

Malondialdehyde (F-25): sc-130087

BACKGROUND

Malondialdehyde, also referred to as MDA, is a highly reactive three carbon dialdehyde that occurs naturally and exists primarily in an enol form. A product of lipid peroxidation, Malondialdehyde is a toxic compound that reacts with DNA to form covalently-bonded adducts with deoxyadenosine and deoxyguanosine, an event that can cause a mutagenic transformation within DNA. Additionally, Malondialdehyde can interact with several functional groups on proteins and lipoproteins, altering their chemical behavior and possibly contributing to carcinogenesis and mutagenesis. Due to its highly reactive nature, Malondialdehyde also functions as an electrophile that can cause toxic stress within the cell and is, therefore, a potent marker for measuring the overall level of oxidative stress within an organism.

REFERENCES

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2. Moore, K. and Roberts, L.J. 1998. Measurement of lipid peroxidation. *Free Radic. Res.* 28: 659-671.
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9. Cai, J., Chen, J., He, H., Yin, Z., Zhu, Z. and Yin, D. 2009. Carbonyl stress: Malondialdehyde induces damage on rat hippocampal neurons by disturbance of Ca²⁺ homeostasis. *Cell Biol. Toxicol.* 25: 435-445.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

SOURCE

Malondialdehyde (F-25) is a goat polyclonal antibody raised against a Malondialdehyde conjugate.

PRODUCT

Each vial contains 100 µl serum.

APPLICATIONS

Malondialdehyde (F-25) is recommended for detection of Malondialdehyde modified proteins by Western Blotting (starting dilution to be determined by researcher, dilution range 1:1000-1:5000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

SELECT PRODUCT CITATIONS

1. Montez, P., Vázquez-Medina, J.P., Rodríguez, R., Thorwald, M.A., Viscarra, J.A., Lam, L., Peti-Peterdi, J., Nakano, D., Nishiyama, A. and Ortiz, R.M. 2012. Angiotensin receptor blockade recovers hepatic UCP2 expression and aconitase and SDH activities and ameliorates hepatic oxidative damage in Insulin resistant rats. *Endocrinology* 153: 5746-5759.

RESEARCH USE

For research use only, not for use in diagnostic procedures.