

GOAT ANTI-NEUROKETALS POLYCLONAL ANTIBODY

CATALOG NUMBER: AB5611

LOT NUMBER:

QUANTITY: 200 μ L

BACKGROUND: Neuroketals and neuroprostanes are a class of compounds that result from the oxidation of docosahexenoic acid (DHA), which is enriched in the brain and retina, especially the synaptic membranes and retina. DHA is a membrane polyunsaturated fatty acid that is especially vulnerable to free radical attack because hydrogen radicals easily remove its double bonds. The DHA is oxidized to isoprostane-like compounds called neuroprostanes, which can dehydrate to form highly reactive A4/J4 neuroprostanes. Neuroprostanes can also undergo rearrangement to form D- and E-ring neuroprostanes. These reactive neuroprostanes are called neuroketals because DHA is so concentrated in the nervous system.

The fact that DHA is prone to free radical attack and free radicals has been implicated in a number of neurodegenerative diseases (Alzheimer's, Parkinson's, Huntington's, amyotrophic lateral sclerosis and AIDS dementia) may make neuroketals a unique and prominent marker of oxidative injury in the brain. The brain may especially susceptible to oxidative injury due to its high content of polyunsaturated fatty acids, its high oxygen consumption rate and its relative lack of antioxidant defenses. NK protein adducts have been shown to occur in normal human brain, suggesting ongoing oxidative stress in the brain. Adduction of critical proteins by NK may be highly injurious to neurons and may be very important in the pathogenesis of neurodegenerative diseases associated with increased oxidative stress. Since neuroprostanes are increased in the brains and CSF of Alzheimer's disease patients, reactive NK formed through the neuroprostane pathway may play a major role in oxidative brain injury.

SPECIFICITY: Neuroketal-adducted proteins. The antibody has been shown to react with neuroketal/neuroprostane-modified protein by ELISA. By Western blot the antibody reacts with several major and many minor bands in human brain protein modifications.

IMMUNOGEN: Neuroketal-conjugate.

APPLICATIONS: Western blot: $\geq 1:2,000$
Immunohistochemistry: $\geq 1:200$ on paraffin embedded tissue sections.
ELISA: $\geq 1:4,000$
Optimal working dilutions must be determined by the end user.

SPECIES REACTIVITY: Human. Because neuroketals and neuroprostanes are not species specific the antibody is expected to detect these compounds in a number of different species. Other species have not been tested.

FORMAT: Goat serum.

PRESENTATION: Liquid containing 0.01% thimerosal.

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

For research use only; not for use as a diagnostic.

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.*