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

SOD (EC) Antibody

| CATALOG # | HOST | REACTIVITY | APPLICATIONS |
|---|---|---|---|
| **AAA103145** | **Mouse** | **Human, Rat, Mouse** | **Immunocytochemistry, Immunohistochemistry, ELISA, Western Blot** |

## PRODUCT SYNONYMS

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

## PRODUCT SPECIFICATIONS

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| **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) |
| **Certificate of Analysis** | 1 ug/mL was sufficient for detection of EC-SOD in 20ug of human cartilage lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody. |
| **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

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| **Related Product Information for anti-SOD3 antibody** | **Background Info:** Detects EC SOD at ~35kDa. Does not cross react with other SODs.<br><br>**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). |
| **Product Categories/Family for anti-SOD3 antibody** | Oxidative Stress |
| **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 O'Halloran 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): 3479-3491<br>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<br><br>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 |

## NCBI AND UNIPROT INFORMATION

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|---|---|
| **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.

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Online datasheet: https://stage.aaabiotech.com/monoclonal/sod-ec-antibody-clone-4gg11g6-immunocytochemistry-immunohistochemistry-western-blot-elisa/103145