

**SOD (EC) Antibody**  
**SOD (EC) Antibody, Clone 4GG11G6**  
**Catalog # ASM10101**

### Specification

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

Application	WB, IHC, ICC, E
Primary Accession	<a href="#">P08294</a>
Other Accession	<a href="#">NP_003093.2</a>
Host	Mouse
Isotype	IgG1 Kappa
Reactivity	Human, Mouse, Rat, Guinea Pig
Clonality	Monoclonal
Format	APC

#### Description

Mouse Anti-Human SOD (EC) Monoclonal IgG1 Kappa

#### Target/Specificity

Detects extracellular SOD ~35kDa.

#### Other Names

EC SOD antibody, EC-SOD antibody, Extracellular superoxide dismutase [Cu Zn] antibody, Extracellular superoxide dismutase [Cu-Zn] antibody, Extracellular superoxide dismutase antibody, Extracellular superoxide dismutase precursor antibody, MGC20077 antibody, SOD 3 antibody, SOD3 antibody, SODE\_HUMAN antibody, Superoxide dismutase 3 extracellular antibody

#### Immunogen

Human extracellular SOD purified from aortas

#### Purification

Protein G 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

1 µg/ml of SMC-167 was sufficient for detection of EC-SOD in 20 µg of human cartilage lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

#### Cellular Localization

Extracellular Space

#### SOD (EC) 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 (EC) Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-SOD3 Monoclonal Antibody, Clone 4GG11G6 (ASM10101). Tissue: cartilage. Species: Human. Primary Antibody: Mouse Anti-SOD3 Monoclonal Antibody (ASM10101) at 1:1000.



Western Blot analysis of Human cartilage lysates showing detection of SOD3 protein using Mouse Anti-SOD3 Monoclonal Antibody, Clone 4GG11G6 (ASM10101). Primary Antibody: Mouse Anti-SOD3 Monoclonal Antibody (ASM10101) at 1:1000. Left: Control, Middle: Young cartilage, Right: Cartilage sample with osteoarthritis-arthritis..

### SOD (EC) 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 three 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 (6). SOD3 can also be distinguished by its heparin-binding capacity (1).

### SOD (EC) 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. FurukawaY., and O'Halloran T. (2006) Antioxidants & Redox Signaling. 8(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. Wispe J.R., et al. (1989) BBA. 994: 30-36.
7. Regan, E. et al. (2005) Arthritis & Rheumatism 52(11): 3479-3491