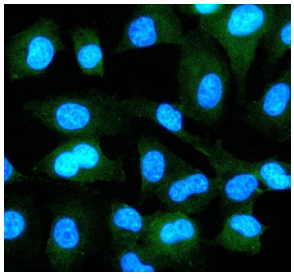
EPS8 Antibody / Epidermal growth factor receptor pathway substrate 8 (FY13369)

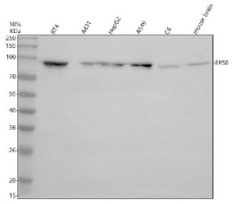
Catalog No.	Formulation	Size
FY13369	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

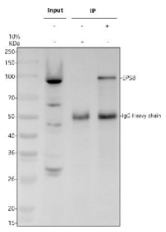
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q12929
Localization	Cytoplasm, plasma membrane
Applications	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.



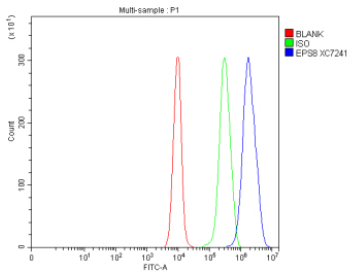
Immunofluorescent staining of EPS8 using anti-EPS8 antibody (green). EPS8 was detected in an immunocytochemical section of cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-EPS8 antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of EPS8 using anti-EPS8 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human RT4 whole cell lysates, Lane 2: human whole cell lysates, Lane 3: human HepG2 whole cell lysates, Lane 4: human whole cell lysates, Lane 5: mouse C6 whole cell lysates, Lane 6: mouse brain tissue 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-EPS8 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. The expected molecular weight of EPS8 is ~92 kDa.



Immunoprecipitating EPS8 in whole cell lysate. Western blot analysis of EPS8 using anti-EPS8 antibody. Lane 1: whole cell lysates (30ug), Lane 2: Rabbit control IgG instead of anti-EPS8 antibody in whole cell lysate, Lane 3: anti-EPS8 antibody (2ug) + whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-EPS8 antibody at a dilution of 0.5 ug/ml and probed with a goat anti-rabbit IgG-HRP secondary antibody. The signal is developed using ECL Plus Western Blotting Substrate. A specific band was detected for EPS8 at approximately 97 kDa. The expected molecular weight of EPS8 is at 92 kDa.



Flow Cytometry analysis of cells using anti-EPS8 antibody. Overlay histogram showing cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-EPS8 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

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.

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 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.