SANTA CRUZ BIOTECHNOLOGY, INC.

c-Fgr siRNA (h): sc-39229

BACKGROUND

Src is the human homolog of the v-Src gene of the Rous sarcoma virus, also designated avian sarcoma virus or ASV. Src was the first proto-oncogenic non-receptor tyrosine kinase characterized in human. The Src family, which has common structural motifs, is composed of nine members in vertebrates, including Src, Yes, Fgr, Frk, Fyn, Lyn, Hck, Lck and Blk. Src-family kinases transduce signals that are involved in the control of a variety of cellular processes, including proliferation, differentiation, motility and adhesion. Src-family kinases contain an amino-terminal cell membrane anchor followed by an SH3 domain and an SH2 domain, which are involved in modular association and activation, respectively. Src-family kinases, which are normally maintained in an inactive state and can be activated transiently during cellular events such as mitosis. Different subcellular localizations of Src-family kinases may be important for the regulation of specific cellular processes such as mitogenesis, cytoskeletal organization and membrane trafficking. c-Fgr is a human non-receptor tyrosine kinase family member that was discovered by using a probe toward the v-Fgr portion of the cell-derived domain of Gardner-Rasheed feline sarcoma virus. The human c-Fgr gene encodes a 529 amino acid protein.

REFERENCES

1. Sakaguchi, A.Y., et al. 1982. Organization of human proto-oncogenes. Am. J. Hum. Genet. 34: 175.
2. Tronick, S.R., et al. 1985. Isolation and chromosomal localization of the human Fgr protooncogene, a distinct member of the tyrosine kinase gene family. Proc. Natl. Acad. Sci. USA 82: 6595-6599.
3. Williams, J.C., et al. 1998. Insights into Src kinase functions: structural comparisons. Trends Biochem. Sci. 23: 179-184.
4. Tatosyan, A.G., et al. 2000. Kinases of the Src family: structure and functions. Biochemistry 65: 49-58.
5. Bjorge, J.D., et al. 2000. Selected glimpses into the activation and function of Src kinase. Oncogene 19: 5620-5635.
6. Korade-Mirnics, Z., et al. 2000. Src kinase-mediated signaling in leukocytes. J. Leukoc. Biol. 68: 603-613.

CHROMOSOMAL LOCATION

Genetic locus: FGR (human) mapping to 1p36.11.

PRODUCT

c-Fgr siRNA (h) 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 c-Fgr shRNA Plasmid (h): sc-39229-SH and c-Fgr shRNA (h) Lentiviral Particles: sc-39229-V as alternate gene silencing products.

For independent verification of c-Fgr (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-39229A, sc-39229B and sc-39229C.

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

c-Fgr siRNA (h) is recommended for the inhibition of c-Fgr expression in human 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

c-Fgr (B-8): sc-166079 is recommended as a control antibody for monitoring of c-Fgr 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 c-Fgr gene expression knockdown using RT-PCR Primer: c-Fgr (h)-PR: sc-39229-PR (20 µl, 533 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.

PROTOCOLS

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