

robo1 (2G6): sc-293444

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

- 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 immunoglobulin superfamily member SAX-3/Robo directs multiple aspects of axon guidance in *C. elegans*. *Cell* 92: 217-227.
- 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.
- Fricke, C., et al. 2001. Astray, a zebrafish roundabout homolog required for retinal axon guidance. *Science* 292: 507-510.
- LocusLink Report (LocusID: 6091). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

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

SOURCE

robo1 (2G6) is a mouse monoclonal antibody raised against a recombinant protein mapping within amino acids 491-589 representing partial length robo1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

robo1 (2G6) is recommended for detection of robo1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

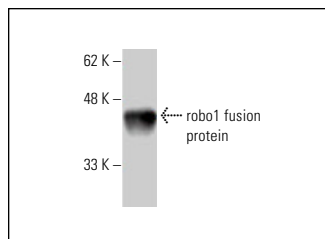
Suitable for use as control antibody for robo1 siRNA (h): sc-42252, robo1 siRNA (m): sc-42253, robo1 shRNA Plasmid (h): sc-42252-SH, robo1 shRNA Plasmid (m): sc-42253-SH, robo1 shRNA (h) Lentiviral Particles: sc-42252-V and robo1 shRNA (m) Lentiviral Particles: sc-42253-V.

Molecular Weight of robo1: 125 kDa.

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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



robo1 (2G6): sc-293444. Western blot analysis of human recombinant robo1 fusion protein.

SELECT PRODUCT CITATIONS

- Kumar, V., et al. 2018. Impact of miRNA-mRNA profiling and their correlation on medulloblastoma tumorigenesis. *Mol. Ther. Nucleic Acids* 12: 490-503.
- 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.
- Sorrells, S.F., et al. 2019. Immature excitatory neurons develop during adolescence in the human amygdala. *Nat. Commun.* 10: 2748.

RESEARCH USE

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

PROTOCOLS

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