

Fer (C-1): sc-390484

BACKGROUND

Fer (p94) is a non-receptor protein-tyrosine kinase (nRTK) of the Fes/Fps family, which shares a functional (SH2) domain and is involved in signaling pathways through receptor tyrosine kinases (RTK) and cytokine receptors. The Fes/Fps family is distinct from c-Src, c-Abl and related nRTKs and was originally distinguished as a homolog to retroviral oncoproteins. *In vivo*, Fer kinase assembles into homotrimers via conserved coiled-coil domains. The N-terminal coiled-coil domains of Fer can autophosphorylate in trans, thereby regulating their cellular function through differential phosphorylation states. Growth factor exposure can induce tyrosine phosphorylation of Fer and recruitment of Fer to RTK complexes containing p85. Fer is implicated in Insulin signaling, cell-cell signaling, human prostatic proliferative diseases, and is involved in the regulation of G₁ progression.

REFERENCES

1. Smithgall, T.E., et al. 1998. The c-Fes family of protein-tyrosine kinases. *Crit. Rev. Oncog.* 9: 43-62.
2. Craig, A.W., et al. 1999. Disruption of coiled-coil domains in Fer protein-tyrosine kinase abolishes trimerization but not kinase activation. *J. Biol. Chem.* 274: 19934-19942.
3. Priel-Halachmi, S., et al. 2000. FER kinase activation of Stat3 is determined by the N-terminal sequence. *J. Biol. Chem.* 275: 28902-28910.
4. Orlovsky, K., et al. 2000. N-terminal sequences direct the autophosphorylation states of the Fer tyrosine kinases *in vivo*. *Biochemistry* 39: 11084-11091.
5. Iwanishi, M., et al. 2000. The protein tyrosine kinase Fer associates with signaling complexes containing Insulin receptor substrate-1 and phosphatidylinositol 3-kinase. *J. Biol. Chem.* 275: 38995-39000.

CHROMOSOMAL LOCATION

Genetic locus: FER (human) mapping to 5q21.3; Fert2 (mouse) mapping to 17 E1.1.

SOURCE

Fer (C-1) is a mouse monoclonal antibody raised against amino acids 101-280 mapping near the N-terminus of Fer of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Fer (C-1) is available conjugated to agarose (sc-390484 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390484 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390484 PE), fluorescein (sc-390484 FITC), Alexa Fluor® 488 (sc-390484 AF488), Alexa Fluor® 546 (sc-390484 AF546), Alexa Fluor® 594 (sc-390484 AF594) or Alexa Fluor® 647 (sc-390484 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390484 AF680) or Alexa Fluor® 790 (sc-390484 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Fer (C-1) is recommended for detection of Fer of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Fer siRNA (h): sc-39021, Fer siRNA (m): sc-39022, Fer shRNA Plasmid (h): sc-39021-SH, Fer shRNA Plasmid (m): sc-39022-SH, Fer shRNA (h) Lentiviral Particles: sc-39021-V and Fer shRNA (m) Lentiviral Particles: sc-39022-V.

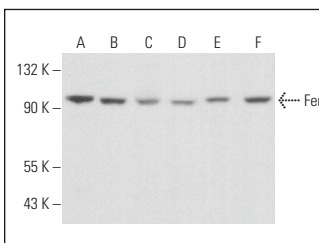
Molecular Weight of Fer: 94 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, MCF7 whole cell lysate: sc-2206 or SW480 cell lysate: sc-2219.

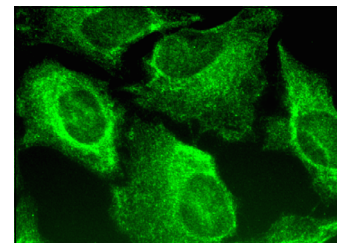
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Fer (C-1): sc-390484. Western blot analysis of Fer expression in SW480 (A), HT-29 (B), MCF7 (C), MDA-MB-231 (D), Jurkat (E) and BC₃H1 (F) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



Fer (C-1): sc-390484. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.