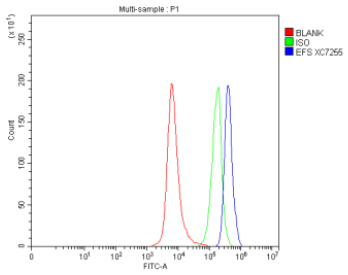
EFS Antibody / Embryonal Fyn-associated substrate (FY12187)

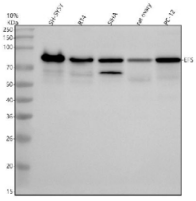
Catalog No.	Formulation	Size
FY12187	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

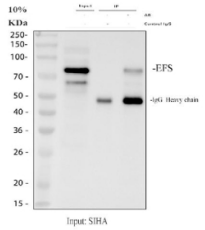
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O43281
Applications	Western Blot: 0.25-0.5ug/ml Immunoprecipitation: 2-4ug/500ug of lysate Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This EFS antibody is available for research use only.



Flow Cytometry analysis of SH-SY5Y cells using anti-EFS antibody. Overlay histogram showing SH-SY5Y cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-EFS 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.



Western blot analysis of EFS using anti-EFS antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human SH-SY5Y whole cell lysates, Lane 2: human RT4 whole cell lysates, Lane 3: human SIHA whole cell lysates, Lane 4: rat ovary tissue lysates, Lane 5: rat PC-12 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-EFS 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 band size for EFS is at 59 kDa but can be observed at 80-90 kDa due to extensive phosphorylation.



Immunoprecipitating (IP) EFS in SiHa whole cell lysate. Western blot analysis of EFS using anti-EFS antibody; Lane 1: SiHa whole cell lysates (30ug); Lane 2: Rabbit control IgG instead of anti-EFS antibody in SiHa whole cell lysate; Lane 3: anti-EFS antibody (2ug) + SiHa whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-EFS 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 EFS at approximately 85 kDa. The expected band size for EFS is at 59 kDa.

Description

EFS antibody detects Embryonal Fyn-associated substrate, encoded by the EFS gene on chromosome 14q11.2. EFS antibody is commonly applied in studies of cytoskeletal organization, adhesion, and signaling. EFS belongs to the CAS (Crk-associated substrate) family of adaptor proteins, which includes BCAR1 (p130Cas) and NEDD9. It is predominantly expressed in embryonic tissues, endothelial cells, and hematopoietic cells, where it mediates signaling downstream of integrins, growth factors, and tyrosine kinases. Its discovery as a substrate of Fyn kinase highlighted its role in Src family kinase signaling networks.

Structurally, EFS contains an N-terminal SH3 domain, a substrate domain with multiple tyrosine phosphorylation sites, and a C-terminal focal adhesion targeting region. These domains allow EFS to interact with integrins, kinases, and actin cytoskeleton regulators. Phosphorylation of tyrosine residues by Src family kinases creates binding sites for SH2-containing adaptors such as Crk, linking EFS to downstream signaling cascades controlling adhesion and migration.

Functionally, EFS regulates integrin-mediated adhesion, migration, and cytoskeletal remodeling. It acts as a molecular scaffold at focal adhesions, coupling mechanical signals to intracellular pathways. EFS also participates in growth factor signaling, coordinating responses to PDGF, EGF, and VEGF. Knockdown of EFS reduces migration and disrupts adhesion dynamics, underscoring its importance in cell motility. Researchers employ EFS antibody to investigate focal adhesion signaling, cytoskeletal dynamics, and integrin biology.

Clinically, EFS has been linked to cancer, where altered expression contributes to invasion and metastasis. Its phosphorylation status serves as a marker of Src family kinase activity. In leukemia, EFS participates in abnormal signaling pathways that promote proliferation. EFS has also been studied in cardiovascular biology, where it regulates endothelial cell adhesion and angiogenesis. NSJ Bioreagents offers EFS antibody for use in oncology, vascular biology, and cell signaling research.

Experimentally, EFS antibody is applied in western blotting to detect the ~78 kDa protein, in immunohistochemistry to evaluate tissue distribution, and in immunofluorescence microscopy to visualize focal adhesion localization. Immunoprecipitation with EFS antibody enables analysis of phosphorylation status and identification of binding partners.

Application Notes

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

Immunogen

E.coli-derived human EFS recombinant protein (Position: E183-T553) was used as the immunogen for the EFS antibody.

Storage

After reconstitution, the EFS 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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