

# SOD (Cu/Zn) Antibody

Catalog # ASM10376

# **Specification**

### SOD (Cu/Zn) Antibody - Product Information

Application WB
Primary Accession P07632
Other Accession NP\_058746.1
Host Rabbit

Reactivity Human, Mouse, Rat, Bovine

Clonality Polyclonal

**Description** 

Rabbit Anti-Rat 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 Rat 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** 

 $0.5 \mu g/ml$  of SPC-115 was sufficient for detection of Cu/Zn SOD in 20  $\mu g$  of rat brain tissue extract by colorimetric immunoblot analysis using Goat anti-rabbit IgG:AP as the secondary antibody.

**Cellular Localization** 

Cytoplasm

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

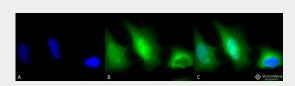
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation

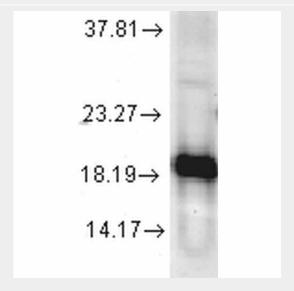


- Flow Cytomety
- Cell Culture

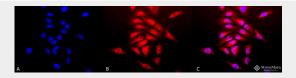
# SOD (Cu/Zn) Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-SOD (Cu/Zn) Polyclonal Antibody (ASM10376). Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-SOD (Cu/Zn) Polyclonal Antibody (ASM10376) at 1:120 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Rabbit (green) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Cytoplasm. Nucleus. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-SOD (Cu/Zn) Antibody. (C) Composite.



Western blot analysis of Human Cell line lysates showing detection of SOD1 protein using Rabbit Anti-SOD1 Polyclonal Antibody (ASM10376). Load: 15  $\mu$ g protein. Block: 1.5% BSA. Primary Antibody: Rabbit Anti-SOD1 Polyclonal Antibody (ASM10376) at 1:1000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-SOD (Cu/Zn) Polyclonal Antibody (ASM10376). Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-SOD (Cu/Zn) Polyclonal Antibody (ASM10376) 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: Cytoplasm. Nucleus. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-SOD (Cu/Zn) Antibody. (C) Composite.

### 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<sup>-</sup> 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.