

rapsyn (K-16): sc-13682

BACKGROUND

The RAPSIN gene locus is located on chromosome 11p11.2 and encodes a peripheral membrane protein. Rapsyn (receptor-associated protein of the synapse) is expressed in the postsynaptic membrane of skeletal muscle. Rapsyn is required for the clustering of nicotinic acetylcholine receptors (nAChR). Rapsyn self-associates through at least two of its seven tetra-tri-copeptide repeats (TPRs). Rapsyn interacts with the large intracellular domain of the nAChR alpha subunit through the hydrophobic surface of the coiled-coil domain. Rapsyn modifies trafficking of AChR within the cell. Expression is essential for agrin-induced AChR clustering. Overexpression inhibits agrin-induced AChR clustering pathway. Absence of rapsyn causes deficit in the formation of postsynaptic specializations at neuromuscular synapse, which increases axonal branching and motoneuron survival. Rapsyn plays a role in selective targeting of newly synthesized intracellular AChR to postsynaptic membrane.

REFERENCES

1. Buckel, A., Beeson, D., James, M. and Vincent, A. 1996. Cloning of cDNA encoding human rapsyn and mapping of the RAPSIN gene locus to chromosome 11p11.2-11.1. *Genomics* 35: 613-616.
2. Maimone, M.M. and Enigk, R.E. 1999. The intracellular domain of the nicotinic acetylcholine receptor a subunit mediates its coclustering with rapsyn. *Mol. Cell. Neurosci.* 14: 340-354.
3. Han, H., Noakes, P.G. and Phillips, W.D. 1999. Over-expression of rapsyn inhibits agrin induced acetylcholine receptor clustering in muscle cells. *J. Neurocytol.* 28: 763-775.
4. Ramarao, M.K., Bianchetta, M.J., Lanken, J. and Cohen, J.B. 2000. Role of rapsyn tetratricopeptide repeat and coiled-coil domains in self-association and nicotinic acetylcholine receptor clustering. *J. Biol.* 276: 7475-7483.
5. Han, H., Yang, S.H. and Phillips, W.D. 2000. Overexpression of rapsyn modifies the intracellular trafficking of acetylcholine receptors. *J. Neurosci. Res.* 60: 155-163.

CHROMOSOMAL LOCATION

Genetic locus: RAPSIN (human) mapping to 11p11.2; Rapsn (mouse) mapping to 2 E1.

SOURCE

rapsyn (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of rapsyn 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-13682 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

rapsyn (K-16) is recommended for detection of rapsyn of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

rapsyn (K-16) is also recommended for detection of rapsyn in additional species, including canine, bovine and porcine.

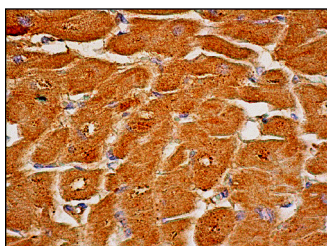
Suitable for use as control antibody for rapsyn siRNA (h): sc-42206, rapsyn siRNA (m): sc-42207, rapsyn shRNA Plasmid (h): sc-42206-SH, rapsyn shRNA Plasmid (m): sc-42207-SH, rapsyn shRNA (h) Lentiviral Particles: sc-42206-V and rapsyn shRNA (m) Lentiviral Particles: sc-42207-V.

Molecular Weight of rapsyn: 43 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



rapsyn (K-16): sc-13682. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

STORAGE

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


 MONOS
Satisfaction
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Try **rapsyn (1234): sc-58585**, our highly recommended monoclonal alternative to rapsyn (K-16).