SANTA CRUZ BIOTECHNOLOGY, INC.

Slit1 (E-16): sc-16616

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Secreted leucine-rich repeat-containing proteins 1-3 (Slit1-3) are secreted glycoproteins that influence axonal guidance and mediate normal neural development by acting as high-affinity signaling ligands for the repulsive guidance receptor, Roundabout (Robo). Within the developing central nervous system (CNS) of different vertebrate systems, Slit proteins are expressed in equivalent regions, suggesting a conserved function among vertebrate homologs. Slit is expressed in the midline of the central nervous system in both vertebrates and invertebrates, where it functions as a regulatory factor of mesodermal cell movement during gastrulation. Slit2 is a short range inhibitory guidance cue for retinal ganglion cell (RGC) axons that may mediate spatial progression of RGCs.

REFERENCES

1. Rothberg, J.M., et al. 1990. Slit: an extracellular protein necessary for development of midline glia and commissural axon pathways contains both EGF and LRR domains. Genes Dev. 4: 2169-2187.
2. Holmes, G.P., et al. 1998. Distinct but overlapping expression patterns of two vertebrate slit homologs implies functional roles in CNS development and organogenesis. Mech. Dev. 79: 57-72.
3. Brose, K., et al. 1999. Slit proteins bind Robo receptors and have an evolutionarily conserved role in repulsive axon guidance. Cell 96: 795-806.
4. Yuan, W., et al. 1999. The mouse SLIT family: secreted ligands for ROBO expressed in patterns that suggest a role in morphogenesis and axon guidance. Dev. Biol. 212: 290-306.
5. Hu, H. 1999. Chemorepulsion of neuronal migration by Slit2 in the developing mammalian forebrain. Neuron 23: 703-711.
6. Niclou, S.P., et al. 2000. Slit2 is a repellent for retinal ganglion cell axons. J. Neurosci. 20: 4962-4974.
7. Erskine, L., et al. 2000. Retinal ganglion cell axon guidance in the mouse optic chiasm: expression and function of robos and slits. J. Neurosci. 20: 4975-4982.

CHROMOSOMAL LOCATION

Genetic locus: SLIT1 (human) mapping to 10q24.1; Slit1 (mouse) mapping to 19 C3.

SOURCE

Slit1 (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Slit1 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-16616 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Slit1 (E-16) is recommended for detection of Slit1 of human and, to a lesser extent, mouse and rat 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).

Slit1 (E-16) is also recommended for detection of Slit1 in additional species, including canine and bovine.

Suitable for use as control antibody for Slit1 siRNA (h): sc-42256, Slit1 siRNA (m): sc-42257, Slit1 shRNA Plasmid (h): sc-42256-SH, Slit1 shRNA Plasmid (m): sc-42257-SH, Slit1 shRNA (h) Lentiviral Particles: sc-42256-V and Slit1 shRNA (m) Lentiviral Particles: sc-42257-V.

Molecular Weight of Slit1: 168 kDa.

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.

SELECT PRODUCT CITATIONS

1. Yi, X.N., et al. 2006. Dynamic changes in robo2 and Slit1 expression in adult rat dorsal root ganglion and sciatic nerve after peripheral and central axonal injury. Neurosci. Res. 56: 314-321.
2. Lange, A., et al. 2009. Detergent fractionation with subsequent subtractive suppression hybridization as a tool for identifying genes coding for plasma membrane proteins. Exp. Dermatol. 18: 527-535.
3. Zhang, H.Y., et al. 2010. Slit1 promotes regenerative neurite outgrowth of adult dorsal root ganglion neurons *in vitro* via binding to the Robo receptor. J. Chem. Neuroanat. 39: 256-261.

STORAGE

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

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.