## SANTA CRUZ BIOTECHNOLOGY, INC.

# AChRα9 (A-15): sc-13804



#### 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. AChR $\alpha$ 9 is the only AChR found in cochlear hair cells. In adult rat cochlear outer hair cells (OHCs), AChR $\alpha$ 9 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  $\alpha$ 9 subunit mediates efferent synaptic transmission between cholinergic olivocochlear fibers and OHCs. One of the main functions of the AChR $\alpha$ 9 channel is to provide a pathway for calcium ion influx. AChR $\alpha$ 9 may also influence the arrival of efferent axons.

### CHROMOSOMAL LOCATION

Genetic locus: CHRNA9 (human) mapping to 4p14.

#### SOURCE

AChR $\alpha$ 9 (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of AChR $\alpha$ 9 of human origin.

#### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13804 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

#### **APPLICATIONS**

AChR $\alpha$ 9 (A-15) is recommended for detection of AChR $\alpha$ 9 of 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).

AChR $\alpha$ 9 (A-15) is also recommended for detection of AChR $\alpha$ 9 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for AChR $\alpha$ 9 siRNA (h): sc-42534, AChR $\alpha$ 9 shRNA Plasmid (h): sc-42534-SH and AChR $\alpha$ 9 shRNA (h) Lentiviral Particles: sc-42534-V.

Molecular Weight of AChR $\alpha$ 9: 50 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136.

#### **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 (A-15): sc-13804. Western blot analysis of AChRα9 expression in HEK293 whole cell lysate.

#### **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.

# MONOS Satisfation Guaranteed

Try **AChR\alpha9 (8E4): sc-293282**, our highly recommended monoclonal aternative to AChR $\alpha$ 9 (A-15).