



GOAT ANTI-4-HYDROXYNONENAL POLYCLONAL ANTIBODY

CATALOG NUMBER: AB5605

LOT NUMBER:

QUANTITY: 200 μ L

SPECIFICITY: Specific for 4-Hydroxynonenal (4-HNE).

BACKGROUND: The peroxidation of membrane lipids by free radicals is a well-controlled, ongoing process that occurs during normal cell turnover and the normal aging process. There is also the uncontrolled process of free radical production and increased lipid peroxidation that is associated with hepatic injury as a consequence of exposure to halogenated hydrocarbons, excessive alcohol abuse, and acute or chronic iron overload. Excess free radical production and lipid peroxidation is thought to be an etiological factor in such diseases as atherosclerosis, diabetes, genetic hemochromatosis, cancer and neurodegenerative diseases, such as Alzheimer's and Parkinson's disease.

4-Hydroxynonenal (HNE) is a highly reactive, cytotoxic aldehyde that is released during the oxidation of w-6-unsaturated fatty acids. HNE can efficiently react with sulfhydryl groups or histidine and lysine groups of proteins to form stable HNE-protein adducts, in addition to phospholipids and nucleic acids. It is through this HNE-modification of biomolecules that HNE is thought to exert its cytotoxic effects. This multifunctional molecule may be considered as a "second toxic messenger," which disseminates and augments initial free radical events. It is believed to be largely responsible for the cytopathological effects observed during oxidative stress. High levels of 4-HNE have been detected in a large number of disease states, indicating some involvement of this aldehyde in their pathogenesis. Some of the prominent pathobiochemical effects of 4-HNE are its stimulation of fibrogenesis and inflammation. This indicates a potential contribution to the pathogenesis of several chronic diseases, the progression of which is supported by inflammatory reactions and characterized by fibrosis. 4-HNE may also play a role in carcinogenesis due to its ability to modulate cell proliferation through interference with the activity of cyclins and protein kinases and inhibiting the apoptotic response.

IMMUNOGEN: 4-HNE.

APPLICATIONS: Western blot: $\geq$ 1:3,000 on human Alzheimer's Disease brain lysate.
ELISA: $\geq$ 1:10,000
Optimal working dilutions must be determined by the end user.

FORMAT: Goat serum.

PRESENTATION: Liquid containing 0.01% thimerosal.

STORAGE/HANDLING: Maintain at -20°C in undiluted for up to 6 months after date of receipt. Avoid repeated freeze/thaw cycles. Do not store in a self-defrosting freezer.

Important Note: *During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 μ L or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.*

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PROCEDURES. NOT FOR HUMAN OR ANIMAL CONSUMPTION

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