

EphA7 (F-10): sc-393974

BACKGROUND

The Eph subfamily represents the largest group of receptor protein tyrosine kinases identified to date. 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). EphAs are a family of receptor tyrosine kinases that are involved in axonal guidance during development. These receptors and their ligands, the ephrins, act via repulsive mechanisms to guide growing axons towards their appropriate targets and allow for the correct developmental connections to be made. Ligand binding to an Eph receptor results in tyrosine phosphorylation of the kinase domain, and repulsion of axonal growth cones and migrating cells. During neurulation, ephrin-A5 is coexpressed with its cognate receptor EphA7 in cells at the edges of the dorsal neural folds. Three different EphA7 splice variants, a full length form and two truncated versions lacking kinase domains, are expressed in the neural folds.

REFERENCES

- Ciossek, T., et al. 1995. Identification of alternatively spliced mRNAs encoding variants of MDK1, a novel receptor tyrosine kinase expressed in the murine nervous system. *Oncogene* 10: 97-108.
- Fox, G.M., et al. 1995. DNA cloning and tissue distribution of five human Eph-like receptor protein-tyrosine kinases. *Oncogene* 10: 897-905.
- Valenzuela, D.M., et al. 1995. Identification of full-length and truncated forms of Etk-3, a novel member of the Eph receptor tyrosine kinase family. *Oncogene* 10: 1573-1580.
- Holmberg, J., et al. 2000. Regulation of repulsion versus adhesion by different splice forms of an Eph receptor. *Nature* 408: 203-206.
- Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 602190. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Willson, C.A., et al. 2002. Upregulation of EphA receptor expression in the injured adult rat spinal cord. *Cell Transplant.* 11: 229-239.

CHROMOSOMAL LOCATION

Genetic locus: EPHA7 (human) mapping to 6q16.1; EphA7 (mouse) mapping to 4 A4.

SOURCE

EphA7 (F-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 39-62 at the N-terminus of EphA7 of mouse 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.

Blocking peptide available for competition studies, sc-393974 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

EphA7 (F-10) is recommended for detection of EphA7 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 EphA7 siRNA (h): sc-39941, EphA7 siRNA (m): sc-39942, EphA7 shRNA Plasmid (h): sc-39941-SH, EphA7 shRNA Plasmid (m): sc-39942-SH, EphA7 shRNA (h) Lentiviral Particles: sc-39941-V and EphA7 shRNA (m) Lentiviral Particles: sc-39942-V.

Molecular Weight (predicted) of EphA7: 112 kDa.

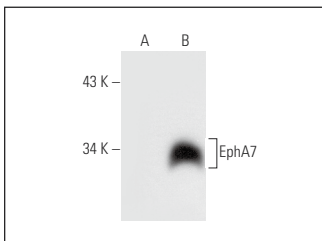
Molecular Weight (observed) of EphA7: 93 kDa.

Positive Controls: EphA7 (h2): 293T Lysate: sc-158479.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



EphA7 (F-10): sc-393974. Western blot analysis of EphA7 expression in non-transfected: sc-117752 (A) and human EphA7 transfected: sc-158479 (B) 293T whole cell lysates.

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 for detailed protocols and support products.