SANTA CRUZ BIOTECHNOLOGY, INC.

Fes siRNA (m): sc-35366

BACKGROUND

Fes, a tyrosine kinase encoded by the proto-oncogene c-Fes, is expressed in macrophages and is thought to be involved in the regulation of myeloid differentiation. Fes has several characteristics typical of a cytoplasmic class of protein tyrosine kinases, including an SH2 domain and autophosphorylation capabilities. Fes has been shown to associate with IL-4 and several hematopoietic cytokine receptors, as well as with BCR. Phosphorylation of BCR by Fes induces the association of BCR with the Ras guanine nucleotide exchange factor complex GRB2/Sos.

REFERENCES

1. Hjermstad, S.J., et al. 1993. Regulation of the human c-Fes protein kinase (p93c-Fes) by its Src homology 2 domain and major autophosphorylation site (Tyr-713). Oncogene 8: 2283-2292.
2. Hjermstad, S.J., et al. 1993. Phosphorylation of the ras GTPase-activating protein (GAP) by the p93c-Fes protein kinase *in vitro* and formation of GAP-Fes complexes via an SH2 domain-dependent mechanism. Biochemistry 32: 10519-10525.
3. Izuhara, K., et al. 1994. Interaction of the c-Fes proto-oncogene product with the interleukin-4 receptor. J. Biol. Chem. 269: 18623-18629.
4. Maru, Y., et al. 1995. Tyrosine phosphorylation of BCR by FPS/Fes protein-tyrosine kinases induces association of BCR with GRB-2/Sos. Mol. Cell. Biol. 15: 835-842.
5. Rogers, J.A., et al. 1996. Autophosphorylation of the Fes tyrosine kinase. Evidence for an intermolecular mechanism involving two kinase domain tyrosine residues. J. Biol. Chem. 271: 17519-17525.
6. Jucker, M., et al. 1997. The Fes protein-tyrosine kinase phosphorylates a subset of macrophage proteins that are involved in cell adhesion and cell-cell signaling. J. Biol. Chem. 272: 2104-2109.

CHROMOSOMAL LOCATION

Genetic locus: Fes (mouse) mapping to 7 D3.

PRODUCT

Fes siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Fes shRNA Plasmid (m): sc-35366-SH and Fes shRNA (m) Lentiviral Particles: sc-35366-V as alternate gene silencing products.

For independent verification of Fes (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-35366A, sc-35366B and sc-35366C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Fes siRNA (m) is recommended for the inhibition of Fes expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

Fes (D-9): sc-377179 is recommended as a control antibody for monitoring of Fes gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Fes gene expression knockdown using RT-PCR Primer: Fes (m)-PR: sc-35366-PR (20 µl, 491 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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