

EPS8 Antibody / Epidermal growth factor receptor pathway substrate 8 (FY13369)

Catalog No.	Formulation	Size
FY13369	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
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 Na ₂ HPO ₄ .
UniProt	Q12929
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Immunoprecipitation : 2-4ug/500ug of lysate Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This EPS8 antibody is available for research use only.

Description

EPS8 antibody detects Epidermal growth factor receptor pathway substrate 8, a signaling and cytoskeletal regulatory protein encoded by the EPS8 gene located on chromosome 12p12.3. EPS8 acts as a downstream effector of receptor tyrosine kinases, particularly the epidermal growth factor receptor (EGFR), and plays essential roles in actin remodeling, cell motility, and growth signaling. It is expressed in epithelial, neuronal, and fibroblast cells, where it integrates extracellular growth cues with cytoskeletal dynamics and membrane trafficking.

Structurally, EPS8 contains an N-terminal phosphotyrosine-binding (PTB) domain, a central SH3 domain, and a C-terminal effector region responsible for actin bundling and regulation. It belongs to the EPS8 protein family, which includes EPS8L1-3, sharing conserved SH3 domains involved in receptor-proximal signaling. EPS8 interacts with SOS1, ABI1, and E3B1 (ABI2) to form a complex that links receptor activation to Rac-mediated actin remodeling. Known binding partners also include EGFR, SHC, and Grb2, which recruit EPS8 to the plasma membrane upon receptor stimulation.

Functionally, EPS8 regulates actin cytoskeleton organization, cell migration, and proliferation. It enhances Rac GTPase activation and promotes formation of membrane ruffles and lamellipodia during cell movement. EPS8 also acts as a scaffold that coordinates signaling between growth factor receptors and cytoskeletal regulators. In neurons, it supports dendritic spine development and synaptic plasticity. In epithelial tissues, it contributes to cell-cell adhesion and polarity maintenance. Known ligands and substrates include actin filaments and receptor tyrosine kinases such as EGFR and FGFR.

EPS8 expression is dynamically regulated during development and in response to growth factor stimulation. It is highly expressed in embryonic tissues undergoing morphogenesis and wound repair. Dysregulation of EPS8 has been implicated in cancer, where overexpression enhances migration, invasion, and resistance to apoptosis. Elevated EPS8 correlates with aggressive behavior in colorectal, breast, and pancreatic cancers. Pathway involvement includes EGFR signaling, actin cytoskeleton organization, and Ras/Rac-mediated signaling networks.

Immunohistochemical staining using EPS8 antibody shows cytoplasmic and membrane localization in epithelial and neuronal cells. The EPS8 antibody from NSJ Bioreagents is a valuable reagent for research into actin dynamics, receptor signaling, and cancer progression mechanisms.

Application Notes

Optimal dilution of the EPS8 antibody should be determined by the researcher.

Immunogen

E.coli-derived human EPS8 recombinant protein (Position: Q255-E802) was used as the immunogen for the EPS8 antibody.

Storage

After reconstitution, the EPS8 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.