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Lieferung & Zahlungsart

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Zuschläge

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- Trockeneiszuschlag
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SANTA CRUZ BIOTECHNOLOGY, INC.

AChRα1 (153): sc-65829

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 two 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.

REFERENCES

1. Alkondon, M., et al. 1988. Acetylcholinesterase reactivators modify the functional properties of the nicotinic acetylcholine receptor ion channel. J. Pharmacol. Exp. Ther. 245: 543-556.
2. Betz, H. 1990. Ligand-gated ion channels in the brain: the amino acid receptor superfamily. Neuron 5: 383-392.

CHROMOSOMAL LOCATION

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

SOURCE

AChRα1 (153) is a rat monoclonal antibody raised against denatured, purified AChR of *Torpedo* origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AChRα1 (153) is available conjugated to agarose (sc-65829 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-65829 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-65829 PE), fluorescein (sc-65829 FITC), Alexa Fluor® 488 (sc-65829 AF488), Alexa Fluor® 546 (sc-65829 AF546), Alexa Fluor® 594 (sc-65829 AF594) or Alexa Fluor® 647 (sc-65829 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-65829 AF680) or Alexa Fluor® 790 (sc-65829 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

AChRα1 (153) is recommended for detection of nicotinic AChRα1 of mouse, rat, human, bovine and *Torpedo* 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

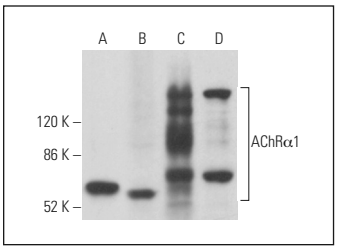
Suitable for use as control antibody for AChRα1 siRNA (h): sc-42524, AChRα1 siRNA (m): sc-42525, AChRα1 shRNA Plasmid (h): sc-42524-SH, AChRα1 shRNA Plasmid (m): sc-42525-SH, AChRα1 shRNA (h) Lentiviral Particles: sc-42524-V and AChRα1 shRNA (m) Lentiviral Particles: sc-42525-V.

Molecular Weight of AChRα1 isoform 1: 52 kDa.

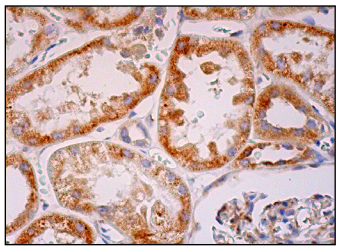
Molecular Weight of AChRα1 isoform 2: 55 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, RD whole cell lysate: sc-364791 or human skeletal muscle extract: sc-363776.

DATA



AChRα1 (153): sc-65829. Western blot analysis of AChRα1 expression in Sol8 (**A**) and RD (**B**) whole cell lysates and human skeletal muscle (**C**) and human fetal muscle (**D**) tissue extracts.



AChRα1 (153): sc-65829. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Paulo, J.A., et al. 2015. Global analysis of protein expression and phosphorylation levels in nicotine-treated pancreatic stellate cells. J. Proteome Res. 14: 4246-4256.
2. Condorelli, R.A., et al. 2017. Nicotine effects and receptor expression on human spermatozoa: possible neuroendocrine mechanism. Front. Physiol. 8: 177.
3. Zhao, K., et al. 2018. Sarcoglycan α mitigates neuromuscular junction decline in aged mice by stabilizing LRP4. J. Neurosci. 38: 8860-8873.
4. Xu, S., et al. 2019. The interaction between Stat3 and nAChRα1 interferes with nicotine-induced atherosclerosis via Akt/mTOR signaling cascade. Aging 11: 8120-8138.
5. Becerra-Amezcua, M.P., et al. 2020. Effect of *Pterois volitans* (lionfish) venom on cholinergic and dopaminergic systems. Environ. Toxicol. Pharmacol. 77: 103359.

RESEARCH USE

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