

# Lingo-1 (H-65): sc-134597

## BACKGROUND

Lingo-1 is a 614 amino acid protein that plays an important role in the negative regulation of myelination by oligodendrocytes in the central nervous system (CNS). Lingo-1 is a nervous system-specific transmembrane protein that interacts with NgR1 and p75 to make up a receptor complex that binds to Nogo, a protein that inhibits axonal regeneration. Reduction of Lingo-1 activity down-regulates Rho A (a protein related to cytoskeleton regulation) activity, promotes oligodendrocyte differentiation and increases axonal myelination in neuronal tissues. Conversely, overexpression of Lingo-1 activates Rho A and inhibits oligodendrocyte differentiation and myelination. Lingo-1 upregulation may be a characteristic of activity-induced neural plasticity responses. Lingo-1 may be a critical deterrent of myelin and nerve fiber repair in multiple sclerosis, an inflammatory disease that causes gradual destruction of myelin in the CNS.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609791. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Bronfman, F.C. and Fainzilber, M. 2004. Multi-tasking by the p75 neurotrophin receptor: sortilin things out? *EMBO Rep.* 5: 867-871.
3. Mi, S., et al. 2004. Lingo-1 is a component of the Nogo-66 receptor/p75 signaling complex. *Nat. Neurosci.* 7: 221-228.
4. Okafuji, T. and Tanaka, H. 2005. Expression pattern of Lingo-1 in the developing nervous system of the chick embryo. *Gene Expr. Patterns* 6: 57-62.
5. Mi, S., et al. 2005. Lingo-1 negatively regulates myelination by oligodendrocytes. *Nat. Neurosci.* 8: 745-751.
6. Trifunovski, A., et al. 2005. Neuronal activity-induced regulation of Lingo-1. *Neuroreport* 15: 2397-2400.

## CHROMOSOMAL LOCATION

Genetic locus: LINGO1 (human) mapping to 15q24.3; Lingo1 (mouse) mapping to 9 B.

## SOURCE

Lingo-1 (H-65) is a rabbit polyclonal antibody raised against amino acids 506-570 mapping near the C-terminus of Lingo-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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

Lingo-1 (H-65) is recommended for detection of Lingo-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).

Lingo-1 (H-65) is also recommended for detection of Lingo-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Lingo-1 siRNA (h): sc-60938, Lingo-1 siRNA (m): sc-60939, Lingo-1 siRNA (r): sc-156095, Lingo-1 shRNA Plasmid (h): sc-60938-SH, Lingo-1 shRNA Plasmid (m): sc-60939-SH, Lingo-1 shRNA Plasmid (r): sc-156095-SH, Lingo-1 shRNA (h) Lentiviral Particles: sc-60938-V, Lingo-1 shRNA (m) Lentiviral Particles: sc-60939-V and Lingo-1 shRNA (r) Lentiviral Particles: sc-156095-V.

Molecular Weight of Lingo-1: 70 kDa.

## 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.

## SELECT PRODUCT CITATIONS

1. Graziano, A., et al. 2013. Passive exercise of the hind limbs after complete thoracic transection of the spinal cord promotes cortical reorganization. *PLoS ONE* 8: e54350.

## RESEARCH USE

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