SANTA CRUZ BIOTECHNOLOGY, INC.

GPNMB siRNA (m): sc-60722

BACKGROUND

Transmembrane glycoprotein NMB (GPNMB), also designated hematopoietic growth factor inducible neurokinin-1 (HGFIN), is a single-pass type I membrane protein. Belonging to the Pmel-17/NMB family of proteins, GPNMB acts as a melanogenic enzyme. GPNMB expression is not restricted to cells of melanocytic lineage and is highest in poorly metastatic melanoma cell lines. There is no expression of GPNMB in highly metastatic melanoma cell lines. GPNMB may play a important role in lymphohematopoietic stem cell maturation.

REFERENCES

1. Anderson, M.G., et al. 2001. Mutations in genes encoding melanosomal proteins cause pigmentary glaucoma in DBA/2J mice. Nat. Genet. 30: 81-85.
2. Safadi, F.F., et al. 2001. Cloning and characterization of osteoactivin, a novel cDNA expressed in osteoblasts. J. Cell. Biochem. 84: 12-26.
3. Bächner, D., et al. 2003. mRNA expression of the murine glycoprotein (transmembrane) nmb (Gpnmb) gene is linked to the developing retinal pigment epithelium and iris. Brain Res. Gene Expr. Patterns 1: 159-165.
4. Bandari, P.S., et al. 2003. Hematopoietic growth factor inducible neurokinin-1 type: a transmembrane protein that is similar to neurokinin 1 interacts with substance P. Regul. Pept. 111: 169-178.
5. Onaga, M., et al. 2003. Osteoactivin expressed during cirrhosis development in rats fed a choline-deficient, L-amino acid-defined diet, accelerates motility of hepatoma cells. J. Hepatol. 39: 779-785.
6. Haralanova-Ilieva, B., et al. 2005. Expression of osteoactivin in rat and human liver and isolated rat liver cells. J. Hepatol. 42: 565-572.
7. Metz, R.L., et al. 2005. Cloning and a cooperative role among p53 and cytokine-mediated transcription factors: relevance to cell cycle regulation. Cell Cycle 4: 315-322.

CHROMOSOMAL LOCATION

Genetic locus: Gpnmb (mouse) mapping to 6 B2.3.

PRODUCT

GPNMB 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 GPNMB shRNA Plasmid (m): sc-60722-SH and GPNMB shRNA (m) Lentiviral Particles: sc-60722-V as alternate gene silencing products.

For independent verification of GPNMB (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-60722A, sc-60722B and sc-60722C.

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

GPNMB siRNA (m) is recommended for the inhibition of GPNMB 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 GPNMB gene expression knockdown using RT-PCR Primer: GPNMB (m)-PR: sc-60722-PR (20 µl, 519 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.