SANTA CRUZ BIOTECHNOLOGY, INC.

Lyn siRNA (m): sc-35828

BACKGROUND

Src is the human homolog of the v-Src gene of the Rous sarcoma virus, also known as avian sarcoma virus or ASV. Src is the first proto-oncogenic non-receptor tyrosine kinase characterized in human. By virtue of common structural motifs, the Src family 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 involved in modular association and activation, respectively. Src-family kinases are normally maintained in an inactive state and can be activated transiently during cellular events such as mitosis. The human Lyn gene maps to chromosome 8q12.1 and encodes a 505 amino acid protein. Hematopoietic tissues predominantly express Lyn, which influences normal immunoglobulin production and regulation.

REFERENCES

1. Sakaguchi, A.Y., et al. 1982. Organization of human proto-oncogenes. Am. J. Hum. Genet. 34: 175.
2. Draberova, L., et al. 1996. Thy-1-mediated activation of rat mast cells: the role of Thy-1 membrane microdomains. Immunology 87: 141-148.
3. Hibbs, M.L. and Dunn, A.R. 1997. Lyn, a Src-like tyrosine kinase. Int. J. Biochem. Cell Biol. 29: 397-400.
4. Amoui, M., et al. 1997. Direct interaction of Syk and Lyn protein tyrosine kinases in rat basophilic leukemia cells activated via type I Fc ε receptors. Eur. J. Immunol. 27: 321-328.

CHROMOSOMAL LOCATION

Genetic locus: Lyn (mouse) mapping to 4 A1.

PRODUCT

Lyn 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 Lyn shRNA Plasmid (m): sc-35828-SH and Lyn shRNA (m) Lentiviral Particles: sc-35828-V as alternate gene silencing products.

For independent verification of Lyn (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-35828A, sc-35828B and sc-35828C.

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

Lyn siRNA (m) is recommended for the inhibition of Lyn 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

Lyn (H-6): sc-7274 is recommended as a control antibody for monitoring of Lyn 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Lyn gene expression knockdown using RT-PCR Primer: Lyn (m)-PR: sc-35828-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Braydich-Stolle, L., et al. 2007. Role of Src family kinases and N-Myc in spermatogonial stem cell proliferation. Dev. Biol. 304: 34-45.
2. Xing, J., et al. 2008. Src regulates cell cycle protein expression and renal epithelial cell proliferation via PI3K/Akt signaling-dependent and -independent mechanisms. Am. J. Physiol. Renal Physiol. 295: F145-F152.
3. Kannan, S., et al. 2008. Cholesterol-rich membrane rafts and Lyn are involved in phagocytosis during *Pseudomonas aeruginosa* infection. J. Immunol. 180: 2396-2408.
4. Hernandez-Rapp, J., et al. 2014. A PrP^{C}-caveolin-Lyn complex negatively controls neuronal GSK3β and serotonin 1B receptor. Sci. Rep. 4: 4881.
5. Li, R., et al. 2016. Lyn prevents aberrant inflammatory responses to *Pseudomonas* infection in mammalian systems by repressing a SHIP-1-associated signaling cluster. Signal Transduct. Target. Ther. 1: 16032.
6. Li, X., et al. 2017. The tyrosine kinase Src promotes phosphorylation of the kinase TBK1 to facilitate type I interferon production after viral infection. Sci. Signal. 10: eaae0435.

RESEARCH USE

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