Anti-DMPO Nitrone Adduct
Catalog# SMC-189D

DATA SHEET

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

Product **Mouse Anti-DMPO Nitrone Adduct Monoclonal Antibody**

Clone	**N1664A**
Immunogen	**5,5-dimethyl-2-(8-octanoic acid)-1-pyrrolone-N-oxide conjugated to Ovalbumin.**
Host and Subclass	**Mouse, IgG_1**
Cited Applications	**Immuno-spin trapping, ELISA, WB, ICC/IF, IP (8)**
Specificity	**Detects ~90kDa. Recognizes DMPO, DMPO-octanoic acid, DMPO-protein adducts and DMPO-DNA adducts. Does not cross-react with non-adducted proteins or DNA.**
Species cross-reactivity	**Species Independent**
Format	**Protein G Purified. In TBS pH7.4, with 0.05% sodium azide and 50% glycerol.**
Working dilution	**1-10µg/mL (WB), 1-10µg/mL (ELISA), 10µg/mL (ICC), 25ug (IP), see (8). For IP - DO NOT link to matrix prior to use as this causes large loss of reactivity to DMPO adduct (see ref 8 for details).**
Storage and stability	**-20°C; 1 year+; shipped on cold packs or ambient**

Scientific Background

The formation of free radicals and other highly reactive oxygen species has been implicated in the pathogenesis of many disease states (1). The ability to identify these species is crucial, and spin trapping has accomplished this goal. DMPO (5,5-dimethyl-1-pyrroline N-oxide) is one of the least toxic to cells and animals, and possesses convenient pharmacokinetics (uptake, distribution, metabolism and excretion) in biological systems (2-6).

Recent studies have determined that nitric oxide may substantially affect the quantitative determination of DMPO adducts, and therefore extra caution is required when studying generation of these species in the presence of nitric oxide or its radicals (1). DMPO adducts can be generated with protein and DNA radicals (7).

Selected References

1. Reszka K.J., *et al.* (2006) *Nitric Oxide* 15: 133-141.
2. Ramirez D.C., Gomez-Mejiba S.E., and Mason R.P. (2007) *Nat Protoc*. 2(3): 512-522.
3. Khan N., *et al.* (2003) Free Radic. Biol. Med 34:1473–1481.
4. Haseloff R.F., *et al*. (1997) *FEBS Lett* 418:73–75.
5. Schaefer C.F., Janzen E.G., West M.S., Poyer J.L., and Kosanke S.D. (1996) *Free Radic. Biol. Med* 21:427–436.
6. Anzai K., *et al*. (2003) *Arch. Biochem. Biophys* 415:251–256.
7. Free Radic Biol Med. 2009 April 1; 46(7): 853–865. doi:10.1016/j.freeradbiomed.2008.12.020.
8. Chatterjee S., Ehrenshaft, M., Bhattacharjee ,S., Derterding, L.J., Bonini, M.G., Corbett, J., Kadiiska, M.B., Tomer K.B. and Mason, R.P. 2009 Free Radic. Med. and Biol. 46:454-461

Certificate of Analysis

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A 1/1000 dilution of SMC-189 was sufficient to detect the DMPO nitrone adducts of metmyoglobin when loaded at 100ng/lane by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody..

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Material Safety Data Sheet

Anti-DMPO (Monoclonal Antibody) SMC-189

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

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.

Known Hazardous Components	CAS Number	Percent
None		

Physical Data

This product consists of mouse immunoglobulin in 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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