

SOD1 (71G8) Mouse mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	18	Mouse IgG1	#P00441	6647

Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

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

SOD1 (71G8) Mouse mAb detects endogenous levels of SOD1 protein. It does not cross-react with other related proteins.

Source / Purification

Monoclonal antibody is produced by immunizing animals with full-length recombinant human SOD1 protein.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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