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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Anti-SOD (Mn) Antibody

Rabbit Anti-Rat SOD (Mn) Polyclonal
Catalog No. SPC-117



Discovery through partnership | Excellence through quality

Overview

Product Name

SOD (Mn) Antibody

Description

Rabbit Anti-Rat SOD (Mn) Polyclonal

Species Reactivity

Dog, Human, Monkey, Mouse, Rat, African clawed frog (*Xenopus laevis*), Bovine, Chicken, Fruit Fly (*Drosophila melanogaster*), Guinea Pig (*Cavia porcellus*), Hamster, Invertebrate, Pig, Rabbit, Sea squirt (*Ciona intestinalis*), Sheep, Squirrel

Applications

WB, IHC, ICC/IF, IP, ELISA

Antibody Dilution

WB (1:5000), IHC (1:100), ICC/IF (1:120); optimal dilutions for assays should be determined by the user.

Host Species

Rabbit

Immunogen Species

Rat

Immunogen

Rat 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-Rat SOD2 Polyclonal (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPC-117)

Certificate Of Analysis

0.5 µg/ml of SPC-117 was sufficient for detection of Mn SOD in 20 µg of rat brain tissue extract by colorimetric immunoblot analysis using Goat anti-rabbit 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_058747.1

Gene ID

24787

Swiss Prot

P07895

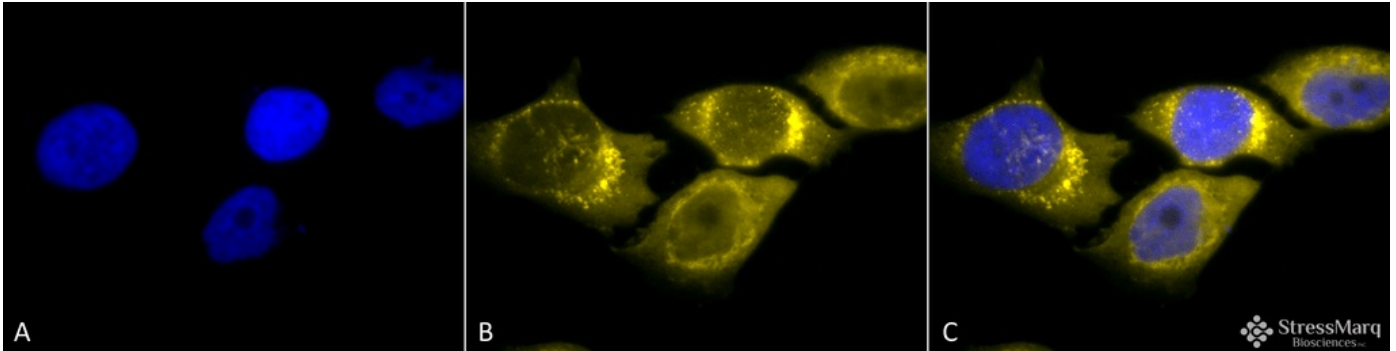
Scientific Background

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).

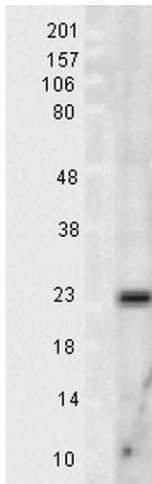
References

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.

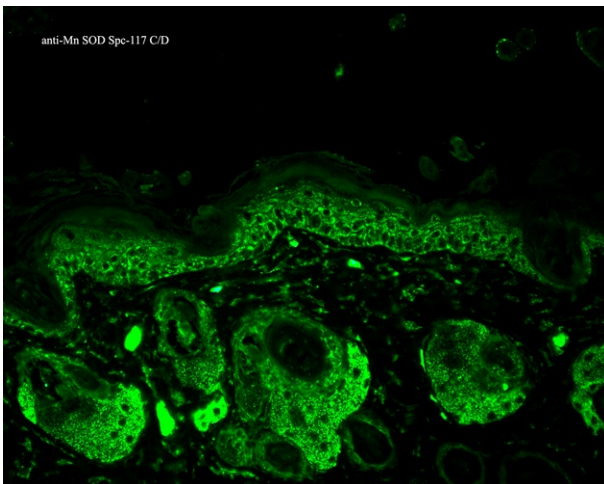
Product Images



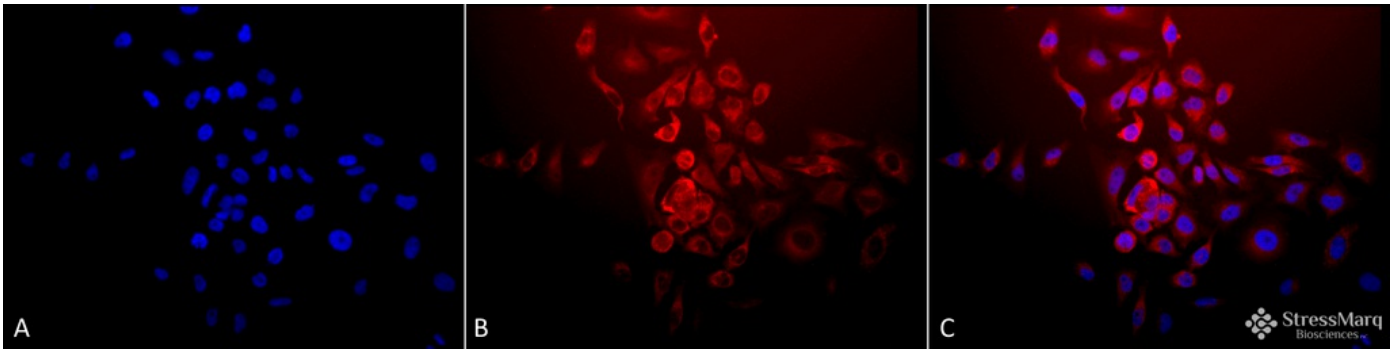
Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-SOD (Mn) Polyclonal Antibody (SPC-117). Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-SOD (Mn) Polyclonal Antibody (SPC-117) at 1:120 for 12 hours at 4°C. Secondary Antibody: R-PE Goat Anti-Rabbit (yellow) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Mitochondrion matrix. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-SOD (Mn) Antibody. (C) Composite.



Western blot analysis of Rat Tissue lysates showing detection of SOD2 protein using Rabbit Anti-SOD2 Polyclonal Antibody (SPC-117). Load: 15 µg protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Rabbit Anti-SOD2 Polyclonal Antibody (SPC-117) at 1:1000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.



Immunohistochemistry analysis using Rabbit Anti-SOD2 Polyclonal Antibody (SPC-117). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative Solution. Primary Antibody: Rabbit Anti-SOD2 Polyclonal Antibody (SPC-117) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Rabbit (green) at 1:50 for 1 hour at RT. Localization: Mitochondrion matrix.



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-SOD (Mn) Polyclonal Antibody (SPC-117). Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-SOD (Mn) Polyclonal Antibody (SPC-117) at 1:120 for 12 hours at 4°C. Secondary Antibody: APC Goat Anti-Rabbit (red) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Mitochondrion matrix. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-SOD (Mn) Antibody. (C) Composite.

Product Citations (5)

Western Blot

Cytosolic subunits of ATP synthase are localized to the cortical endoplasmic reticulum-rich domain of the ascidian egg myoplasm.

Ishii, H., Kunihiro, S., Tanaka, M., Hatano, K. and Nishikata, T. (2012) Dev Growth Differ. 54 (8): 753-766.

PubMed ID: 23067137 **Reactivity:** Ciona intestinalis (Sea squirt) **Applications:** Western Blot

Expression of NF- κ B and downstream antioxidant genes in skeletal muscle of hibernating ground squirrels, Spermophilus tridecemlineatus.

Allan, M. E. and Storey, K. B. (2012) Cell Biochem Funct. 30 (2): 166-174.

PubMed ID: 22086848 **Reactivity:** Squirrel **Applications:** Western Blot

Ischemic conditioning by short periods of reperfusion attenuates renal ischemia/reperfusion induced apoptosis and autophagy in the rat.

Wu, H., Hsiao, T., Chien, C., and Lai, M. (2009) J Biomed Sci. 16 (19).

PubMed ID: 19272187 **Reactivity:** Rat **Applications:** Western Blot

Immunohistochemistry

Bach1 deficiency reduces severity of osteoarthritis through upregulation of heme oxygenase-1.

Takada, T. et al. (2015) Arthritis Res Ther. 17:285.

PubMed ID: 26458773 **Reactivity:** Mouse **Applications:** Immunohistochemistry

Other Citations

Cytosolic subunits of ATP synthase are localized to the cortical endoplasmic reticulum-rich domain of the ascidian egg myoplasm.

Ishii, H., Kunihiro, S., Tanaka, M., Hatano, K. and Nishikata, T. (2012) Dev Growth Differ. 54 (8): 753-766.

PubMed ID: 23067137 **Reactivity:** Ciona intestinalis (Sea squirt) **Applications:** Immunohistochemistry

Reviews

Based on validation through cited publications.



