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## Product Information

### Anti-Superoxide Dismutase (EC-SOD)

produced in rabbit, affinity isolated antibody

Catalog Number **S4946**

#### Product Description

Anti-Superoxide Dismutase (EC-SOD) is developed in rabbit using a synthetic peptide corresponding to amino acid residues 1-19 of mouse EC-SOD with a C-terminal added cysteine, conjugated to KLH, as immunogen. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Superoxide Dismutase (EC-SOD) specifically recognizes mouse EC-SOD by immunoblotting (doublet 31/35 kDa). Detection of the EC-SOD band is specifically inhibited by the immunizing peptide.

Superoxide dismutase exists in three forms: soluble, cytoplasmic (SOD1, Cu-Zn-SOD), mitochondrial (SOD2, Mn-SOD) and extracellular (SOD3, EC-SOD). Like the CuZn-SODs, EC-SOD contains one Cu<sup>2+</sup> and one Zn<sup>2+</sup> ion per subunit; however, the amino acid compositions are different. The extracellular form is found in plasma, lymph and synovial fluid as well as in tissues. EC-SOD/SOD3 is highly expressed in lung, pancreas, thyroid, uterus, heart, cartilage, and placenta in man.<sup>1-7</sup> Low expression is found in brain and liver. SOD3 is a tetrameric glycoprotein with a molecular weight ~30 kDa. The enzyme contains an 18 amino acid signal peptide preceding the 222 amino acids in the mature enzyme. In the vascular system, SOD3 is located on the endothelial cell surface. The enzyme binds to the surface of the endothelial cells through heparin sulfate proteoglycan and eliminates the oxygen radicals from the NADP-dependent oxidative system of neutrophils. 2-6% of healthy people have high levels of SOD3 in their serum, 10-15x normal. A single base substitution of C to G at position 760 of the cDNA is responsible for the high level of SOD3 in the plasma.<sup>2, 6</sup>

#### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.0 mg/mL

#### Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

#### Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

#### Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using a whole extract of mouse lung and a chemiluminescent detection reagent.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

#### References

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