

SOD (Cu/Zn) Antibody

Catalog # ASM10378

Specification

SOD (Cu/Zn) Antibody - Product Information

Application Primary Accession Other Accession Host Reactivity WB, IHC, IP <u>P00441</u> <u>NP_000445.1</u> 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 Storage Buffer PBS pH7.0, 50% glycerol, 0.09% sodium azide -20ºC

Shipping TemperatureBlue Ice or 4°CCertificate of Analysis0.2 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 Cytomety
- <u>Cell Culture</u>

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.



Western blot analysis of Human Cell line lysates showing detection of SOD1 protein using Rabbit Anti-SOD1 Polyclonal Antibody (ASM10378). Load: 15 μ g protein. Block: 1.5% BSA. Primary Antibody: Rabbit Anti-SOD1 Polyclonal Antibody (ASM10378) at 1:1000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.

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 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).

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 & 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.