

## SOD (Mn) Antibody

Catalog # ASM10380

### Specification

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

Application **ICC/IF, WB, IHC**  
Primary Accession [P07895](#)  
Other Accession [NP\\_058747.1](#)  
Host **Rabbit**  
Reactivity **Human, Mouse, Rat, Rabbit, Hamster, Monkey, Pig, Chicken, Bovine, Dog, Sheep, Guinea Pig, Drosophila**  
Clonality **Polyclonal**  
Format **HRP**

#### Description

Rabbit Anti-Rat SOD (Mn) Polyclonal

#### Target/Specificity

Detects ~25kDa.

#### Other Names

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

#### Immunogen

Rat Mn SOD

#### Purification

Protein A Purified

Storage **-20°C**

#### Storage Buffer

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

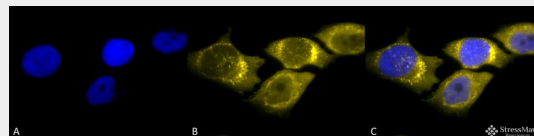
Shipping **Blue Ice or 4°C**  
Temperature

#### Certificate of Analysis

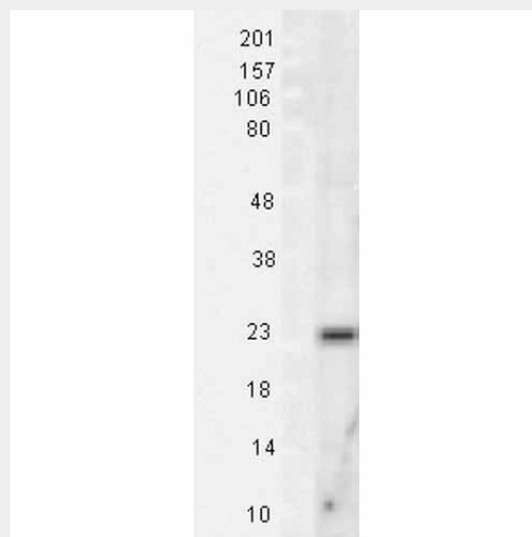
0.5 µg/ml of SPC-117 was sufficient for detection of Mn SOD in 20 µg of rat brain tissue extract by colorimetric immunoblot analysis using Goat anti-rabbit IgG:AP as the secondary antibody.

#### Cellular Localization

Mitochondrion | Mitochondrion Matrix



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-SOD (Mn) Polyclonal Antibody (ASM10380). Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-SOD (Mn) Polyclonal Antibody (ASM10380) at 1:120 for 12 hours at 4°C. Secondary Antibody: R-PE Goat Anti-Rabbit (yellow) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Mitochondrion matrix. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-SOD (Mn) Antibody. (C) Composite.

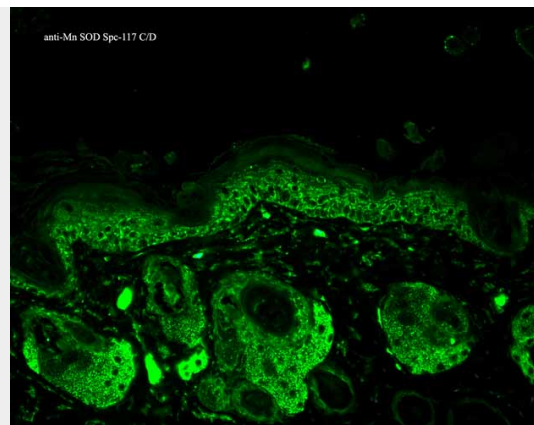


Western blot analysis of Rat Tissue lysates showing detection of SOD2 protein using Rabbit Anti-SOD2 Polyclonal Antibody (ASM10380). Load: 15 µg protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Rabbit Anti-SOD2 Polyclonal Antibody (ASM10380) at 1:1000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.

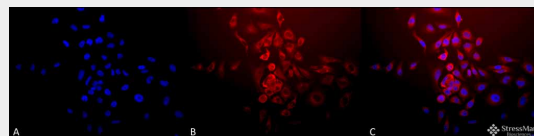
## SOD (Mn) Antibody - Protocols

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](#)



Immunohistochemistry analysis using Rabbit Anti-SOD2 Polyclonal Antibody (ASM10380). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative Solution. Primary Antibody: Rabbit Anti-SOD2 Polyclonal Antibody (ASM10380) 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.



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-SOD (Mn) Polyclonal Antibody (ASM10380). Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-SOD (Mn) Polyclonal Antibody (ASM10380) at 1:120 for 12 hours at 4°C. Secondary Antibody: APC Goat Anti-Rabbit (red) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Mitochondrion matrix. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-SOD (Mn) Antibody. (C) Composite.

## 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  $O_2^-$  to  $O_2$  and  $H_2O_2$ , which are then metabolized to  $H_2O$  and  $O_2$  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 & 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.