

robo3 (N-17): sc-46495

BACKGROUND

Secreted leucine-rich repeat-containing proteins 1-3 (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, Roundabout 1-2 (robo1-2). Within the developing CNS of different vertebrate systems, Slit proteins are expressed in equivalent regions, suggesting there is a conservation of function for vertebrate homologs. Robo3 plays a crucial role in controlling axon guidance at the midline of the CNS. Two human robo3 isoforms, robo3A and robo3B, which differ by the insertion of 26 amino acids at the N-terminus, appear to be evolutionary conserved. Robo3 guides commissural axons by preventing premature sensitivity to Slit proteins thus inhibiting Slit signaling through robo1. Together, the robo proteins prescribe developmental paths during neural development.

REFERENCES

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- Woods, C.G., et al. 2004. Neuroscience. Crossing the midline. *Science* 304: 1455-1456.
- Taylor, T.D., et al. 2004. Compartmentalization of visual centers in the *Drosophila* brain requires Slit and robo proteins. *Development* 131: 5935-5945.
- Marillat, V., et al. 2004. The slit receptor RIG-1/robo3 controls midline crossing by hindbrain precerebellar neurons and axons. *Neuron* 43: 69-79.
- Bosley, T.M., et al. 2005. Neurologic features of horizontal gaze palsy and progressive scoliosis with mutations in robo3. *Neurology* 64: 1196-1203.
- Camurri, L., et al. 2005. Evidence for the existence of two robo3 isoforms with divergent biochemical properties. *Mol. Cell. Neurosci.* 30: 485-493.

CHROMOSOMAL LOCATION

Genetic locus: ROBO3 (human) mapping to 11q24.2; Robo3 (mouse) mapping to 9 A4.

SOURCE

robo3 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of robo3 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-46495 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

robo3 (N-17) is recommended for detection of robo3 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).

robo3 (N-17) is also recommended for detection of robo3 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for robo3 siRNA (h): sc-44498, robo3 siRNA (m): sc-44499, robo3 shRNA Plasmid (h): sc-44498-SH, robo3 shRNA Plasmid (m): sc-44499-SH, robo3 shRNA (h) Lentiviral Particles: sc-44498-V and robo3 shRNA (m) Lentiviral Particles: sc-44499-V.

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.