

Fer (5D2C4): sc-81708

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 and 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.
6. Allard, P., et al. 2000. Links between Fer tyrosine kinase expression levels and prostate cell proliferation. *Mol. Cell. Endocrinol.* 159: 63-77.

CHROMOSOMAL LOCATION

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

SOURCE

Fer (5D2C4) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 280-474 of Fer of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

Fer (5D2C4) is recommended for detection of Fer of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

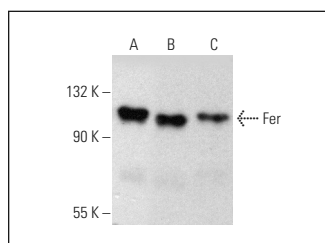
Molecular Weight of Fer: 94 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or RAT2 whole cell lysate: sc-364198.

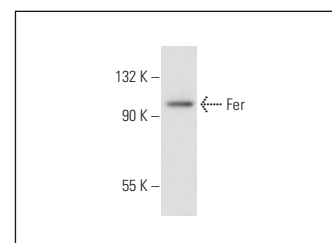
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-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).

DATA



Fer (5D2C4): sc-81708. Western blot analysis of Fer expression in NIH/3T3 (A), c4 (B) and RAT2 (C) whole cell lysates.



Fer (5D2C4): sc-81708. Western blot analysis of Fer expression in Jurkat whole cell lysate.

RESEARCH USE

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