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Anti-SOD (EC) Antibody [4GG11G6]

Mouse Anti-Human SOD (EC) Monoclonal IgG1 Kappa
Catalog No. SMC-167



Discovery through partnership | Excellence through quality

Overview

Product Name

SOD (EC) Antibody

Description

Mouse Anti-Human SOD (EC) Monoclonal IgG1 Kappa

Species Reactivity

Human, Mouse, Rat, Guinea Pig (*Cavia porcellus*)

Applications

WB, IHC, ICC/IF, ELISA

Antibody Dilution

WB (1:1000), IHC (1:100), ICC/IF (1:100); optimal dilutions for assays should be determined by the user.

Host Species

Mouse

Immunogen Species

Human

Immunogen

Human extracellular SOD purified from aortas

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 G Purified

Clonality

Monoclonal

Clone Number

4GG11G6

Isotype

IgG1 Kappa

Specificity

Detects extracellular SOD ~35kDa.

Cite This Product

Mouse Anti-Human SOD3 Monoclonal, Clone 4GG11G6 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SMC-167)

Certificate Of Analysis

1 µg/ml of SMC-167 was sufficient for detection of EC-SOD in 20 µg of human cartilage lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Biological Description

Alternative Names

EC SOD antibody, EC-SOD antibody, Extracellular superoxide dismutase [Cu Zn] antibody, Extracellular superoxide dismutase [Cu-Zn] antibody, Extracellular superoxide dismutase antibody, Extracellular superoxide dismutase precursor antibody, MGC20077 antibody, SOD 3 antibody, SOD3 antibody, SODE_HUMAN antibody, Superoxide dismutase 3 extracellular antibody

Research Areas

Cancer, Oxidative Stress

Cellular Localization

Extracellular Space

Accession Number

NP_003093.2

Gene ID

6649

Swiss Prot

P08294

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 O₂⁻ to O₂ and H₂O₂, which are then metabolized to H₂O and O₂ by catalase and glutathione peroxidase (2, 5). In general, SODs play a major role in antioxidant defense mechanisms (4). There are three 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 (6). SOD3 can also be distinguished by its heparin-binding capacity (1).

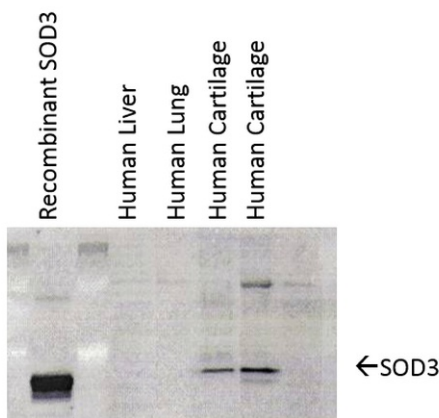
References

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. FurukawaY., and OHalloran T. (2006) Antioxidants & Redo Signaling. 8(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. Wispe J.R., et al. (1989) BBA. 994: 30-36.
7. Regan, E. et al. (2005) Arthritis & Rheumatism 52(11): 34793491

Product Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-SOD3 Monoclonal Antibody, Clone 4GG11G6 (SMC-167). Tissue: cartilage. Species: Human. Primary Antibody: Mouse Anti-SOD3 Monoclonal Antibody (SMC-167) at 1:1000.



Western Blot analysis of Human cartilage lysates showing detection of SOD3 protein using Mouse Anti-SOD3 Monoclonal Antibody, Clone 4GG11G6 (SMC-167). Primary Antibody: Mouse Anti-SOD3 Monoclonal Antibody (SMC-167) at 1:1000. Left: Control, Middle: Young cartilage, Right: Cartilage sample with osteo-arthritis..

Product Citations (2)

Western Blot

Seasonal superoxide overproduction and endothelial activation in guinea-pig heart; seasonal oxidative stress in rats and humans.

Konior, A. et al. (2011) J Mol Cel Cardiology. 50 (4): 686-694.

PubMed ID: 21112335 **Reactivity:** Guinea-pig **Applications:** Western Blot

Immunohistochemistry

Endogenous enzymes (NOX and ECSOD) regulate smoke-induced oxidative stress.

Tollefson, A.K. et al. (2010) Free Radic Biol Med. 49 (12): 1937-1946.

PubMed ID: 20887783 **Reactivity:** Human **Applications:** Immunohistochemistry

Reviews

Based on validation through cited publications.



StressMarq Biosciences

June 14, 2016: