SANTA CRUZ BIOTECHNOLOGY, INC.

AChRα9 (E-17): sc-13806

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. AChRα9 is the only AChR found in cochlear hair cells. In adult rat cochlear outer hair cells (OHCs), AChRα9 is expressed primarily in basal regions, where it is a component of the cholinergic receptor, while in inner hair cells (IHCs), it is expressed primarily in apical regions. The α9 subunit mediates efferent synaptic transmission between cholinergic olivocochlear fibers and OHCs. One of the main functions of the AChRα9 channel is to provide a pathway for calcium ion influx. AChRα9 may also influence the arrival of efferent axons.

CHROMOSOMAL LOCATION

Genetic locus: CHRNA9 (human) mapping to 4p14; Chrna9 (mouse) mapping to 5 C3.1.

SOURCE

AChRα9 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of AChRα9 of rat 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-13806 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AChRα9 (E-17) is recommended for detection of AChRα9 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AChRα9 (E-17) is also recommended for detection of AChRα9 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for AChRα9 siRNA (h): sc-42534, AChRα9 siRNA (m): sc-42535, AChRα9 shRNA Plasmid (h): sc-42534-SH, AChRα9 shRNA Plasmid (m): sc-42535-SH, AChRα9 shRNA (h) Lentiviral Particles: sc-42534-V and AChRα9 shRNA (m) Lentiviral Particles: sc-42535-V.

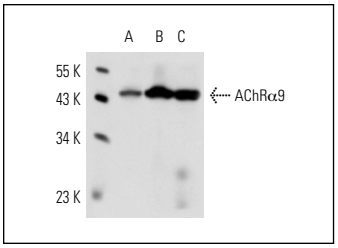
Molecular Weight of AChRα9: 50 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, rat cerebellum extract: sc-2398 or mouse brain extract: sc-2253.

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.

DATA



AChRα9 (E-17): sc-13806. Western blot analysis of AChRα9 expression in C6 whole cell lysate (**A**), rat cerebellum (**B**) and mouse brain (**C**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Colomer, C., et al. 2010. Functional characterization of α9-containing cholinergic nicotinic receptors in the rat adrenal medulla: implication in stress-induced functional plasticity. J. Neurosci. 30: 6732-6742.

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.

PROTOCOLS

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