SANTA CRUZ BIOTECHNOLOGY, INC.

bomapin siRNA (m): sc-40369

BACKGROUND

Serpins, which are high molecular weight serine proteinase inhibitors, regulate a diverse set of intra- and extracellular processes such as complement activation, fibrinolysis, coagulation, cellular differentiation, tumor suppression, apoptosis and cell migration. Serpins are also involved in the regulation of proteolytic processes in a variety of biological systems. The ov-serpins are a subset of the serpin superfamily, of which the cytoplasmic protein bomapin (PI10) is a member. The bomapin gene maps to the serpin cluster at human chromosome 18q21.3 and encodes a 397 amino acid serine protease inhibitor 10 that is highly expressed in human bone marrow cells. bomapin is expressed in monocytic THP-1 and AML-193 cell lines. However, after treatment with phorbol myristate acetate, which induces monocytic differentiation, bomapin expression is reduced in THP-1 and AML-193 cells. In conclusion, bomapin may play a role in the regulation of protease activities, specifically in early stages of cellular differentiation and during hematopoiesis.

REFERENCES

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2. Korpula-Mastalerz, R. and Dubin, A. 1996. The intracellular serpin family. Acta Biochim. Pol. 43: 419-429.
3. Bartuski, A.J., Kamachi, Y., Schick, C., Overhauser, J. and Silverman, G.A. 1997. Cytoplasmic antiproteinase 2 (PI8) and bomapin (PI10) map to the serpin cluster at 18q21.3. Genomics 43: 321-328.
4. Silverman, G.A., Bartuski, A.J., Cataltepe, S., Gornstein, E.R., Kamachi, Y., Schick, C. and Uemura, Y. 1998. SCCA1 and SCCA2 are proteinase inhibitors that map to the serpin cluster at 18q21.4. Tumour Biol. 19: 480-487.
5. Riewald, M., Chuang, T., Neubauer, A., Riess, H. and Schleef, R.R. 1998. Expression of bomapin, a novel human serpin, in normal/malignant hematopoiesis and in the monocytic cell lines THP-1 and AML-193. Blood 91: 1256-1262.

CHROMOSOMAL LOCATION

Genetic locus: Serpinb10 (mouse) mapping to 1 E2.1.

PRODUCT

bomapin 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 bomapin shRNA Plasmid (m): sc-40369-SH and bomapin shRNA (m) Lentiviral Particles: sc-40369-V as alternate gene silencing products.

For independent verification of bomapin (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-40369A, sc-40369B and sc-40369C.

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

bomapin siRNA (m) is recommended for the inhibition of bomapin 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor bomapin gene expression knockdown using RT-PCR Primer: bomapin (m)-PR: sc-40369-PR (20 µl). 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.