

**SOD (Mn) Antibody**  
Catalog # ASM10383

**Specification**

---

**SOD (Mn) Antibody - Product Information**

Application	IHC
Primary Accession	<a href="#">P04179</a>
Other Accession	<a href="#">NP_000627.2</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat, Rabbit, Hamster, Monkey, Pig, Chicken, Bovine, Xenopus, Dog, Sheep, Guinea Pig
Clonality	Polyclonal

**Description**

Rabbit Anti-Human SOD (Mn) Polyclonal

**Target/Specificity**

Detects ~25kDa.

**Other Names**

Manganese SOD Antibody, IPO B Antibody, Mn SOD Antibody, SOD2 Antibody

**Immunogen**

Human Mn SOD

**Purification**

Protein A Purified

**Storage**

-20°C

**Storage Buffer**

PBS pH7.4, 50% glycerol, 0.09% sodium azide

**Shipping Temperature**

Blue Ice or 4°C

**Certificate of Analysis**

0.2 µg/ml of SPC-118 was sufficient for detection of Mn SOD in 20 µg of rat brain tissue extract by colorimetric immunoblot analysis using Goat anti-mouse IgG:AP as the secondary antibody.

**Cellular Localization**

Mitochondrion | Mitochondrion Matrix

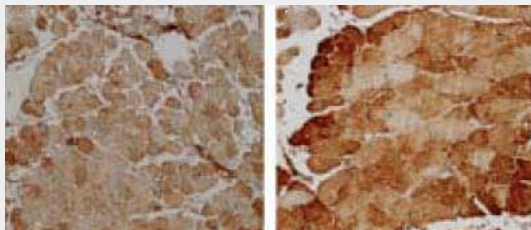
**SOD (Mn) Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)

- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### SOD (Mn) Antibody - Images



Immunohistochemistry analysis using Rabbit Anti-SOD2 Polyclonal Antibody (ASM10383). Tissue: muscle fibres. Species: Rat. Primary Antibody: Rabbit Anti-SOD2 Polyclonal Antibody (ASM10383) at 1:100. Left: Untreated, Right: treated with 3mmol\*kg<sup>-1</sup> NAC. Courtesy of: E. Barreiro, IMIM, Spain..

### SOD (Mn) Antibody - 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 O<sub>2</sub><sup>-</sup> to O<sub>2</sub> and H<sub>2</sub>O<sub>2</sub>, which are then metabolized to H<sub>2</sub>O and O<sub>2</sub> 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).

### SOD (Mn) Antibody - 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 & Redox 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.