

robo1 (N-20): sc-16611

BACKGROUND

Specialized cells at the midline, which separates the left and right halves of the CNS, have a number of roles in directing growth cone behavior. In the vertebrate spinal cord, the insect ventral nerve cord and in *C. elegans*, midline cells produce guidance cues such as neurtins and Slit, which act as attractants and repellents, respectively. These cells may act as gatekeepers to prevent axons from crossing the midline and to induce a switch in growth cone responsiveness to guidance cues beyond the gateway. One such gatekeeper, robo, is an axon guidance receptor that defines a novel subfamily of Ig superfamily proteins that are conserved from fruit flies to mammals. Robo acts as a receptor for the repellent Slit and functions in a cell-autonomous fashion. Non-crossing axons express high levels of robo, whereas crossing axons express low levels of robo before reaching the midline and high levels after they cross. Robo1 and robo2 are two human homologs of the *Drosophila* protein Roundabout. Robo1 is also homologous to the *C. elegans* gene *sax3*, whereas robo2 is homologous to the zebrafish gene *astray*.

REFERENCES

- Kidd, T., et al. 1998. Roundabout controls axon crossing of the CNS midline and defines a novel subfamily of evolutionarily conserved guidance receptors. *Cell* 92: 205-215.
- Zallen, J.A., et al. 1998. The conserved immuno-globulin superfamily member SAX-3/Robo directs multiple aspects of axon guidance in *C. elegans*. *Cell* 92: 217-227.
- Van Vactor, D., et al. 1999. The middle and the end: Slit brings guidance and branching together in axon pathway selection. *Neuron* 22: 649-652.
- Fricke, C., et al. 2001. Astray, a zebrafish roundabout homolog required for retinal axon guidance. *Science* 292: 507-510.

CHROMOSOMAL LOCATION

Genetic locus: ROBO1 (human) mapping to 3p12.3; Robo1 (mouse) mapping to 16 C3.1.

SOURCE

robo1 (N-20) is available as either goat (sc-16611) or rabbit (sc-16611-R) polyclonal antibody raised against a peptide mapping at the N-terminus of robo1 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.

Blocking peptide available for competition studies, sc-16611 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

robo1 (N-20) is recommended for detection of robo1 (designated Dutt1 in mouse) 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).

robo1 (N-20) is also recommended for detection of robo1 (designated Dutt1 in mouse) in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for robo1 siRNA (h): sc-42252, robo1 siRNA (m): sc-42253, robo1 shRNA Plasmid (h): sc-42252-SH, robo1 shRNA Plasmid (m): sc-42253-SH, robo1 shRNA (h) Lentiviral Particles: sc-42252-V and robo1 shRNA (m) Lentiviral Particles: sc-42253-V.

Molecular Weight of robo1: 125 kDa.

Positive Controls: JM1 whole cell lysate: sc-364233.

SELECT PRODUCT CITATIONS

- Anselmo, M.A., et al. 2003. Slit and robo: expression patterns in lung development. *Gene Expr. Patterns* 3: 13-19.
- Schmid, B.C., et al. 2007. The neuronal guidance cue Slit2 induces targeted migration and may play a role in brain metastasis of breast cancer cells. *Breast Cancer Res. Treat.* 106: 333-342.
- Ghosh, S., et al. 2009. Alterations of robo1/DUTT1 and robo2 loci in early dysplastic lesions of head and neck: clinical and prognostic implications. *Hum. Genet.* 125: 189-198.
- Mitra, S., et al. 2012. Inactivation of SLIT2-ROBO1/2 pathway in pre-malignant lesions of uterine cervix: clinical and prognostic significances. *PLoS ONE* 7: e38342.

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.



Try **robo1 (2G6): sc-293444**, our highly recommended monoclonal alternative to robo1 (N-20).