SANTA CRUZ BIOTECHNOLOGY, INC.

# AChRα3 (C-6): sc-365479

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. AChRα3, also known as LNCR2, PAOD2, NACHRA3 or CHRNA3, is a 505 amino acid multi-pass membrane protein that belongs to the ligand-gated ion channel receptor family and may play a role in neurotransmission.

## CHROMOSOMAL LOCATION

Genetic locus: CHRNA3 (human) mapping to 15q25.1.

## SOURCE

AChRα3 (C-6) is a mouse monoclonal antibody raised against amino acids 346-445 mapping near the C-terminus of AChRα3 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AChRα3 (C-6) is available conjugated to agarose (sc-365479 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365479 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365479 PE), fluorescein (sc-365479 FITC), Alexa Fluor® 488 (sc-365479 AF488), Alexa Fluor® 546 (sc-365479 AF546), Alexa Fluor® 594 (sc-365479 AF594) or Alexa Fluor® 647 (sc-365479 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365479 AF680) or Alexa Fluor® 790 (sc-365479 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## APPLICATIONS

AChRα3 (C-6) is recommended for detection of AChRα3 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for AChRα3 siRNA (h): sc-37055, AChRα3 shRNA Plasmid (h): sc-37055-SH and AChRα3 shRNA (h) Lentiviral Particles: sc-37055-V.

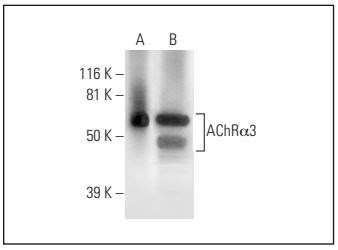
Molecular Weight of AChRα3: 55 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or SH-SY5Y cell lysate: sc-3812.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA




AChRα3 (C-6): sc-365479. Western blot analysis of AChRα3 expression in IMR-32 (**A**) and SH-SY5Y (**B**) whole cell lysates.

## 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. Park, S.K., et al. 2021. *Ecklonia cava* attenuates $PM_{2.5}$-induced cognitive decline through mitochondrial activation and anti-inflammatory effect. Mar. Drugs 19: 131.
4. Kim, J.M., et al. 2021. Powdered green tea *(Matcha)* attenuates the cognitive dysfunction via the regulation of systemic inflammation in chronic $PM_{2.5}$-exposed BALB/c mice. Antioxidants 10: 1932.

## 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 for detailed protocols and support products.