



Robo1 (dP-20): sc-19716

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 nectins 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

1. Kidd, T., Brose, K., Mitchell, K.J., Fetter, R.D., Tessier-Lavigne, M., Goodman, C.S. and Tear, G. 1998. Roundabout controls axon crossing of the CNS midline and defines a novel subfamily of evolutionarily conserved guidance receptors. *Cell* 92: 205-215.
2. Zallen, J.A., Yi, B.A., and Bargmann, C.I. 1998. The conserved immunoglobulin superfamily member SAX-3/Robo directs multiple aspects of axon guidance in *C. elegans*. *Cell* 92: 217-227.
3. Van Vactor, D. and Flanagan, J.G. 1999. The middle and the end: Slit brings guidance and branching together in axon pathway selection. *Neuron* 22: 649-652.
4. Fricke, C., Lee, J.S., Geiger-Rudolph, S., Bonhoeffer, F., and Chien, C.B. 2001. Astray, a zebrafish Roundabout homolog required for retinal axon guidance. *Science* 292: 507-510.
5. LocusLink Report (LocusID: 6091). <http://www.ncbi.nlm.nih.gov/LocusLink>

SOURCE

Robo1 (dP-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Robo1 of *Drosophila melanogaster* 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-19716 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 (dP-20) is recommended for detection of Robo1 of *Drosophila melanogaster* 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).

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 or our catalog for detailed protocols and support products.