

BST-1 siRNA (h): sc-43643

BACKGROUND

BST-1 (bone marrow stromal antigen-1) has been identified as a surface molecule that is GPI-anchored to the cell membrane of stromal cells. Both ADP-ribosyl cyclase and cADPR hydrolase activities have been demonstrated by BST-1. cADPR activity is a potential regulator of Insulin secretion in pancreatic β cells. Most pancreatic islet cells express BST-1, indicating a link between BST-1 and Insulin secretion. BST-1 expression has also been found in a wide range of tissues including umbilical vein endothelial cells, monocytes and granulocytes. BST-1 expression in thymus tissue and on B and T cell progenitors undergoing gene rearrangement implicates BST-1 as a useful marker for lymphoid progenitor cells that are initiating gene rearrangement of their antigen receptors. BST-1 has also been shown to facilitate B cell growth and may act as a receptor.

REFERENCES

1. Kaisho, T., Ishikawa, J., Oritani, K., Inazawa, J., Tomizawa, H., Muraoka, O., Ochi, T. and Hirano, T. 1994. BST-1, a surface molecule of bone marrow stromal cell lines that facilitates pre-B-cell growth. *Proc. Natl. Acad. Sci. USA* 91: 5325-5329.
2. Hirata, Y., Kimura, N., Sato, K., Ohsugi, Y., Takasawa, S., Okamoto, H., Ishikawa, J., Kaisho, T., Ishihara, K. and Hirano, T. 1994. ADP ribosyl cyclase activity of a novel bone marrow stromal cell surface molecule, BST-1. *FEBS Lett.* 356: 244-248.
3. Kato, I., Takasawa, S., Akabane, A., Tanaka, O., Abe, H., Takamura, T., Suzuki, Y., Nata, K., Yonekura, H., Yoshimoto, T., et al. 1995. Regulatory role of CD38 (ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase) in Insulin secretion by glucose in pancreatic β cells. Enhanced Insulin secretion in CD38-expressing transgenic mice. *J. Biol. Chem.* 270: 30045-30050.
4. Okuyama, Y., Ishihara, K., Kimura, N., Hirata, Y., Sato, K., Itoh, M., Ok, L.B. and Hirano, T. 1995. Human BST-1 expressed on myeloid cells functions as a receptor molecule. *Biochem. Biophys. Res. Commun.* 228: 838-845.
5. Kajimoti, Y., Miyagawa, J., Ishihara, K., Okuyama, Y., Fujitani, Y., Itoh, M., Yoshida, H., Kaisho, T., Matsuoaka, T., Watada, H., Hanafusa, T., Yamasaki, Y., Kamada, T., Matsuzawa, Y. and Hirano, T. 1996. Pancreatic islet cells express BST-1, a CD38-like surface molecule having ADP-ribosyl cyclase activity. *Biochem. Biophys. Res. Commun.* 219: 941-946.
6. Ishihara, K., Kobune, Y., Okuyama, Y., Itoh, M., Lee, B.O., Muraoka, O. and Hirano, T. 1996. Stage-specific expression of mouse BST-1/BP-3 on the early B and T cell progenitors prior to gene rearrangement of antigen receptor. *Int. Immunol.* 8: 1395-1404.

CHROMOSOMAL LOCATION

Genetic locus: BST1 (human) mapping to 4p15.32.

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.

PRODUCT

BST-1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BST-1 shRNA Plasmid (h): sc-43643-SH and BST-1 shRNA (h) Lentiviral Particles: sc-43643-V as alternate gene silencing products.

For independent verification of BST-1 (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-43643A, sc-43643B and sc-43643C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

BST-1 siRNA (h) is recommended for the inhibition of BST-1 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 μ M in 66 μ l. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BST-1 gene expression knockdown using RT-PCR Primer: BST-1 (h)-PR: sc-43643-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.