

# Contactin 1 (S-20): sc-20297

## 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<sup>+</sup> 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<sup>+</sup> 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Contactin 1 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Contactin 1 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-20297 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Contactin 1 (S-20) 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)], 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).

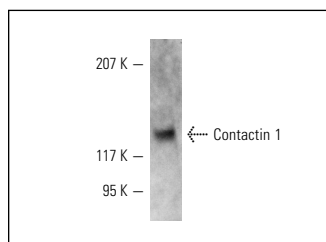
Contactin 1 (S-20) is also recommended for detection of Contactin 1 in additional species, including equine, canine, bovine and porcine.

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: mouse brain extract: sc-2253.

## DATA



Contactin 1 (S-20): sc-20297. Western blot analysis of Contactin 1 expression in mouse brain extract.

## SELECT PRODUCT CITATIONS

1. Hnasko, R., et al. 2009. Inoculation of scrapie with the self-assembling RADA-peptide disrupts prion accumulation and extends hamster survival. *PLoS ONE* 4: e4440.
2. Laursen, L.S., et al. 2009. An integrin-contactin complex regulates CNS myelination by differential Fyn phosphorylation. *J. Neurosci.* 29: 9174-9185.

## RESEARCH USE

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



Try **Contactin 1 (41): sc-136133**, our highly recommended monoclonal alternative to Contactin 1 (S-20).