SANTA CRUZ BIOTECHNOLOGY, INC.

AChE (AE-2): sc-32283

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Acetylcholinesterase (AChE) hydrolyzes acetylcholine at synaptic junctions. Alternative mRNA splicing gives rise to three forms of AChE. The T form, also known as the asymmetric form, is soluble and is present in synapses. The H form is also known as the globular form and is present on the outer surfaces of cell membranes. The R form is not known to be a functional species. AChE globular form subunits are GPI-anchored to cell membranes and asymmetric subunits are anchored to basal lamina components by a collagen tail. The catalytic sununits of AChE are oligomers composed of disulfide-linked homodimers. The loss of AChE from cholinergic and noncholinergic neurons in the brain is seen in patients with Alzheimer's disease. However, AChE activity is increased around amyloid plaques, which may be due to a disturbance in calcium homeostasis involving the opening of L-type voltage-dependent calcium channels.

REFERENCES

1. Roberts, W.L., et al. 1991. Bovine brain acetylcholinesterase primary sequence involved in intersubunit disulfide linkages. J. Biol. Chem. 266: 7481-7487.
2. Duval, N., et al. 1992. H and T subunits of acetylcholinesterase from Torpedo, expressed in COS cells, generate all types of globular forms. J. Cell Biol. 118: 641-653.
3. Legay, C., et al. 1993. Cloning and expression of a rat acetylcholinesterase subunit: generation of multiple molecular forms and complementarity with a Torpedo collagenic subunit. J. Neurochem. 60: 337-346.
4. Legay, C., et al. 1993. Expression of a cDNA encoding the glycolipid-anchored form of rat acetylcholinesterase. FEBS Lett. 315: 163-166.
5. Michel, R.N., et al. 1994. Neural regulation of acetylcholinesterase mRNAs at mammalian neuromuscular synapses. J. Cell Biol. 127: 1061-1069.
6. Sberna, G., et al. 1997. The amyloid beta-protein of Alzheimer's disease increases acetylcholinesterase expression by increasing intracellular calcium in embryonal carcinoma P19 cells. J. Neurochem. 69: 1177-1184.

SOURCE

AChE (AE-2) is a mouse monoclonal antibody raised against human erythrocyte acetylcholinesterase.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

AChE (AE-2) is recommended for detection of AChE of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for AChE siRNA (h): sc-29628.

Molecular Weight of AChE: ~70 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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