SANTA CRUZ BIOTECHNOLOGY, INC.

ephrin-B2 (C-20): sc-19227

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The Power to Question

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. The transmembrane ligand ephrin-B2 and its receptor tyrosine kinase EphB4 are specifically expressed on arterial and venous endothelial cells, respectively. Bidirectional signals mediated by both proteins play an important role in vascular development. Ephrin-B2 is essential for the normal morphogenesis of the embryonic vasculature and is angiogenic in tumors. It has been identified as an important target of chemotherapeutic treatments.

REFERENCES

1. Mellitzer, G., et al. 1999. Eph receptors and ephrins restrict cell intermingling and communication. Nature 400: 77-81.
2. Jensen, P.L. 2000. Eph receptors and ephrins. Stem Cells 18: 63-64.
3. Nakamoto, M., et al. 2002. Diverse roles for the Eph family of receptor tyrosine kinases in carcinogenesis. Microsc. Res. Tech. 59: 58-67.
4. Hamada, K., et al. 2003. Distinct roles of ephrin-B2 forward and EphB4 reverse signaling in endothelial cells. Arterioscler. Thromb. Vasc. Biol. 23: 190-197.
5. Dravis, C., et al. 2004. Bidirectional signaling mediated by ephrin-B2 and EphB2 controls urorectal development. Dev. Biol. 271: 272-290.
6. Liu, W., et al. 2004. Effects of overexpression of ephrin-B2 on tumour growth in human colorectal cancer. Br. J. Cancer 90: 1620-1626.

CHROMOSOMAL LOCATION

Genetic locus: EFNB2 (human) mapping to 13q33.3; Efnb2 (mouse) mapping to 8 A1.1.

SOURCE

ephrin-B2 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ephrin-B2 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-19227 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

ephrin-B2 (C-20) is recommended for detection of ephrin-B2 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).

Suitable for use as control antibody for ephrin-B2 siRNA (h): sc-39438, ephrin-B2 siRNA (m): sc-39439, ephrin-B2 shRNA Plasmid (h): sc-39438-SH, ephrin-B2 shRNA Plasmid (m): sc-39439-SH, ephrin-B2 shRNA (h) Lentiviral Particles: sc-39438-V and ephrin-B2 shRNA (m) Lentiviral Particles: sc-39439-V.

Molecular Weight of ephrin-B2: 37 kDa.

Positive Controls: A549 cell lysate: sc-2413, mouse brain extract: sc-2253 or KNRK whole cell lysate: sc-2214.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. Zamora, D.O., et al. 2006. Human leukocytes express ephrin-B2 which activates microvascular endothelial cells. Cell. Immunol. 242: 99-109.
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.