

RIC-3 (G-8): sc-377408

BACKGROUND

RIC-3 (resistant to inhibitors of cholinesterase-3) is the mammalian homolog of the RIC-3 protein from *C. elegans*. It contains two transmembrane domains and a coiled coil domain. RIC-3 is expressed in neurons and localizes to the endoplasmic reticulum where it plays a role in receptor folding and subunit assembly. In particular, RIC-3 is a nicotinic acetylcholine receptor (nAChR)-associated protein and it significantly enhances the subunit assembly, proper folding, stability and surface expression of several heteromeric and homomeric nAChR subtypes as well as some 5-HT₃ receptors. This suggests that RIC-3 may be an important regulator of receptor expression. Several isoforms exist for RIC-3 and they exhibit overlapping but distinct localizations. In addition, these isoforms may have various affects on receptor expression.

REFERENCES

- Halevi, S., et al. 2003. Conservation within the RIC-3 gene family. Effectors of mammalian nicotinic acetylcholine receptor expression. *J. Biol. Chem.* 278: 34411-34417.
- Williams, M.E., et al. 2005. RIC-3 promotes functional expression of the nicotinic acetylcholine receptor $\alpha 7$ subunit in mammalian cells. *J. Biol. Chem.* 280: 1257-1263.
- Cheng, A., et al. 2005. Cell surface expression of 5-hydroxytryptamine type 3 receptors is promoted by RIC-3. *J. Biol. Chem.* 280: 22502-22507.
- Castillo, M., et al. 2005. Dual role of the RIC-3 protein in trafficking of serotonin and nicotinic acetylcholine receptors. *J. Biol. Chem.* 280: 27062-27068.

CHROMOSOMAL LOCATION

Genetic locus: RIC3 (human) mapping to 11p15.4.

SOURCE

RIC-3 (G-8) is a mouse monoclonal antibody raised against amino acids 88-369 mapping at the C-terminus of RIC-3 of human origin.

PRODUCT

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

RIC-3 (G-8) is available conjugated to agarose (sc-377408 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377408 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377408 PE), fluorescein (sc-377408 FITC), Alexa Fluor[®] 488 (sc-377408 AF488), Alexa Fluor[®] 546 (sc-377408 AF546), Alexa Fluor[®] 594 (sc-377408 AF594) or Alexa Fluor[®] 647 (sc-377408 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377408 AF680) or Alexa Fluor[®] 790 (sc-377408 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

RIC-3 (G-8) is recommended for detection of RIC-3 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 RIC-3 siRNA (h): sc-72301, RIC-3 shRNA Plasmid (h): sc-72301-SH and RIC-3 shRNA (h) Lentiviral Particles: sc-72301-V.

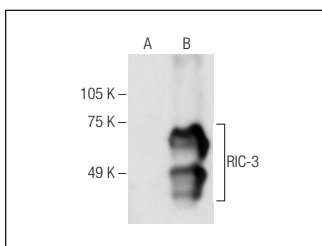
Molecular Weight of RIC-3: 55 kDa.

Positive Controls: human RIC-3 transfected HEK293T whole cell lysate.

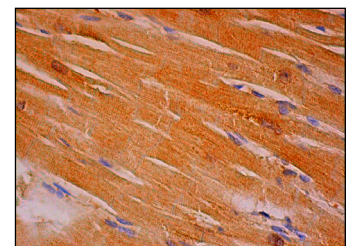
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



RIC-3 (G-8): sc-377408. Western blot analysis of RIC-3 expression in non-transfected (A) and human RIC-3 transfected (B) HEK293T whole cell lysates.



RIC-3 (G-8): sc-377408. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

- Deshpande, A., et al. 2020. Why does knocking out NACHO, but not RIC3, completely block expression of $\alpha 7$ nicotinic receptors in mouse brain? *Biomolecules* 10: 470.
- Tillman, T.S., et al. 2023. SARS-CoV-2 spike protein downregulates cell surface $\alpha 7$ nAChR through a helical motif in the spike neck. *ACS Chem. Neurosci.* 14: 689-698.

RESEARCH USE

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