HNE-BSA

CATALOG NUMBER: STA-335 **STORAGE:** -20ºC

QUANTITY AND CONCENTRATION: 100 µL of 1.0 mg/mL HNE-BSA in 1X PBS.

SHELF LIFE: 1 year from date of receipt under proper storage conditions; aliquot to avoid multiple freeze thaw cycles

Background

Lipid peroxidation is a well-defined mechanism of cellular damage in animals and plants. Lipid peroxides are unstable indicators of oxidative stress in cells that decompose to form more complex and reactive compounds such as Malondialdehyde (MDA) and 4-hydroxynonenal (4-HNE), natural bi-products of lipid peroxidation. Oxidative modification of lipids can be induced *in vitro* by a wide array of pro-oxidant agents and occurs *in vivo* during aging and in certain disease conditions. Measuring the end products of lipid peroxidation is one of the most widely accepted assays for oxidative damage. These aldehydic secondary products of lipid peroxidation are generally accepted markers of oxidative stress.

Both MDA and HNE have been shown to be capable of binding to proteins and forming stable adducts, also termed advanced lipid peroxidation end products. These modifications of proteins by MDA or HNE can cause both structural and functional changes of oxidized proteins.

Methods

Dilute the HNE-BSA with SDS-PAGE reducing sample buffer to 1.0-10 µg/mL and boil for 5 minutes. Load 10 µL per lane for western blot analysis of HNE protein adducts.

References

1. Toyokuni, S., et al. 2000. *Antioxid. Redox. Signal* **2,** 681.
2. Uchida, K., et al. 1995. *Biochem. Biophys. Res. Commun.* **212,** 1068.
3. Neely, M.D., et al. 1999. *J. Neurochem.* **72,** 2323.
4. Uchida, K., et al. 1995. *Arch. Biochem. Biophys.* **324,** 241.

Recent Product Citation

Zheng, X. et al. (2014). Synergistic effect of high charge and energy particle radiation and chronological age on biomarkers of oxidative stress and tissue degeneration: a ground-based study using the vertebrate laboratory model organism Oryzias latipes. *PLoS One*. **9**:e111362.

Warranty

This product is for RESEARCH USE ONLY; not for use in diagnostic procedures.

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