

# robo4 (D-3): sc-166872

## BACKGROUND

Secreted leucine-rich repeat-containing proteins 1 through 3 (Slit1-3) are secreted glycoproteins that influence axonal guidance and mediate normal neural progression by acting as high-affinity signaling ligands for the repulsive guidance receptors robo1 and robo2 (also designated roundabout 1 and 2). Interactions between the robo receptor and Slit ligand families of proteins initiate signaling cascades that repel axonal outgrowth. The arrangement of the extracellular domains of robo4 diverges significantly from that of all other robo family members. Robo4 is the only robo family member expressed in primary endothelial cells. It binds Slit and inhibits cellular migration in a heterologous expression system. Together, the robo proteins prescribe developmental paths during neural development.

## CHROMOSOMAL LOCATION

Genetic locus: ROBO4 (human) mapping to 11q24.2; Robo4 (mouse) mapping to 9 A4.

## SOURCE

robo4 (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 950-980 at the C-terminus of robo4 of human origin.

## PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166872 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

robo4 (D-3) is recommended for detection of robo4 isoforms 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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 robo4 siRNA (h): sc-44500, robo4 siRNA (m): sc-44501, robo4 shRNA Plasmid (h): sc-44500-SH, robo4 shRNA Plasmid (m): sc-44501-SH, robo4 shRNA (h) Lentiviral Particles: sc-44500-V and robo4 shRNA (m) Lentiviral Particles: sc-44501-V.

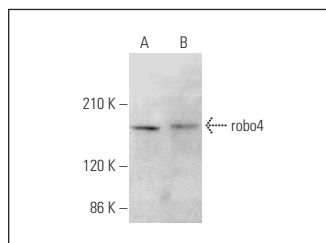
Molecular Weight of robo4: 160 kDa.

Positive Controls: A-431 nuclear extract: sc-2122, K-562 whole cell lysate: sc-2203 or HUV-EC-C whole cell lysate: sc-364180.

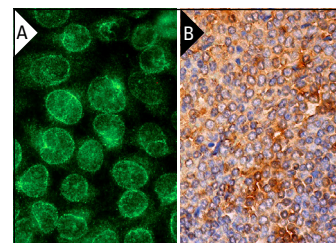
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



robo4 (D-3): sc-166872. Western blot analysis of robo4 expression in K-562 (A) and HUV-EC-C (B) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



robo4 (D-3): sc-166872. Immunofluorescence staining of methanol-fixed HeLa cells showing perinuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white pulp and cells in red pulp (B).

## SELECT PRODUCT CITATIONS

1. Yu, M., et al. 2016. Expression of inflammation-related genes in the lung of BALB/c mice response to H7N9 influenza A virus with different pathogenicity. *Med. Microbiol. Immunol.* 205: 501-509.
2. Tang, Y. and Zhou, X. 2019. Antagonistic effects of exogenous Slit2 on VEGF-induced choroidal endothelial cell migration and tube formation. *Exp. Ther. Med.* 17: 2443-2450.
3. Gotos, A., et al. 2019. The expression of the SLIT-ROBO family in adult patients with acute myeloid leukemia. *Arch. Immunol. Ther. Exp.* 67: 109-123.
4. Li, Y., et al. 2019. miR-204 negatively regulates cell growth and metastasis by targeting ROBO4 in human bladder cancer. *Oncotargets Ther.* 12: 8515-8524.
5. Pan, X., et al. 2020. Fibroblast growth factor-2 alleviates the capillary leakage and inflammation in sepsis. *Mol. Med.* 26: 108.

## 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) for detailed protocols and support products.