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- Expressversand

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Anti-SOD (Mn) Antibody

Rabbit Anti-Human SOD (Mn) Polyclonal
Catalog No. SPC-118



Discovery through partnership | Excellence through quality

Overview

Product Name

SOD (Mn) Antibody

Description

Rabbit Anti-Human SOD (Mn) Polyclonal

Species Reactivity

Dog, Human, Monkey, Mouse, Rat, African clawed frog (*Xenopus laevis*), Bovine, Chicken, Frog, Gerbil, Guinea Pig (*Cavia porcellus*), Hamster, Pig, Rabbit, Sheep, Wood Frog (*Rana sylvatica*)

Applications

WB, IHC, IP, ELISA

Antibody Dilution

WB (1:5000), IHC (1:100); optimal dilutions for assays should be determined by the user.

Host Species

Rabbit

Immunogen Species

Human

Immunogen

Human Mn SOD

Concentration

1 mg/ml

Conjugates

Alkaline Phosphatase, APC, ATTO 390, ATTO 488, ATTO 565, ATTO 594, ATTO 633, ATTO 655, ATTO 680, ATTO 700, Biotin, FITC, HRP, PE/ATTO 594, PerCP, RPE, Streptavidin, Unconjugated

Properties

Storage Buffer

PBS pH7.4, 50% glycerol, 0.09% sodium azide

Storage Temperature

-20°C

Shipping Temperature

Blue Ice or 4°C

Purification

Protein A purified

Clonality

Polyclonal

Specificity

Detects ~25kDa.

Cite This Product

Rabbit Anti-Human SOD2 Polyclonal (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPC-118)

Certificate Of Analysis

0.2 µg/ml of SPC-118 was sufficient for detection of Mn SOD in 20 µg of rat brain tissue extract by colorimetric immunoblot analysis using Goat anti-mouse IgG:AP as the secondary antibody.

Biological Description

Alternative Names

Manganese SOD Antibody, IPO B Antibody, Mn SOD Antibody, SOD2 Antibody

Research Areas

Cancer, Cardiovascular System, Cell Signaling, Neurodegeneration, Neuroscience, Oxidative Stress

Cellular Localization

Mitochondrion, Mitochondrion Matrix

Accession Number

NP_000627.2

Gene ID

6648

Swiss Prot

P04179

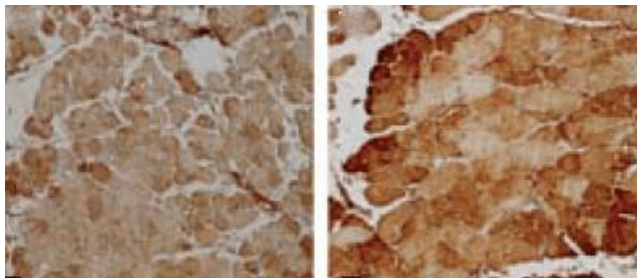
Scientific Background

Superoxide dismutase (SOD) is an endogenously produced intracellular enzyme present in almost every cell in the body (3). It works by catalyzing the dismutation of the superoxide radical O_2^- to O_2 and H_2O_2 , which are then metabolized to H_2O and O_2 by catalase and glutathione peroxidase (2,5). In general, SODs play a major role in antioxidant defense mechanisms (4). There are two main types of SOD in mammalian cells. One form (SOD1) contains Cu and Zn ions as a homodimer and exists in the cytoplasm. The two subunits of 16 kDa each are linked by two cysteines forming an intra-subunit disulphide bridge (3). The second form (SOD2) is a manganese containing enzyme and resides in the mitochondrial matrix. It is a homotetramer of 80 kDa. The third form (SOD3 or EC-SOD) is like SOD1 in that it contains Cu and Zn ions, however it is distinct in that it is a homotetramer, with a mass of 30 kDa and it exists only in the extra-cellular space (7). SOD3 can also be distinguished by its heparin-binding capacity (1).

References

1. Adachi T., et al. (1992). Clin. Chim. Acta. 212: 89-102.
2. Barrister J.V., et al. (1987). Crit. Rev. Biochem. 22:111-180.
3. Furukawa Y., OHalloran T. (2006). Antioxidants & Redo Signaling. Vol 8, No 5,6.
4. Gao B., et al. (2003). Am J Physiol Lung Cell Mol Physiol 284: L917-L925.
5. Hassan H.M. (1988). Free Radical Biol. Med. 5: 377-385.
6. Kurobe N., et al. (1990) Biomedical Research. 11: 187-194
7. Wispe J.R., et al. (1989) BBA. 994: 30-36.

Product Images



Immunohistochemistry analysis using Rabbit Anti-SOD2 Polyclonal Antibody (SPC-118). Tissue: muscle fibres. Species: Rat. Primary Antibody: Rabbit Anti-SOD2 Polyclonal Antibody (SPC-118) at 1:100. Left: Untreated, Right: treated with 3mmol*kg⁻¹ NAC. Courtesy of: E. Barreiro, IMIM, Spain..

Product Citations (2)

Western Blot

Free-radical first responders: The characterization of CuZnSOD and MnSOD regulation during freezing of the freeze-tolerant North American wood frog, *Rana sylvatica*.

Dawson, N.J., Katzenback, B.A. and Storey, K.B. (2014) Biochim Biophys Acta. 1850(1):97-106.

PubMed ID: 25316288 **Reactivity:** North American wood frog (*Rana sylvatica*) **Applications:** Western Blot

Front line antioxidant defenses in the freeze tolerant wood frog, *Rana sylvatica*: An in-depth analysis of mechanisms of enzyme regulation.

Dawson, N.J. (2014) Carleton University Dissertation

PubMed ID: **Reactivity:** North American wood frog (*Rana sylvatica*) **Applications:** Western Blot

Reviews

Based on validation through cited publications.



StressMarq Biosciences

June 15, 2016: