

AChE (N-19): sc-6431

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 subunits 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.

CHROMOSOMAL LOCATION

Genetic locus: AChE (human) mapping to 7q22.1.

SOURCE

AChE (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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-6431 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AChE (N-19) is recommended for detection of AChE of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 (N-19) is also recommended for detection of AChE in additional species, including porcine.

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

Molecular Weight (predicted) of AChE: 68 kDa.

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

Positive Controls: Ramos cell lysate: sc-2216, PC-12 cell lysate: sc-2250 or HeLa whole cell lysate: sc-2200.

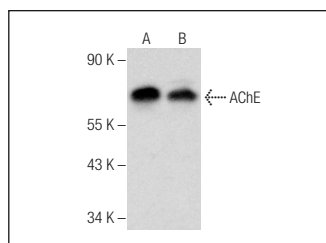
STORAGE

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

DATA



AChE (N-19): sc-6431. Western blot analysis of AChE expression in Ramos (A) and PC-12 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Darreh-Shori, T., et al. 2002. Sustained cholinesterase inhibition in AD patients receiving rivastigmine for 12 months. *Neurology* 59: 563-572.
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4. Mor, I., et al. 2008. Acetylcholinesterase-R increases germ cell apoptosis but enhances sperm motility. *J. Cell. Mol. Med.* 12: 479-495.
5. Martínez-López de Castro, A., et al. 2008. Cancer-associated differences in acetylcholinesterase activity in bronchial aspirates from patients with lung cancer. *Clin. Sci.* 115: 245-253.
6. Dobbertin, A., et al. 2009. Targeting of acetylcholinesterase in neurons *in vivo*: a dual processing function for the proline-rich membrane anchor subunit and the attachment domain on the catalytic subunit. *J. Neurosci.* 29: 4519-4530.
7. Zapata, J.M., et al. 2009. Lymphocyte-specific TRAF3 transgenic mice have enhanced humoral responses and develop plasmacytosis, autoimmunity, inflammation, and cancer. *Blood* 113: 4595-4603.
8. García-Ayllón, M.S., et al. 2010. Altered levels of acetylcholinesterase in Alzheimer plasma. *PLoS ONE* 5: e8701.
9. Lu, L., et al. 2013. Synaptic acetylcholinesterase targeted by microRNA-212 functions as a tumor suppressor in non-small cell lung cancer. *Int. J. Biochem. Cell Biol.* 45: 2530-2540.

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Try **AChE (A-11): sc-373901**, our highly recommended monoclonal alternative to AChE (N-19).