SANTA CRUZ BIOTECHNOLOGY, INC.

AChE (C-16): sc-6430

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 non-cholinergic 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.

CHROMOSOMAL LOCATION

Genetic locus: ACHE (human) mapping to 7q22.1; Ache (mouse) mapping to 5 G2.

SOURCE

AChE (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of AChE of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6430 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

AChE (C-16) is recommended for detection of AChE of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AChE (C-16) is also recommended for detection of AChE in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for AChE siRNA (h): sc-29628, AChE siRNA (m): sc-29629, AChE shRNA Plasmid (h): sc-29628-SH, AChE shRNA Plasmid (m): sc-29629-SH, AChE shRNA (h) Lentiviral Particles: sc-29628-V and AChE shRNA (m) Lentiviral Particles: sc-29629-V.

Molecular Weight (predicted) of AChE: 68 kDa.

Molecular Weight (average of observed) of AChE: 71 kDa.

Positive Controls: SW-13 cell lysate: sc-24778, PC-12 cell lysate: sc-2250 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Tayebati, S.K., et al. 2002. Immunochemical and immunocytochemical characterization of cholinergic markers in human peripheral blood lymphocytes. J. Neuroimmunol. 132: 147-155.
2. George, K.M., et al. 2002. Examination of cross-antigenicity of acetylcholinesterase and butyrylcholinesterase using anti-acetylcholinesterase antibodies. Toxicol. Lett. 126: 99-105.
3. Dori, A., et al. 2005. Functional manipulations of acetylcholinesterase splice variants highlight alternative splicing contributions to murine neocortical development. Cereb. Cortex 15: 419-430.
4. Martínez-Moreno, P., et al. 2006. Cholinesterase activity of human lung tumours varies according to their histological classification. Carcinogenesis 27: 429-436.
5. Tayebati, S.K., et al. 2008. Vesicular acetylcholine transporter (VAChT) in the brain of spontaneously hypertensive rats (SHR): effect of treatment with an acetylcholinesterase inhibitor. Clin. Exp. Hypertens. 30: 732-743.
6. Silva, E.J., et al. 2010. Glucocorticoid receptor in the rat epididymis: expression, cellular distribution and regulation by steroid hormones. Mol. Cell. Endocrinol. 325: 64-77.

RESEARCH USE

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

PROTOCOLS

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