

## **Data Sheet**

## 4-HYDROXY-2-HEXENAL (4-HHE)

## **ANTIBODY, MONOCLONAL**

Catalog no.: AA1010.1

**Immunogen:** HHE-modified KLH

**Host:** Mouse Balb/c

Clone no.: HHE53

**Isotype:** IgG<sub>1 kappa</sub>

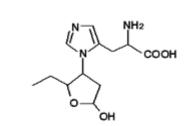
Matrix: Ascites, Protein A purified, 10 mM PBS, 0.1% NaN<sub>3</sub>,

0.5% BSA

**Specificity:** HHE-modified protein, especially HHE-histidine

4-Hydroxy hexenal

Michael adduct



HHE-his

**Contents:** 30 μg (liquid; 100 μg/ml)

**Known applications:** ELISA (50 ng/ml)<sup>1,2</sup>, Western Blot (1 μg/ml)<sup>1</sup>, immunohistochemistry

(paraffin sections, 0.5 - 1 μg/ml; cryosections)<sup>1,2</sup>

This antibody has not been tested for use in all applications. This does not necessarily exclude its use in non-tested procedures. The stated dilutions are recommendations only. End users should determine

optimal dilutions in their system using appropriate negative/positive controls.

Store at: -20 °C

Repeated thawing and freezing must be avoided

**References:** 1. Yamada S, Funada T, Shibata N, Kobayashi M, Kawai Y, Tatsuda E, Furuhata A, Uchida K (2004)

Protein-bound 4-hydroxy-2-hexenal as a marker of oxidized n-3 polyunsaturated fatty acids. J Lipid Res

**45**(4): 626-634.

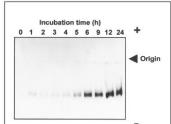


Figure 1: Western Blot analysis of HHE-histidine adduct formation by lipid peroxidation. BSA was incubated with 0.4 mM docosahexaenoic acid in the presence of 10 μM Cu²+ and 2 mM ascorbic acid in 50 mM PBS pH 7.2 at 37°C. The BSA was separated by SDS-PAGE and immunoblotted with AA1010 (1 μg/ml). AA1010 detects HHE-adducts with increasing incubati-

Yamada S et al. (2004) J Lipid Res 45(4): 626-34.



2. Shibata N, Yamada S, Uchida K, Hirano A, Sakoda S, Fujimura H, Sasaki S, Iwata M, Toi S, Kawaguchi M, Yamamoto T, Kobayashi M (2004). Accumulation of protein-bound 4-hydroxy-2-hexenal in spinal cords from patients with sporadic amyotrophic lateral sclerosis. *Brain Res* **1019**(1-2): 170-177.

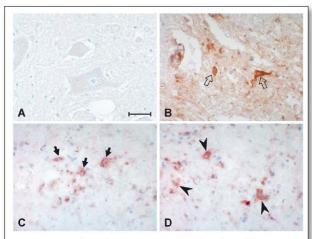


Figure 2: Immunhistochemistry image of HHE-histidine adduct staining in paraffin sections of spinal cords of amyotrophic lateral sclerosis (ALS) patients. Endogenous peroxidase activity was quenched by incubating the section for 10 min with 3% hydrogen peroxide. The section was incubated with AA1010 and detected using avidin-biotin-immunoperoxidase complex method and the Vectastain ABC kit (Vector Laboratories). A. Spinal cord from a control patient remained unstained. In ALS patients, HHE-reactivity was found in B. cytoplasm of lower motor neurons (open arrows), C. reactive astrocytes (closed arrows), and D. microglial cells (arrowheads). Scale bar = 50 μm.

Shibata N et al. (2004) Brain Res 1019(1-2):170-7.

**Last updated on:** 28 April 2022

## For research use only

Publishing research using AA1010? Please let us know so that we can cite your publication as a reference.