

Mammaglobin B siRNA (h): sc-45749

BACKGROUND

Secretoglobins (Lipophilins, Mammaglobins) are small secreted proteins of endocrine-responsive organs and mucosal epithelia that form multimeric complexes and correlate with the development of various human cancers. Lipophilin A (LIPA, LPHA, secretoglobin, family 1D, member 1; SCGB1D1) and Lipophilin B (LIPB, LPHB, secretoglobin, family 1D, member 2; SCGB1D2) are orthologs of prostatein (estramustine-binding protein), the major secretory glycoprotein of the rat ventral prostate gland. Lipophilin A is a component of a heterodimeric molecule present in human tears. Lipophilin B mRNA can be overexpressed in breast tumors and shows a high degree of correlation with the mRNA expression profile of mammaglobin. Mammaglobin A (MGB1, secretoglobin, family 2A, member 2; SCGB2A2) and Mammaglobin B (MGB2, lipophilin C, LPHC, UGB3, SCGB2A2) histological detection in breast tissue is a reliable diagnostic marker for breast tumors.

REFERENCES

1. Wood, D.D., et al. 1984. Interaction between human Myelin basic protein and Lipophilin. *Neurochem. Res.* 9: 1523-1531.
2. Gow, A. 1997. Redefining the Lipophilin family of proteolipid proteins. *J. Neurosci. Res.* 50: 659-664.
3. Lehrer, R.I., et al. 1998. Lipophilin, a novel heterodimeric protein of human tears. *FEBS Lett.* 432: 163-167.
4. Carter, D., et al. 2002. Purification and characterization of the Mammaglobin/Lipophilin B complex, a promising diagnostic marker for breast cancer. *Biochemistry* 41: 6714-6722.
5. Carter, D., et al. 2003. Serum antibodies to Lipophilin B detected in late stage breast cancer patients. *Clin. Cancer Res.* 9: 749-754.
6. Cerveira, N., et al. 2004. Highly sensitive detection of the MGB1 transcript (Mammaglobin) in the peripheral blood of breast cancer patients. *Int. J. Cancer* 108: 592-595.
7. Ouellette, R.J., et al. 2004. RT-PCR for Mammaglobin genes, MGB1 and MGB2, identifies breast cancer micrometastases in sentinel lymph nodes. *Am. J. Clin. Pathol.* 121: 637-643.
8. Sjodin, A., et al. 2005. Secretoglobins in the human pituitary: high expression of lipophilin B and its down-regulation in pituitary adenomas. *Acta Neuropathol.* 109: 381-386.
9. Bernstein, J.L., et al. 2005. Identification of mammaglobin as a novel serum marker for breast cancer. *Clin. Cancer Res.* 11: 6528-6535.

CHROMOSOMAL LOCATION

Genetic locus: SCGB2A1 (human) mapping to 11q12.3.

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

Mammaglobin B 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 Mammaglobin B shRNA Plasmid (h): sc-45749-SH and Mammaglobin B shRNA (h) Lentiviral Particles: sc-45749-V as alternate gene silencing products.

For independent verification of Mammaglobin B (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-45749A, sc-45749B and sc-45749C.

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

Mammaglobin B siRNA (h) is recommended for the inhibition of Mammaglobin B 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 Mammaglobin B gene expression knockdown using RT-PCR Primer: Mammaglobin B (h)-PR: sc-45749-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.