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SOD1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1289a

Product Information

Application	WB, FC, ICC, E
Primary Accession	P00441
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Clone Names	6F5
Isotype	IgG1
Calculated MW	15936
Description	SOD1 (superoxide dismutase 1, soluble), also known as ALS. The protein binds copper and zinc ions and is one of two isozymes responsible for destroying free superoxide radicals in the body. The encoded isozyme is a soluble cytoplasmic protein, acting as a homodimer to convert naturally-occuring but harmful superoxide radicals to molecular oxygen and hydrogen peroxide. The other isozyme is a mitochondrial protein. Mutations in this gene have been implicated as causes of familial amyotrophic lateral sclerosis (ALS), a progressive degenerative disease of motor neurons. Rare transcript variants have been reported for this gene.
Immunogen	Purified recombinant fragment of human SOD1 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	6647
Other Names	Superoxide dismutase [Cu-Zn], 1.15.1.1, Superoxide dismutase 1, hSod1, SOD1
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 ICC~~N/A E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SOD1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SOD1 (HGNC:11179)

Function	Destroys radicals which are normally produced within the cells and which are toxic to biological systems (PubMed:18948262, PubMed:24140062). Catalyzes the oxidation of hydrogen sulfide (H2S) to sulfate, playing an important role in detoxifying H2S and limiting the accumulation of reactive sulfur species (RSS) such as persulfides and polysulfides (PubMed:36630448).
Cellular Location	Cytoplasm. Nucleus. Note=Predominantly cytoplasmic; the pathogenic variants ALS1 Arg-86 and Ala-94 gradually aggregates and accumulates in mitochondria.

References

1. Apoptosis. 2005 May;10(3):499-502. 2. Hum Mol Genet. 2008 Nov 1;17(21):3303-17.

Images

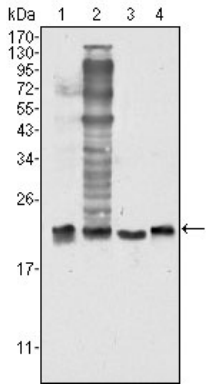


Figure 1: Western blot analysis using SOD1 mouse mAb against Hela (1), NIH/3T3 (2), A549 (3) and A431 (4) cell lysate.

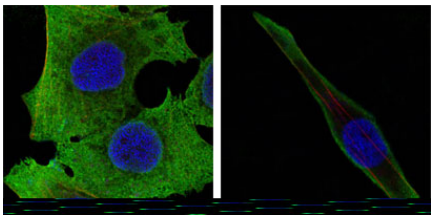


Figure 2: Confocal immunofluorescence analysis of PANC-1 (left) and SKBR-3 (right) cells using SOD1 mouse mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin. Blue: DRAQ5 fluorescent DNA dye.

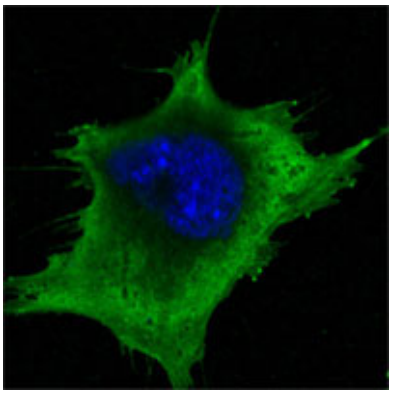
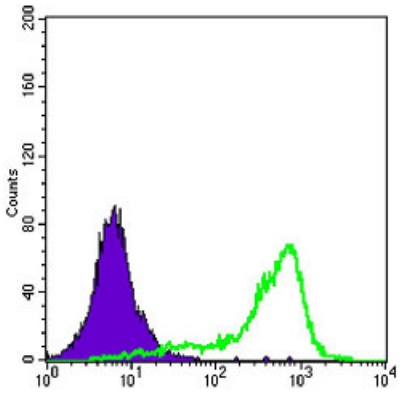


Figure 3: Confocal immunofluorescence analysis of 3T3-L1 cells using SOD1 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye.

Figure 4: Flow cytometric analysis of A431 cells using SOD1 mouse mAb (green) and negative control (purple).



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.