

Anti-SOD1 (U β B)

Catalog# SPC-205D

Size: 100 μ l

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This product is for *in vitro* research use only and is not intended for use in humans or animals

StressMarq

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Product	Rabbit anti-SOD1 (U β B) polyclonal
Clone	N/A
Immunogen	N-terminal region of SOD1, unfolded beta barrel region
Host and Subclass	Rabbit polyclonal
Cited Applications	WB
Specificity	Recognizes a conformation specific epitope where the beta barrel is unfolded
Species cross-reactivity	Human, mouse, rat
Format	Affinity purified. In PBS, 50% glycerol and 0.09% sodium azide.
Concentration and working dilution	1mg/ml, 1:1000 (WB)
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

Scientific Background

Superoxide dismutase (SOD) is an endogenously produced intracellular enzyme present in almost every cell in the body (2). It works by catalyzing the dismutation of the superoxide radical O $_2^{\cdot-}$ to O $_2$ and H $_2$ O $_2$, which are then metabolized to H $_2$ O and O $_2$ by catalase and glutathione peroxidase (1,4). In general, SODs play a major role in antioxidant defense mechanisms (3). 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 (2).

Misfolding of SOD1 has been implicated in Amyotrophic lateral sclerosis (ALS). Therefore conformation specific antibodies such as Anti-SOD1 (U β B), which targets an unfolded region of the beta barrel of SOD1, are useful for determining the conformation of SOD1 in affected tissues (5).

This antibody can be used in conjunction with Anti-SOD1 (EDI) (SPC-206D) which detects an exposed dimer interface (EDI) of SOD1.

Selected References

1. Barrister J.V., *et al.* (1987). *Crit. Rev. Biochem.* 22:111-180.
2. Furukawa Y., and O'Halloran T. (2006) *Antioxid Redox Signal.* 8(5-6):847-67.
3. Gao B., *et al.* (2003) *Am J Physiol Lung Cell Mol Physiol.* 284:L917-L925.
4. Hassan H.M. (1988) *Free Radical Biol. Med.* 5:377-385.
5. Kerman A., *et al.* (2010) *Acta Neuropathol.* 119:335-344.

Certificate of Analysis

1 μ g/ml of SPC-205 was sufficient for detection of the unfolded beta barrel of SOD1 by colorimetric dot blot analysis using Goat anti-rabbit IgG:HRP as the secondary antibody.

Material Safety Data Sheet

Anti-SOD1 (U β B) (Polyclonal Antibody) SPC-205

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The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
Sodium Azide	26628-22-8	0.09

Physical Data

This product consists of Protein A purified material in PBS, 50% glycerol and sodium azide shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

Authorized: StressMarq Biosciences Inc.

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