SANTA CRUZ BIOTECHNOLOGY, INC.

Lingo-1 (F-22): sc-130803

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 downregulates 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.
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7. Trifunovski, A., et al. 2006. Selective decline of Nogo mRNA in the aging brain. Neuroreport 17: 913-916.
8. Satoh, J., et al. 2007. TROY and Lingo-1 expression in astrocytes and macrophages/microglia in multiple sclerosis lesions. Neuropathol. Appl. Neurobiol. 33: 99-107.
9. Lee, X., et al. 2007. NGF regulates the expression of axonal Lingo-1 to inhibit oligodendrocyte differentiation and myelination. J. Neurosci. 27: 220-225.

CHROMOSOMAL LOCATION

Genetic locus: LINGO1 (human) mapping to 15q24.3.

SOURCE

Lingo-1 (F-22) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of Lingo-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Lingo-1 (F-22) is recommended for detection of Lingo-1 of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

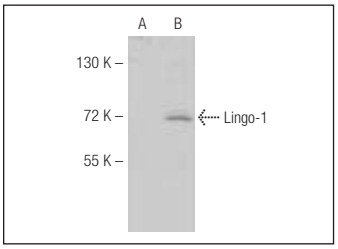
Suitable for use as control antibody for Lingo-1 siRNA (h): sc-60938, Lingo-1 shRNA Plasmid (h): sc-60938-SH and Lingo-1 shRNA (h) Lentiviral Particles: sc-60938-V.

Molecular Weight of Lingo-1: 70 kDa.

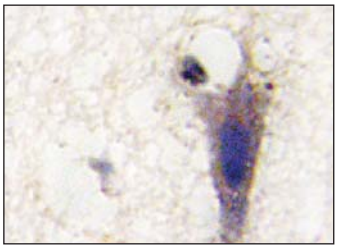
RECOMMENDED SECONDARY REAGENTS

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Lingo-1 (F-22): sc-130803. Western blot analysis of Lingo-1 expression in non-transfected (**A**) and human Lingo-1 transfected (**B**) 293 whole cell lysates.



Lingo-1 (F-22): sc-130803. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human brain tissue showing cytoplasmic localization

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.

PROTOCOLS

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