21 in a region affected in Down Syndrome (2). In addition, over 100 distinct SOD1 inherited mutations have been identified in the familial form of amyotrophic lateral sclerosis (ALS), a progressive degenerative disease of motor neurons (3-5). Despite the fact that SOD1 helps to eliminate toxic reactive species, its mutations in ALS have been described as gain-of-function (5). The mechanism by which mutant SOD1 induces the neurodegeneration observed in ALS is still unclear. Mutant SOD1 proteins become misfolded and consequently oligomerize into high molecular weight species that aggregate and end up in proteinaceous inclusions (5).

**Background References**

1. McCord, J.M. and Fridovich, I. (1988) *Free Radic Biol Med* 5, 363-9.
2. Sherman, L. et al. (1983) *Proc Natl Acad Sci USA* 80, 5465-9.
3. Rosen, D.R. et al. (1993) *Nature* 362, 59-62.
4. Deng, H.X. et al. (1993) *Science* 261, 1047-51.
5. Valentine, J.S. and Hart, P.J. (2003) *Proc Natl Acad Sci USA* 100, 3617-22.

**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

**Cross-Reactivity Key**

**H:** Human

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