

**SOD (Cu/Zn) Antibody**  
**Catalog # ASM10378****Specification****SOD (Cu/Zn) Antibody - Product Information**

Application  
Primary Accession  
Other Accession  
Host  
Reactivity

WB, IHC, IP  
[P00441](#)  
[NP\\_000445.1](#)  
Rabbit  
Insect, Human, Mouse, Rat, Rabbit,  
Hamster, Monkey, Pig, Bovine, Xenopus,  
Dog, Fish, Sheep  
Polyclonal

Clonality  
**Description**  
Rabbit Anti-Human SOD (Cu/Zn) Polyclonal

**Target/Specificity**  
Detects ~23kDa (human) and ~19kDa (other species).

**Other Names**  
Superoxide dismutase1 Antibody, ALS1 Antibody, IPOA Antibody, SOD1 Antibody, SOD2 Antibody, SODC Antibody

**Immunogen**  
Human Cu/Zn SOD

**Purification**  
Protein A Purified

Storage **-20°C**  
**Storage Buffer**  
PBS pH7.0, 50% glycerol, 0.09% sodium azide

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

**Certificate of Analysis**  
0.2 µg/ml of SPC-116 was sufficient for detection of Cu/Zn SOD in 20 µg of HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-rabbit IgG:AP as the secondary antibody.

**Cellular Localization**  
Cytoplasm

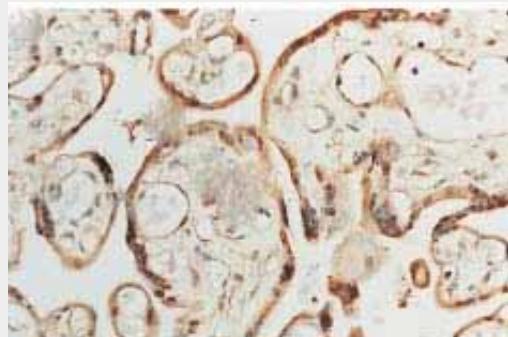
**SOD (Cu/Zn) Antibody - Protocols**

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

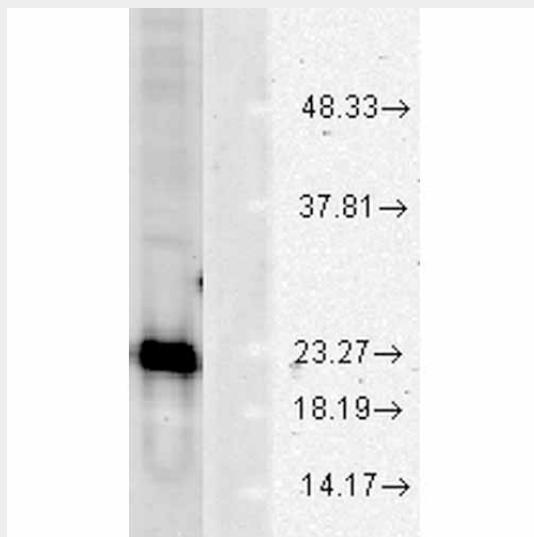
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)

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

### SOD (Cu/Zn) Antibody - Images



Immunohistochemistry analysis using Rabbit Anti-SOD1 Polyclonal Antibody (ASM10378). Tissue: Placenta. Species: Human. Primary Antibody: Rabbit Anti-SOD1 Polyclonal Antibody (ASM10378) at 1:100. Courtesy of: Courtesy of Joan Telfer, University of Glasgow.



### SOD (Cu/Zn) 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 (Cu/Zn) 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.