SANTA CRUZ BIOTECHNOLOGY, INC.

AChRε (M-20): sc-1455

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the ligand-gated ion channel receptor family are characterized by their fast transmitting response to neurotransmitters. Two important members of this family are the nicotinic acetylcholine and glutamate receptors, both of which are composed of five homologous subunits forming a transmembrane aqueous pore. These transmembrane receptors change conformation in response to their cognate neurotransmitter. Nicotinic acetylcholine receptors (AChRs) are found at the postsynaptic membrane of the neuromuscular junction and bind acetylcholine molecules, allowing ions to move through the pore. Glutamate receptors are found in the postsynaptic membrane of cells in the central nervous system. The activity that is generated at the synapse by the binding of acetylcholine is terminated by acetylcholinesterase, an enzyme that rapidly hydrolyzes acetylcholine. AChRε, also known as CMS1D, CMS1E, CMS2A, FCCMS, SCCMS or CHRNE, is a 493 amino acid multi-pass membrane protein associated with congenital myasthenic syndrome slow-channel type (SCCMS), congenital myasthenic syndrome fast-channel type (FCCMS) and congenital myasthenic syndrome with acetylcholine receptor deficiency.

REFERENCES

1. Alkondon, M., et al. 1988. Acetylcholinesterase reactivators modify the functional properties of the nicotinic acetylcholine receptor ion channel. J. Pharma. Exp. Thera. 245: 543-556.
2. Betz, H. 1990. Ligand-gated ion channels in the brain: the amino acid receptor superfamily. Neuron 5: 383-392.
3. Baenziger, J.E., et al. 1992. Probing conformational changes in the nicotinic acetylcholine receptor by Fourier transform infrared difference spectroscopy. Biophys. J. 62: 64-66.

CHROMOSOMAL LOCATION

Genetic locus: CHRNE (human) mapping to 17p13.2; Chrne (mouse) mapping to 11 B3.

SOURCE

AChRε (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of AChRε of mouse 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-1455 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.

RESEARCH USE

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

APPLICATIONS

AChRε (M-20) is recommended for detection of AChRε 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for AChRε siRNA (h): sc-42542, AChRε siRNA (m): sc-42543, AChRε shRNA Plasmid (h): sc-42542-SH, AChRε shRNA Plasmid (m): sc-42543-SH, AChRε shRNA (h) Lentiviral Particles: sc-42542-V and AChRε shRNA (m) Lentiviral Particles: sc-42543-V.

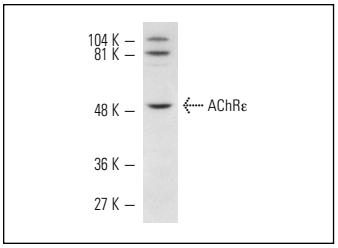
Molecular Weight of AChRε glycosylated from: 44-60 kDa.

Positive Controls: mouse brain extract: sc-2253 or SH-SY-5Y whole cell lysate.

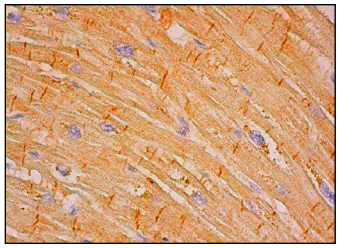
RECOMMENDED SECONDARY REAGENTS

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



AChRε (M-20): sc-1455. Western blot analysis of AChRε expression in SH-SY-5Y whole cell lysate.



AChRε (M-20): sc-1455. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing intercalated disc and cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Slentz, D.H., et al. 2001. Effects of chronic exposure to simulated microgravity on skeletal muscle cell proliferation and differentiation. *In Vitro* Cell. Dev. Biol. Anim. 37: 148-156.