SANTA CRUZ BIOTECHNOLOGY, INC.

choactase (D-16): sc-19056

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Choline acetyltransferase (also designated choactase, choline O-acetyltransferase) synthesizes acetylcholine in cholinergic neurons. Multiple choactase mRNAs with different 5'-noncoding regions are expressed as R-, N1, N2-, S- and M-types. N1-, N2- and R-type mRNAs produce a single short enzyme, while M-type mRNA produces both long and short enzymes. The long enzyme is targeted to the nuclei of cells, whereas the short protein is found in cytoplasm. A novel NFκB binding site is located within the nerve growth factor-responsive enhancer element that is recognized by the NFκB protein p49, but not p65 or p50. Decreased choactase expression and increased NFκB activity are associated with aging and Alzheimer's disease, indicating that p49 is a negative regulator of choactase expression and suggesting a possible mechanism for aging-associated declines in cholinergic function. Phosphorylation of choactase has been shown to enhance choactase catalytic activity. Specifically, Serine 440 is found to be the phosphorylation site in a recombinant human short choactase by protein kinase C and is involved in regulation of the enzyme catalytic activity and binding to subcellular membranes.

CHROMOSOMAL LOCATION

Genetic locus: CHAT (human) mapping to 10q11.23; Chat (mouse) mapping to 14 B.

SOURCE

choactase (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of choactase 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-19056 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

choactase (D-16) is recommended for detection of choline acetyltransferase (choactase) isoforms M, R, S, N1 and N2 of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). choactase (D-16) is also recommended for detection of choline acetyltransferase (choactase) isoforms M, R, S, N1 and N2 in additional species, including canine and bovine.

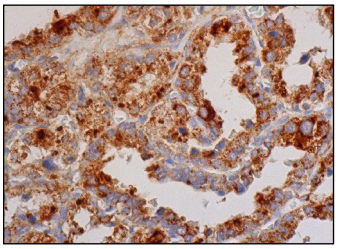
Suitable for use as control antibody for choactase siRNA (h): sc-41919, choactase siRNA (m): sc-41920, choactase shRNA Plasmid (h): sc-41919-SH, choactase shRNA Plasmid (m): sc-41920-SH, choactase shRNA (h) Lentiviral Particles: sc-41919-V and choactase shRNA (m) Lentiviral Particles: sc-41920-V.

Molecular Weight of choactase: 69/82 kDa.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



choactase (D-16): sc-19056. Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Okwueze, M.I., et al. 2007. Unexpected motor axons in the distal superficial radial and posterior interosseous nerves: a cadaver study. Clin. Anat. 20: 790-794.
2. Zhao, X., et al. 2013. The effects of bilateral common carotid artery occlusion on expression of peripherin and choline acetyltransferase activity in C57BL/6 mice. Brain Res. 1491: 167-175.
3. Fu, R., et al. 2014. Lithium enhances survival and regrowth of spinal motoneurons after ventral root avulsion. BMC Neurosci. 15: 84.

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.