# Rabbit SOD (Mn) Polyclonal Antibody | anti-Sod2 antibody

SOD (Mn) Antibody: ATTO 594

| CATALOG # | HOST | REACTIVITY | APPLICATIONS |
|---|---|---|---|
| **AAA103552** | **Rabbit** | **Human, Rat, Mouse, Bovine, Canine, Chicken, Dosophila, Guinea pig, Pig, Hamster, Monkey, Rabbit, Sheep, Xenopus** | **Immunofluorescence, Immunohistochemistry, ELISA, Immunoprecipitation, Western Blot** |

## PRODUCT SYNONYMS

SOD (Mn); Polyclonal Antibody; SOD (Mn) Antibody: ATTO 594; Manganese SOD; IPO B; Mn SOD; SOD2; anti-Sod2 antibody

## PRODUCT SPECIFICATIONS

| | |
|---|---|
| **Host** | Rabbit |
| **Reactivity** | Human, Rat, Mouse, Bovine, Canine, Chicken, Dosophila, Guinea pig, Pig, Hamster, Monkey, Rabbit, Sheep, Xenopus |
| **Clonality** | Polyclonal |
| **Form/Format** | Affinity (antigen) Purified |
| **Concentration** | 1mg/mL (varies by lot) |
| **Sequence Length** | 222 |
| **Applicable Applications for anti-Sod2 antibody** | IF (Immunofluorescence), IHC (Immunohistochemistry), ELISA, IP (Immunoprecipitation), WB (Western Blot) |
| **Conjugate** | ATTO 594 |
| **Storage Buffer** | PBS pH7, 50% glycerol, 0.09% sodium azide |
| **Preparation and Storage** | -20 degree C |

## IMAGES

**IHC (Immunohiostchemistry)**
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.

**WB (Western Blot)**
Western blot analysis of Rat Tissue lysates showing detection of SOD2 protein using Rabbit Anti-SOD2 Polyclonal Antibody (SPC-117). Load: 15 ugprotein. 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.

## ADDITIONAL INFORMATION

| | |
|---|---|
| **Related Product Information for anti-Sod2 antibody** | **Background Info:** Detects a ~25kDa protein corresponding to the molecular mass of Mn superoxide dismutase (SOD) on SDS PAGE immunoblots.<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 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). |
| **Product Categories/Family for anti-Sod2 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.Furukawa Y., O'Halloran 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. 8.Xiao-Hong Liu., et al. (1993) Brain Research. 625: 29-37.<br>1. Allan, M. E. and Storey, K. B. (2012). Expression of NF-?B and downstream antioxidant genes in skeletal muscle of hibernating ground squirrels, Spermophilus tridecemlineatus. Cell Biochemistry and Function. 30 (2), 166-174. doi:10.1002/cbf.1832<br><br>2. Ishii, H., Kunihiro, S., Tanaka, M., Hatano, K. and Nishikata, T. (2012). Cytosolic subunits of ATP synthase are localized to the cortical endoplasmic reticulum-rich domain of the ascidian egg myoplasm. Development, growth & differentiation. 54 (8), 753-766. doi: 10.1111/dgd.12003<br>3. Wu, H., Hsiao, T., Chien, C., and Lai, M. (2009). Ischemic conditioning by short periods of reperfusion attenuates renal ischemia/reperfusion induced apoptosis and autophagy in the rat. J Biomed Sci. 16 (19). doi:10.1186/1423-0127-16-19 |

## NCBI AND UNIPROT INFORMATION

| | |
|---|---|
| **NCBI GI #** | 8394331 |
| **NCBI GeneID** | 24787 |
| **NCBI Accession #** | NP_058747.1 |
| **NCBI GenBank Nucleotide #** | NM_017051.2 |
| **UniProt Accession #** | P07895 |
| **Molecular Weight** | 24,674 Da |
| **NCBI Official Full Name** | superoxide dismutase |
| **NCBI Official Synonym Full Names** | superoxide dismutase 2, mitochondrial |
| **NCBI Official Symbol** | Sod2 |
| **NCBI Protein Information** | superoxide dismutase [Mn], mitochondrial; superoxide dismutase [Mn], mitochondrial; Superoxide dimutase 2, mitochondrial; mitochondrial superoxide dismutase 2 |
| **UniProt Protein Name** | Superoxide dismutase [Mn], mitochondrial |
| **UniProt Gene Name** | **Sod2** |
| **UniProt Entry Name** | SODM_RAT |

**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.

**AAA Biotech** | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: https://stage.aaabiotech.com/polyclonal/sod-mn-antibody-immunofluorescence-immunohistochemistry-immunoprecipitation-western-blot-elisa/103552