

Product Information



DMPO Nitron Adduct Polyclonal Antiserum

Catalog No. 10006170

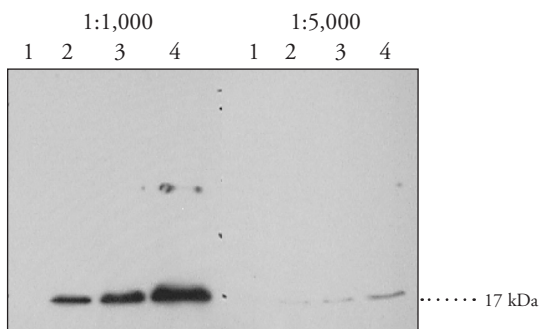
- Synonym:** 5,5-dimethyl-1-pyrroline-N-oxide Nitron Adduct
- Contents:** This vial contains 100 µl rabbit anti-DMPO nitron adduct polyclonal antiserum. Additionally 1 vial of lyophilized positive control is included.
- Host:** Rabbit
- Antigen:** 5,5-dimethyl-2-(8-octanoic acid)-1-pyrroline-N-oxide coupled to ovalbumin
- Cross-reactivity:** Species independent
- Stability:** ≥1 year at -20°C
- Applications:** Recommended starting dilutions: western blot and ELISA at 1:1,000-1:5,000, immunocytochemistry at 1:1,500.³

Measurement of protein radicals is now possible with the development of the 'spin trap immunoassay'.^{1,2} Some proteins with endogenous peroxidase activity are especially susceptible to forming DMPO adducts.¹

Cayman's DMPO Nitron Adduct Polyclonal Antiserum is a significant improvement over traditional electron paramagnetic resonance (EPR) detection of protein radical adducts. Compared to traditional techniques, immunodetection of spin trap products allows a higher level of sensitivity and throughput with greatly reduced sample consumption.²

Laboratory Procedures

Included with the antiserum is 1 vial of lyophilized positive control. For immunoblotting use, resuspend the lyophilized Metmyoglobin-DMPO with 100 µl of 1X reducing sample buffer (Laemmli Buffer). Transfer the reconstituted positive control to a microfuge tube and incubate in a boiling water bath for five minutes followed by five minutes on ice. For long-term storage, freeze aliquots of the sample at -20°C. Metmyoglobin DMPO is detected by immunoblotting at 17 kDa. Detection intensity varies as expected with different working dilutions of DMPO Polyclonal Antiserum as shown above. For use by ELISA, resuspend the lyophilized positive control with PBS or a similar buffer. Again, store at -20°C in aliquots to avoid multiple freeze thaw cycles.



1. Metmyoglobin (3 µl)
2. Metmyoglobin-DMPO (3 µl)
3. Metmyoglobin-DMPO (5 µl)
4. Metmyoglobin-DMPO (10 µl)

References

1. Detweiler, C.D., Detering, L.J., Tomer, K.B., *et al.* Immunological identification of the heart myoglobin radical formed by hydrogen peroxide. *Free Radic. Biol. Med.* **33(3)**, 364-369 (2002).
2. Ramirez, D.C., Chen, Y.-R., and Mason, R.P. Immunochemical detection of hemoglobin-derived radicals formed by reaction with hydrogen peroxide: Involvement of a protein-tyrosyl radical. *Free Radic. Biol. Med.* **34(7)**, 830-839 (2003).
3. Bonini, M.G., Siraki, A.G., Atanassov, B.S., *et al.* Immunolocalization of hypochlorite-induced, catalase-bound free radical formation in mouse hepatocytes. *Free Radic. Biol. Med.* **42**, 530-540 (2007).

Related Products

DEPMPO-biotin - Cat. No. 13251 • AMVN - Cat. No. 82225 • AAPH - Cat. No. 82235 • Lipid Hydroperoxide (LPO) Assay Kit - Cat. No. 705002 • Superoxide Dismutase Assay Kit - Cat. No. 706002 • Catalase Assay Kit - Cat. No. 707002 • Antioxidant Assay Kit - Cat. No. 709001 • CYPMPPO - Cat. No. 10009660

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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