

# Gliomedin (H-100): sc-68874

## BACKGROUND

Gliomedin is a 551 amino acid protein encoded by the human gene GLDN. Gliomedin is thought to play a role in the formation of the nodes of Ranvier along myelinated axons. Accumulation of Na<sup>+</sup> channels at the nodes of Ranvier is a prerequisite for saltatory conduction. In peripheral nerve, clustering of these channels along the axolemma is regulated by myelinating Schwann cells through an unknown mechanism. Gliomedin is a glial ligand for Neurofascin and NrCAM, two axonal immunoglobulin cell adhesion molecules that are associated with Na<sup>+</sup> channels at the nodes of Ranvier. Gliomedin is expressed by myelinating Schwann cells and accumulates at the edges of each myelin segment during development, where it aligns with the forming nodes. Gliomedin is a single-pass type II membrane protein localized to the nodes of Ranvier and is specifically expressed in spinal cord, brain, placenta and sciatic nerve. It is more abundant in peripheral than central nervous system.

## REFERENCES

1. Lustig, M., et al. 2001. Nr-CAM and neurofascin interactions regulate ankyrin G and sodium channel clustering at the node of Ranvier. *Curr. Biol.* 11: 1864-1869.
2. Eshed, Y., et al. 2005. Gliomedin mediates Schwann cell-axon interaction and the molecular assembly of the nodes of Ranvier. *Neuron* 47: 215-229.
3. Occhi, S., et al. 2005. Both laminin and Schwann cell dystroglycan are necessary for proper clustering of sodium channels at nodes of Ranvier. *J. Neurosci.* 25: 9418-9427.
4. Koticha, D., et al. 2006. Neurofascin interactions play a critical role in clustering sodium channels, ankyrin G and  $\beta$  IV spectrin at peripheral nodes of Ranvier. *Dev. Biol.* 293: 1-12.
5. Maertens, B., et al. 2007. Cleavage and oligomerization of gliomedin, a transmembrane collagen required for node of ranvier formation. *J. Biol. Chem.* 282: 10647-10659.

## CHROMOSOMAL LOCATION

Genetic locus: GLDN (human) mapping to 15q21.2; Gldn (mouse) mapping to 9 A5.3.

## SOURCE

Gliomedin (H-100) is a rabbit polyclonal antibody raised against amino acids 452-551 mapping within a C-terminal extracellular domain of Gliomedin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

Gliomedin (H-100) is recommended for detection of Gliomedin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Gliomedin (H-100) is also recommended for detection of Gliomedin in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Gliomedin siRNA (h): sc-62378, Gliomedin siRNA (m): sc-62379, Gliomedin shRNA Plasmid (h): sc-62378-SH, Gliomedin shRNA Plasmid (m): sc-62379-SH, Gliomedin shRNA (h) Lentiviral Particles: sc-62378-V and Gliomedin shRNA (m) Lentiviral Particles: sc-62379-V.

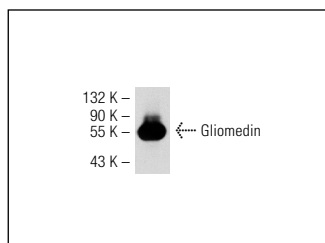
Molecular Weight of Gliomedin isoforms: 59/46 kDa.

Positive Controls: rat sciatic nerve tissue extract.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Gliomedin (H-100): sc-68874. Western blot analysis of Gliomedin expression in rat sciatic nerve tissue extract.

## SELECT PRODUCT CITATIONS

1. Dhaunchak, A.S., et al. 2012. Implication of perturbed axoglial apparatus in early pediatric multiple sclerosis. *Ann. Neurol.* 71: 601-613.

## RESEARCH USE

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