SANTA CRUZ BIOTECHNOLOGY, INC.

EphA4 (S-20): sc-921

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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).

CHROMOSOMAL LOCATION

Genetic locus: EPHA4 (human) mapping to 2q36.1; Epha4 (mouse) mapping to 1 C4.

SOURCE

EphA4 (S-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of EphA4 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EphA4 (S-20) is available conjugated phycoerythrin (sc-921 PE, 200 µg/ml), for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-921 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

EphA4 (S-20) is recommended for detection of EphA4 of mouse, rat, human and chicken 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

EphA4 (S-20) is also recommended for detection of EphA4 in additional species, including equine, canine, porcine and avian.

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.

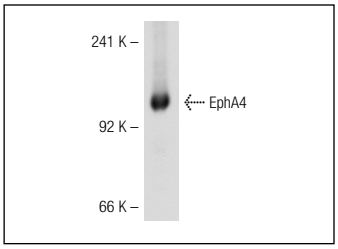
Molecular Weight of EphA4: 120 kDa.

Positive Controls: rat brain extract: sc-2392, mouse brain extract: sc-2253 or HeLa whole cell lysate: sc-2200.

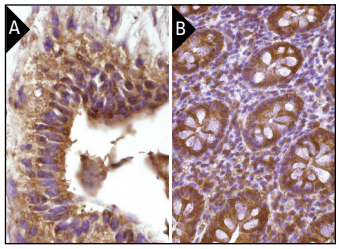
STORAGE

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

DATA



EphA4 (S-20): sc-921. Western blot analysis of EphA4 expression in mouse brain tissue extract.



EphA4 (S-20): sc-921. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tissue showing membrane and cytoplasmic staining (**A**) and human colon tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Bianchi, L.M., et al. 1998. Distribution of Eph-related molecules in the developing and mature cochlea. Hear. Res. 117: 161-172.
2. Cruz-Orengo, L., et al. 2007. Reduction of EphA4 receptor expression after spinal cord injury does not induce axonal regeneration or return of tcMMEP response. Neurosci. Lett. 418: 49-54.
3. Tremblay, M.E., et al. 2007. Localization of EphA4 in axon terminals and dendritic spines of adult rat hippocampus. J. Comp. Neurol. 501: 691-702.
4. Gallarda, B.W., et al. 2008. Segregation of axial motor and sensory pathways via heterotypic *trans*-axonal signaling. Science 320: 233-236.
5. Nie, D., et al. 2010. Tsc2-Rheb signaling regulates EphA-mediated axon guidance. Nat. Neurosci. 13: 163-172.
6. Sawada, T., et al. 2010. Ternary complex formation of EphA4, FGFR and FRS2a plays an important role in the proliferation of embryonic neural stem/progenitor cells. Genes Cells 15: 297-311.
7. García-Gutiérrez, P., et al. 2011. The transcription factor Krox20 is an E3 ligase that sumoylates its Nab coregulators. EMBO Rep. 12: 1018-1023.
8. Jung, C.K., et al. 2011. Role of presenilin 1 in structural plasticity of cortical dendritic spines *in vivo*. J. Neurochem. 119: 1064-1073.

RESEARCH USE

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