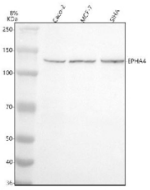
EPHA4 Antibody / Ephrin type-A receptor 4 (FY12517)

Catalog No.	Formulation	Size
FY12517	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P54764
Applications	Western Blot : 0.25-0.5ug/ml
Limitations	This EPHA4 antibody is available for research use only.



Western blot analysis of EPHA4 using anti-EPHA4 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Caco-2 whole cell lysates, Lane 2: human MCF-7 whole cell lysates, Lane 3: human SIHA whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-EPHA4 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. EPHA4 (~110 kDa predicted) was detected at ~120-130 kDa in Caco-2, MCF-7, and SiHa lysates, consistent with the known upward shift of mature, N-glycosylated EphA4 on SDS-PAGE.

Description

EPHA4 antibody detects Ephrin type-A receptor 4, a receptor tyrosine kinase that mediates axon guidance, cell adhesion, and tissue patterning through bidirectional ephrin signaling. EPHA4 belongs to the Eph receptor family, the largest group of receptor tyrosine kinases in vertebrates. The EPHA4 antibody is used extensively in neuroscience, developmental

biology, and cancer research to investigate cell-cell communication and guidance signaling.

EPHA4 is encoded by the EPHA4 gene on human chromosome 2q36.1. The receptor consists of an extracellular ligand-binding domain, a cysteine-rich region, two fibronectin type III repeats, a single transmembrane domain, and an intracellular kinase domain. EPHA4 binds both ephrin-A and ephrin-B ligands, enabling cross-class signaling that regulates axonal navigation, synaptic plasticity, and tissue boundary formation.

The EPHA4 antibody detects a 120-130 kilodalton transmembrane receptor by western blot. Activation of EPHA4 by ephrin ligands triggers receptor autophosphorylation, recruitment of adaptor proteins, and cytoskeletal reorganization via Rho GTPase signaling. This leads to growth cone collapse and repulsion, essential for proper neural circuit formation.

In the central nervous system, EPHA4 influences axon pathfinding in the corticospinal tract and regulates synapse formation and plasticity. It is also implicated in spinal cord injury response, where its inhibition promotes axonal regeneration. Outside the nervous system, EPHA4 modulates angiogenesis, epithelial morphogenesis, and tumor progression. Overexpression has been observed in breast, prostate, and colorectal cancers, correlating with invasive behavior and poor prognosis.

EPHA4 signaling crosstalks with pathways including MAPK, PI3K-Akt, and JAK-STAT, integrating environmental cues with cell motility and survival. Genetic ablation in animal models results in abnormal axon targeting and motor coordination defects. NSJ Bioreagents provides a validated EPHA4 antibody optimized for western blot, supporting comprehensive investigation of receptor tyrosine kinase signaling, neural development, and cancer cell dynamics.

Application Notes

Optimal dilution of the EPHA4 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human EPHA4 was used as the immunogen for the EPHA4 antibody.

Storage

After reconstitution, the EPHA4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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