SANTA CRUZ BIOTECHNOLOGY, INC.

Contactin 1 (41): sc-136133

BACKGROUND

Changes in synaptic efficacy can mediate crucial processes during learning and memory formation. Accumulating evidence implicates cell adhesion molecules in activity-dependent synaptic modifications associated with paired-pulse facilitation (PPF), long-term potentiation (LTP) and long-term depression (LTD). Among the cell adhesion molecules involved in these processes are the contactins. Contactins are immunoglobulin superfamily members that play a selective role in synaptic plasticity, PPF and LTD, and may regulate cell-cell interactions contributing to synaptic plasticity in conjunction with other synapse targeting molecules, including paranodin and phosphacan. In addition, contactins are essential components that control expression and distribution of Na^+ channels in neurons, junctional attachment at the paranode, and ultimately the physiology of the myelinated nerve. The human Contactin 1 gene encodes a 1,018 amino acid protein. The human Contactin 3 gene encodes a 646 amino acid plasmacytoma-associated neuronal glycoprotein. The human Contactin 5 gene encodes a 1,100 amino acid neural adhesion molecule. The human Contactin 6 gene encodes a 1,028 amino acid neural adhesion molecule.

REFERENCES

1. Ranscht, B. 1988. Sequence of contactin, a 130-kD glycoprotein concentrated in areas of interneuronal contact, defines a new member of the immunoglobulin supergene family in the nervous system. J. Cell Biol. 107: 1561-1573.
2. Fields, R.D. and Itoh, K. 1996. Neural cell adhesion molecules in activity-dependent development and synaptic plasticity. Trends Neurosci. 19: 473-480.
3. Kazarinova-Noyes, K., et al. 2001. Contactin associates with Na^+ channels and increases their functional expression. J. Neurosci. 21: 7517-7525.
4. Boyle, M.E., et al. 2001. Contactin orchestrates assembly of the septate-like junctions at the paranode in myelinated peripheral nerve. Neuron 30: 385-397.
5. Murai, K.K., et al. 2002. Contactin supports synaptic plasticity associated with hippocampal long-term depression but not potentiation. Curr. Biol. 12: 181-190.
6. LocusLink Report (LocusID: 1272). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: CNTN1 (human) mapping to 12q12; Cntn1 (mouse) mapping to 15 E3.

SOURCE

Contactin 1 (41) is a mouse monoclonal antibody raised against amino acids 77-238 of Contactin 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

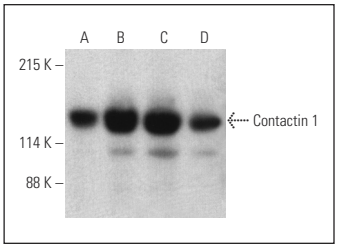
Contactin 1 (41) is recommended for detection of Contactin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Contactin 1 siRNA (h): sc-43695, Contactin 1 siRNA (m): sc-43086, Contactin 1 shRNA Plasmid (h): sc-43695-SH, Contactin 1 shRNA Plasmid (m): sc-43086-SH, Contactin 1 shRNA (h) Lentiviral Particles: sc-43695-V and Contactin 1 shRNA (m) Lentiviral Particles: sc-43086-V.

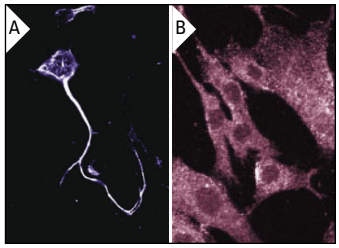
Molecular Weight of Contactin 1: 135 kDa.

Positive Controls: Y79 cell lysate: sc-2240, SK-N-SH cell lysate: sc-2410 or A549 cell lysate: sc-2413.

DATA



Contactin 1 (41): sc-136133. Western blot analysis of Contactin 1 expression in A549 (**A**), Y79 (**B**), SH-SY5Y (**C**) and SK-N-SH (**D**) whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



Contactin 1 (41): sc-136133. Immunofluorescence staining of rat neurons cells showing dendrite localization (**A**). Immunofluorescence staining of human fibroblast cells showing cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Hu, C.S., et al. 2021. Lentivirus-mediated silencing of CNTN1 enhances gefitinib sensitivity by reversing epithelial-mesenchymal transition in lung adenocarcinoma A549 cells. Oncol. Lett. 21: 433.

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. Not for resale.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.