

Mouse SOD (EC) Monoclonal Antibody | anti-SOD3 antibody

SOD (EC) Antibody: ATTO 390

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA103373	Mouse	Human, Rat, Mouse	Immunocytochemistry, Immunohistochemistry, ELISA, Western Blot

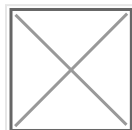
PRODUCT SYNONYMS

SOD (EC); Monoclonal Antibody; SOD (EC) Antibody: ATTO 390; EC-SOD; MGC20077; EC 1.15.1.1; SOD3; EC SOD; anti-SOD3 antibody

PRODUCT SPECIFICATIONS

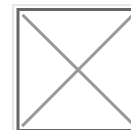
Host	Mouse
Reactivity	Human, Rat, Mouse
Clonality	Monoclonal
Isotype	IgG1 Kappa
Clone Number	4GG11G6
Form/Format	Protein G Purified
Concentration	1mg/mL (varies by lot)
Sequence Length	240
Applicable Applications for anti-SOD3 antibody	ICC (Immunocytochemistry), IHC (Immunohistochemistry), ELISA, WB (Western Blot)
Conjugate	ATTO 390
Storage Buffer	PBS pH7.4, 50% glycerol, 0.09% sodium azide
Preparation and Storage	-20 degree C

IMAGES



WB (Western Blot)

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



ICC (Immunocytochemistry)

Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-SOD3 Monoclonal Antibody, Clone 4GG11G6. Tissue: cartilage. Species: Human. Primary Antibody: Mouse Anti-SOD3 Monoclonal Antibody at 1:1000. Left: control, middle: young cartilage, right: cartilage with osteoarthritis.

ADDITIONAL INFORMATION

Related Product Information for anti-SOD3 antibody	<p>Background Info: Detects EC SOD at ~35kDa. Does not cross react with other SODs.</p> <p>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).</p>
Product Categories/Family for anti-SOD3 antibody	Oxidative Stress
References	<p>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., and O'Halloran T. (2006) Antioxidants & Redox 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): 3479-3491</p> <p>1. Tollefson, A.K. et al. (2010). Endogenous enzymes (NOX and ECSOD) regulate smoke-induced oxidative stress. Free Radical Biol and Med. 49 (12), 1937-1946. doi.org/10.1016/j.freeradbiomed.2010.09.022</p> <p>2. Konior, A. et al. (2011). Seasonal superoxide overproduction and endothelial activation in guinea-pig heart; seasonal oxidative stress in rats and humans. J Mol Cel Cardiology. 50 (4), 686-694. doi:10.1016/j.yjmcc.2010.11.010</p>

NCBI AND UNIPROT INFORMATION

NCBI GI #	118582275
NCBI GeneID	6649
NCBI Accession #	NP_003093.2
NCBI GenBank Nucleotide #	NM_003102.2
UniProt Accession #	P08294 ; Q5U781 ; Q6FHA2
Molecular Weight	25,851 Da
NCBI Official Full Name	extracellular superoxide dismutase
NCBI Official Synonym Full Names	superoxide dismutase 3, extracellular
NCBI Official Symbol	SOD3
NCBI Official Synonym Symbols	EC-SOD
NCBI Protein Information	extracellular superoxide dismutase [Cu-Zn]; extracellular superoxide dismutase [Cu-Zn]
UniProt Protein Name	Extracellular superoxide dismutase [Cu-Zn]
UniProt Gene Name	SOD3
UniProt Synonym Gene Names	EC-SOD
UniProt Entry Name	SODE_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.