SANTA CRUZ BIOTECHNOLOGY, INC.

Contactin 5 (P-20): sc-20303

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 maps to chromosome 12q11-q12 and encodes a 1,018 amino acid protein. The human Contactin 3 gene maps to chromosome 3p26 and encodes a 646 amino acid plasmacytoma-associated neuronal glycoprotein. The human Contactin 5 gene maps to chromosome 11q21-q22.2 and encodes a 1,100 amino acid neural adhesion molecule. The human Contactin 6 gene maps to chromosome 3p26-p25 and 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., Malhotra, J.D., McEwen, D.P., Mattei, L.N., Berglund, E.O., Ranscht, B., Levinson, S.R., Schachner, M., Shrager, P., Isom, L.L. and Xiao, Z.C. 2001. Contactin associates with Na^+ channels and increases their functional expression. J. Neurosci. 21: 7517-7525.
4. Boyle, M.E., Berglund, E.O., Murai, K.K., Weber, L., Peles, E. and Ranscht, B. 2001. Contactin orchestrates assembly of the septate-like junctions at the paranode in myelinated peripheral nerve. Neuron 30: 385-397.
5. Murai, K.K., Misner, D. and Ranscht, B. 2002. Contactin supports synaptic plasticity associated with hippocampal long-term depression but not potentiation. Curr. Biol. 12: 181-190.

CHROMOSOMAL LOCATION

Genetic locus: CNTN5 (human) mapping to 11q21-q22.2; Cntn5 (mouse) mapping to 9 A1.

SOURCE

Contactin 5 (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Contactin 5 of human origin.

RESEARCH USE

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

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-20303 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Contactin 5 (P-20) is recommended for detection of Contactin 5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Contactin 5 siRNA (h): sc-43091 and Contactin 5 siRNA (m): sc-43092.

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.

STORAGE

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

PROTOCOLS

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