

EphA4 (D-4): sc-365503

BACKGROUND

The Eph subfamily represents the largest group of receptor protein tyrosine kinases identified to date. While the biological activities of these receptors have yet to be determined, there is increasing evidence that they are involved in central nervous system function and in development. The Eph subfamily receptors of human origin (and their murine/avian homologs) include EphA1 (Eph), EphA2 (Eck), EphA3 (Hek4), EphA4 (Hek8), EphA5 (Hek7), EphA6 (Hek12), EphA7 (Hek11/MDK1), EphA8 (Hek3), EphB1 (Hek6), EphB2 (Hek5), EphB3 (Cek10, Hek2), EphB4 (Htk), EphB5 (Hek9) and EphB6 (Mep). Ligands for Eph receptors include ephrin-A4 (LERK-4) which binds EphA3 and EphB1. In addition, ephrin-A2 (Elf-1) has been described as the ligand for EphA4, ephrin-A3 (Ehk1-L) as the ligand for EphA5 and ephrin-B2 (Htk-L) as the ligand for EphB4 (Htk).

REFERENCES

1. Beckmann, M.P., et al. 1994. Molecular characterization of a family of ligands for Eph-related tyrosine kinase receptors. *EMBO J.* 13: 3757-3762.
2. Cheng, H.J., et al. 1994. Identification and cloning of ELF-1, a developmentally expressed ligand for the Mek4 and Sek receptor tyrosine kinases. *Cell* 79: 157-168.

CHROMOSOMAL LOCATION

Genetic locus: EPHA4 (human) mapping to 2q36.1; EphA4 (mouse) mapping to 1 C4.

SOURCE

EphA4 (D-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 889-921 near the C-terminus of EphA4 of human origin.

PRODUCT

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

EphA4 (D-4) is available conjugated to agarose (sc-365503 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365503 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365503 PE), fluorescein (sc-365503 FITC), Alexa Fluor® 488 (sc-365503 AF488), Alexa Fluor® 546 (sc-365503 AF546), Alexa Fluor® 594 (sc-365503 AF594) or Alexa Fluor® 647 (sc-365503 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365503 AF680) or Alexa Fluor® 790 (sc-365503 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365503 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

EphA4 (D-4) is recommended for detection of EphA4 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

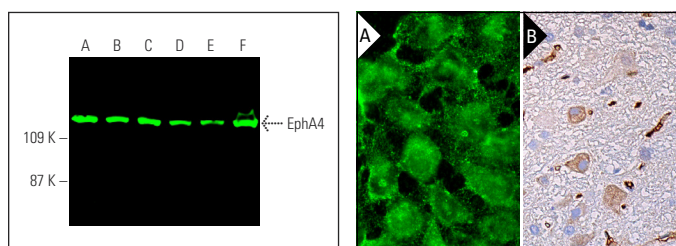
EphA4 (D-4) is also recommended for detection of EphA4 in additional species, including canine and porcine.

Suitable for use as control antibody for EphA4 siRNA (h): sc-39936, EphA4 siRNA (m): sc-39937, EphA4 shRNA Plasmid (h): sc-39936-SH, EphA4 shRNA Plasmid (m): sc-39937-SH, EphA4 shRNA (h) Lentiviral Particles: sc-39936-V and EphA4 shRNA (m) Lentiviral Particles: sc-39937-V.

Molecular Weight of EphA4: 120 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, Ramos cell lysate: sc-2216 or Hep G2 cell lysate: sc-2227.

DATA



EphA4 (D-4): sc-365503. Near-infrared western blot analysis of EphA4 expression in MOLT-4 (A), Ramos (B), Hep G2 (C), SK-BR-3 (D), HL-60 (E) and K-562 (F) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

EphA4 (D-4): sc-365503. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat brain tissue showing cytoplasmic staining of neuronal cells and membrane and cytoplasmic staining of endothelial cells (B).

SELECT PRODUCT CITATIONS

1. Ortalli, A.L., et al. 2012. EphA3 expressed in the chicken tectum stimulates nasal retinal ganglion cell axon growth and is required for retinotectal topographic map formation. *PLoS ONE* 7: e38566.
2. Masaoutis, C., et al. 2021. Ephrin receptors (Ephs) expression in thymic epithelial tumors: prognostic implications and future therapeutic approaches. *Diagnostics* 11: 2265.
3. Li, Y., et al. 2022. The Eph receptor A4 plays a role in demyelination and depression-related behavior. *J. Clin. Invest.* 132: e152187.
4. Kastamoni, M., et al. 2023. The effects of fat graft and platelet-rich fibrin combination after epineurectomy in rats. *Rev. Assoc. Med. Bras.* 69: 272-278.

RESEARCH USE

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