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Anti-SOD3 Antibody

Catalog # ABO11203

Product Information

Application	WB, IHC-P, IHC-F, ICC
Primary Accession	P08294
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Extracellular superoxide dismutase[Cu-Zn](SOD3) detection. Tested with WB, IHC-P, IHC-F, ICC in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	6649
Other Names	Extracellular superoxide dismutase [Cu-Zn], EC-SOD, 1.15.1.1, SOD3
Calculated MW	25851
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, By Heat Immunocytochemistry , 0.5-1 □g/ml, Human, - Immunohistochemistry(Frozen Section), 0.5-1 □g/ml, Human, - Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Secreted, extracellular space. 99% of EC-SOD is anchored to heparan sulfate proteoglycans in the tissue interstitium, and 1% is located in the vasculature in equilibrium between the plasma and the endothelium.
Tissue Specificity	Expressed in blood vessels, heart, lung, kidney and placenta. Major SOD isoenzyme in extracellular fluids such as plasma, lymph and synovial fluid.
Source	Eukaryota
Protein Name	Extracellular superoxide dismutase[Cu-Zn]
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human SOD3 (41-56aa KVTEIWQEVMQRRDDD).

Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the Cu-Zn superoxide dismutase family.

Protein Information

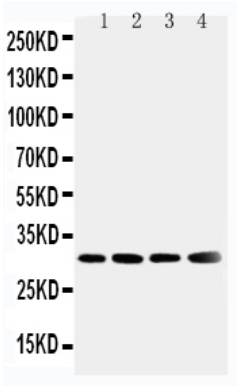
Name	SOD3 (HGNC:11181)
Function	Secreted antioxidant enzyme that acts as the primary scavenger of superoxide radicals in the extracellular space, converting them to hydrogen peroxide and thereby protecting tissues from oxidative damage (PubMed:12933702, PubMed:15761197). Also preserves nitric oxide bioavailability by preventing the formation of harmful peroxynitrite (PubMed:12933702). Stored in intracellular pre-formed vesicles of macrophages and neutrophils and released upon stimulation by inflammatory mediators (PubMed:31326693).
Cellular Location	Secreted, extracellular space. Golgi apparatus, trans-Golgi network {ECO:0000250|UniProtKB:O09164}. Vesicle Note=99% of SOD3/EC-SOD is anchored to heparan sulfate proteoglycans in the tissue interstitium, and 1% is located in the vasculature in equilibrium between the plasma and the endothelium (PubMed:8546689). In macrophages and neutrophiles, extracellular SOD2 in endocytosed and stored in intracellular vesicles (PubMed:31326693)
Tissue Location	Expressed in blood vessels, heart, lung, kidney and placenta. Major SOD isoenzyme in extracellular fluids such as plasma, lymph and synovial fluid (PubMed:7959763). Stored in macrophages intracellular compartments (PubMed:31326693)

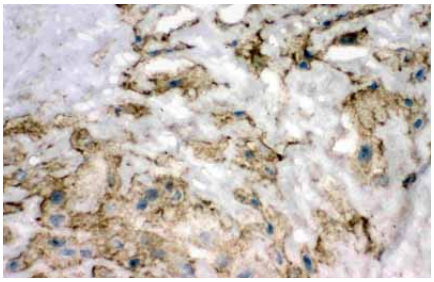
Background

SOD3(SUPEROXIDE DISMUTASE 3) also called SUPEROXIDE DISMUTASE, EXTRACELLULAR, EC-SOD, and Cu-Zn, is an enzyme that in humans is encoded by the SOD3 gene. This gene encodes a member of the superoxide dismutase(SOD) protein family. SODs are antioxidant enzymes that catalyze the dismutation of two superoxide radicals into hydrogen peroxide and oxygen. Hendrickson et al.(1990) mapped the SOD3 gene to 4pter-q21 by a study of somatic cell hybrids. Stern et al.(2003) narrowed the assignment to 4p15.3-p15.1 by somatic cell and radiation hybrid analysis, linkage mapping, and FISH. The product of this gene is though to protect the brain, lungs, and other tissues from oxidative stress. The protein is secreted into the extracellular space and forms a glycosylated homotetramer that is anchored to the extracellular matrix(ECM) and cell surfaces through an interaction with heparan sulfate proteoglycan and collagen. A fraction of the protein is cleaved near the C-terminus before secretion to generate circulating tetramers that do not interact with the ECM.

Images

Anti-SOD3 antibody, ABO11203, Western blottingLane 1: Human Placenta Tissue LysateLane 2: A549 Cell LysateLane 3: MM231 Cell LysateLane 4: MCF-7 Cell Lysate





Anti-SOD3 antibody, ABO11203, IHC(F)IHC(F): Human Placenta Tissue

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