

Fer (2358C3a): sc-81272

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; Fert2 (mouse) mapping to 17 E1.1.

SOURCE

Fer (2358C3a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of Fer of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

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.

APPLICATIONS

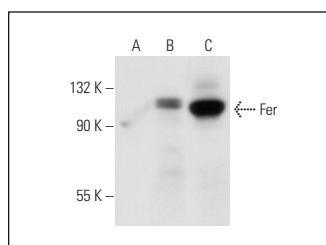
Fer (2358C3a) is recommended for detection of Fer of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

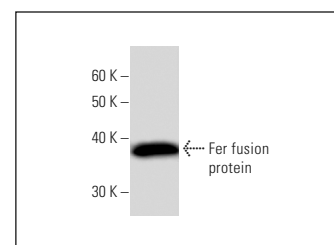
Molecular Weight of Fer: 94 kDa.

Positive Controls: Fer (h): 293T Lysate: sc-128617, SW480 cell lysate: sc-2219 or Jurkat whole cell lysate: sc-2204.

DATA



Fer (2358C3a): sc-81272. Western blot analysis of Fer expression in non-transfected 293T: sc-117752 (A), human Fer transfected 293T: sc-128617 (B) and Jurkat (C) whole cell lysates.



Fer (2358C3a): sc-81272. Western Blot analysis of human recombinant Fer fusion protein.

SELECT PRODUCT CITATIONS

1. Lennartsson, J., et al. 2013. The Fer tyrosine kinase is important for platelet-derived growth factor-BB-induced signal transducer and activator of transcription 3 (STAT3) protein phosphorylation, colony formation in soft agar, and tumor growth *in vivo*. *J. Biol. Chem.* 288: 15736-15744.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.