SANTA CRUZ BIOTECHNOLOGY, INC.

AChRα1 (C-18): sc-1442

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. AChRα1, also known as ACHRD, CHRNA, CMS2A, FCCMS, SCCMS or CHRNA1, is a 482 amino acid multi-pass membrane protein that exists as 2 alternatively spliced isoforms, which are expressed in different tissues. Isoform 1 is only expressed in skeletal muscle whereas isoform 2 is constitutively expressed in skeletal muscle, brain, heart, kidney, liver, lung and thymus.

CHROMOSOMAL LOCATION

Genetic locus: CHRNA1 (human) mapping to 2q31.1; Chrna1 (mouse) mapping to 2 C3.

SOURCE

AChRα1 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of AChRα1 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-1442 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AChRα1 (C-18) is recommended for detection of the acetylcholine receptor α1 subunit 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

AChRα1 (C-18) is also recommended for detection of the acetylcholine receptor α1 subunit in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for AChRα1 siRNA (h): sc-42524, AChRα1 siRNA (m): sc-42525, AChRα1 shRNA Plasmid (h): sc-42524-SH, AChRα1 shRNA Plasmid (m): sc-42525-SH, AChRα1 shRNA (h) Lentiviral Particles: sc-42524-V and AChRα1 shRNA (m) Lentiviral Particles: sc-42525-V.

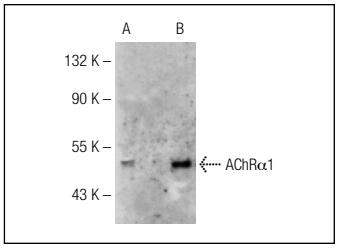
Molecular Weight of AChRα1 isoforms: 52/55 kDa.

Positive Controls: Rat cerebellum extract: sc-2398, BC_3H1 cell lysate:sc-2299 or AChRα1 (h): 293T Lysate: sc-158225.

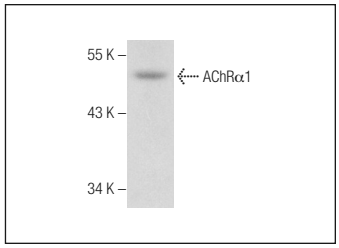
RECOMMENDED SECONDARY REAGENTS

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



AChRα1 (C-18): sc-1442. Western blot analysis of AChRα1 expression in non-transfected: sc-117752 (**A**) and human AChRα1 transfected: sc-158225 (**B**) 293T whole cell lysates.



AChRα1 (C-18): sc-1442. Western blot analysis of AChRα1 expression in rat cerebellum tissue extract.

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.