**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 R-type mRNAs. 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.

**SOURCE**

choactase (E-7) is a mouse monoclonal antibody raised against amino acids 561-655 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.

**APPLICATIONS**

choactase (E-7) is recommended for detection of all isoforms of choactase of human origin by Western Blotting (starting dilution 1:100, 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).

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

Molecular Weight of choactase: 69/82 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, Jurkat whole cell lysate: sc-2204 or SK-N-SH cell lysate: sc-2410.

**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**

**SELECT PRODUCT CITATIONS**


**PROTOCOLS**

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