SANTA CRUZ BIOTECHNOLOGY, INC.

ephrin-B2 (F-2): sc-398735

SANTA CRUZ BIOTECHNOLOGY

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.

CHROMOSOMAL LOCATION

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

SOURCE

ephrin-B2 (F-2) is a mouse monoclonal antibody raised against amino acids 168-235 of ephrin-B2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ephrin-B2 (F-2) is available conjugated to agarose (sc-398735 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398735 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398735 PE), fluorescein (sc-398735 FITC), Alexa Fluor® 488 (sc-398735 AF488), Alexa Fluor® 546 (sc-398735 AF546), Alexa Fluor® 594 (sc-398735 AF594) or Alexa Fluor® 647 (sc-398735 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398735 AF680) or Alexa Fluor® 790 (sc-398735 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ephrin-B2 (F-2) is recommended for detection of ephrin-B2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

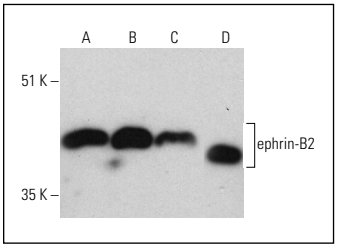
Molecular Weight of ephrin-B2: 37 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, HT-29 whole cell lysate: sc-364232 or RT-4 whole cell lysate: sc-364257.

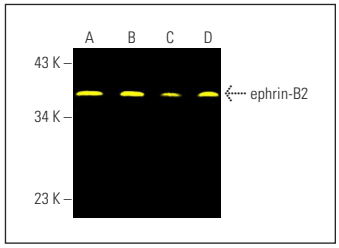
STORAGE

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

DATA



ephrin-B2 (F-2) HRP: sc-398735 HRP. Direct western blot analysis of ephrin-B2 expression in HT-29 (**A**), HUV-EC-C (**B**), RT-4 (**C**) and COLO 205 (**D**) whole cell lysates.



ephrin-B2 (F-2) Alexa Fluor® 488: sc-398735 AF488. Direct fluorescent western blot analysis of ephrin-B2 expression in HT-29 (**A**), HUV-EC-C (**B**), RT-4 (**C**) and PANC-1 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Wu, M., et al. 2016. Bradykinin receptors and EphB2/EphrinB2 pathway in response to high glucose-induced osteoblast dysfunction and hyperglycemia-induced bone deterioration in mice. Int. J. Mol. Med. 37: 565-574.
2. Yin, R., et al. 2018. Over expressing miR-19b-1 suppress breast cancer growth by inhibiting tumor microenvironment induced angiogenesis. Int. J. Biochem. Cell Biol. 97: 43-51.
3. Jahan, B., et al. 2020. Differentiation and expansion of endothelial cells requires pre-optimization of KDR+ expression kinetics. Stem Cell Res. 42: 101685.
4. Defourny, J., et al. 2021. Efnb2 haploinsufficiency induces early gap junction plaque disassembly and endocytosis in the cochlea. Brain Res. Bull. 174: 153-160.
5. Yang, M., et al. 2022. Detection of Nipah and Hendra viruses using recombinant human Ephrin B2 capture virus in immunoassays. Viruses 14: 1657.
6. Trinh, L.T., et al. 2022. Differential regulation of alternate promoter regions in Sox17 during endodermal and vascular endothelial development. iScience 25: 104905.
7. Wolf, K.G., et al. 2022. Ephrin-B2-expressing natural killer cells induce angiogenesis. JVS Vasc. Sci. 3: 336-344.
8. Luo, Y., et al. 2024. Proangiogenic effect and underlying mechanism of holmium oxide nanoparticles: a new biomaterial for tissue engineering. J. Nanobiotechnology 22: 357.
9. Lin, R., et al. 2024. Sensory nerve EP4 facilitates heterotopic ossification by regulating angiogenesis-coupled bone formation. J. Orthop. Translat. 49: 325-338.

RESEARCH USE

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