

ephrin-B1 (H-70): sc-20723

BACKGROUND

Ephrins, which act as ligands for Eph receptors, are cell-surface proteins which fall into two categories, ephrin-A and ephrin-B based on their structure and function. Ephrin-B proteins are transmembrane and have conserved cytoplasmic tyrosine residues that are phosphorylated upon interaction with an EphB receptor. Eph receptors and ephrins exhibit complementary expression in many tissues during embryogenesis indicating that bidirectional activation of Eph receptors and ephrin-B proteins may occur at expression domain interfaces. Ephrin-B1 transduces outside-in signals through C-terminal protein interactions that effect integrin-mediated cell attachment and migration. The distribution of ephrin-B1 in the developing retina suggests that it influences retinal axon mapping along the dorsal-ventral axis and may be involved in intratectal development.

REFERENCES

1. Braisted, J., et al. 1997. Graded and lamina-specific distributions of ligands of EphB receptor tyrosine kinases in the developing retinotectal system. *Dev. Biol.* 191: 14-28.
2. Mellitzer, G., et al. 1999. Eph receptors and ephrins restrict cell intermingling and communication. *Nature* 400: 77-81.
3. Jensen, P.L. 2000. Eph Receptors and Ephrins. *Stem Cells* 18: 63-64.
4. Kalo, M.S., et al. 2001. *In vivo* tyrosine phosphorylation sites of activated ephrin-B1 and ephB2 from neural tissue. *J. Biol. Chem.* 276: 38940-38948.
5. Huynh-Do, U., et al. 2002. Ephrin-B1 transduces signals to activate integrin-mediated migration, attachment, and angiogenesis. *J. Cell Sci.* 115: 3073-3081.
6. Nagashima, K., et al. 2002. Adaptor protein Crk is required for ephrin-B1-induced membrane ruffling and focal complex assembly of human aortic endothelial cells. *Mol. Biol. Cell* 13: 4231-4242.
7. Xu, Z., et al. 2003. Ephrin-B1 reverse signaling activates JNK through a novel mechanism that is independent of tyrosine phosphorylation. *J. Biol. Chem.* 278: 24767-24775.

CHROMOSOMAL LOCATION

Genetic locus: EFNB1 (human) mapping to Xq13.1; Efnb1 (mouse) mapping to X C3.

SOURCE

ephrin-B1 (H-70) is a rabbit polyclonal antibody raised against amino acids 171-240 mapping near the C-terminus of ephrin-B1 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.

STORAGE

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

APPLICATIONS

ephrin-B1 (H-70) is recommended for detection of ephrin-B1 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)], 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).

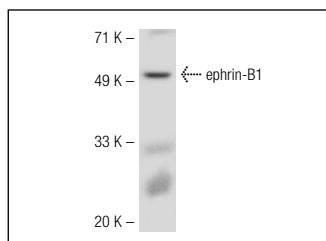
ephrin-B1 (H-70) is also recommended for detection of ephrin-B1 in additional species, including canine and bovine.

Suitable for use as control antibody for ephrin-B1 siRNA (h): sc-39436, ephrin-B1 siRNA (m): sc-39437, ephrin-B1 siRNA (r): sc-156036, ephrin-B1 shRNA Plasmid (h): sc-39436-SH, ephrin-B1 shRNA Plasmid (m): sc-39437-SH, ephrin-B1 shRNA Plasmid (r): sc-156036-SH, ephrin-B1 shRNA (h) Lentiviral Particles: sc-39436-V, ephrin-B1 shRNA (m) Lentiviral Particles: sc-39437-V and ephrin-B1 shRNA (r) Lentiviral Particles: sc-156036-V.

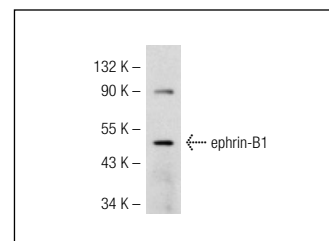
Molecular Weight of ephrin-B1: 45 kDa.

Positive Controls: human platelet tissue extract, mouse lung extract: sc-2390 or mouse embryo extract.

DATA



ephrin-B1 (H-70): sc-20723. Western blot analysis of ephrin-B1 expression in mouse embryo tissue extract.



ephrin-B1 (H-70): sc-20723. Western blot analysis of ephrin-B1 expression in mouse lung tissue extract.

SELECT PRODUCT CITATIONS

1. Song, X.J., et al. 2008. Upregulation and redistribution of ephrin-B and EphB receptor in dorsal root ganglion and spinal dorsal horn neurons after peripheral nerve injury and dorsal rhizotomy. *Eur. J. Pain* 12: 1031-1039.
2. Liu, W.T., et al. 2009. EphB receptor signaling in mouse spinal cord contributes to physical dependence on morphine. *FASEB J.* 23: 90-98.

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.