

# Lingo-1 (K-13): sc-48583

## 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 RhoA (a protein related to cytoskeleton regulation) activity, promotes oligodendrocyte differentiation, and increases axonal myelination in neuronal tissues. Conversely, overexpression of Lingo-1 activates RhoA and inhibits oligodendrocyte differentiation and myelination. Lingo-1 up-regulation 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

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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., et al. 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.
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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.
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## CHROMOSOMAL LOCATION

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

## SOURCE

Lingo-1 (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Lingo-1 of human origin.

## STORAGE

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

## 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-48583 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Lingo-1 (K-13) 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), 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 (K-13) is also recommended for detection of Lingo-1 in additional species, including equine, bovine, porcine and avian.

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 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.