SANTA CRUZ BIOTECHNOLOGY, INC.

Sg V siRNA (h): sc-76489

BACKGROUND

Sg V (secretogranin V), also known as SCG5, SGNE1 or 7B2, is a 212 amino acid protein that is secreted by endocrine and neuroendocrine secretory granules and belongs to the 7B2 family. Existing as two alternatively spliced isoforms, Sg V interacts with PC2 and, via this interaction, functions as a molecular chaperone for PC2, effectively preventing its premature activation in regulated secretory pathways. More specifically, Sg V binds to PC2 and facilitates its transport from the endoplasmic reticulum to secretory compartments, thus allowing PC2 to be cleaved and activated during the correct phase of the regulated secretory pathway. Sg V is subject to post-translational sulfation on specific tyrosine residues and is underexpressed in medulloblastomas, suggesting a role in tumor suppression. The gene encoding Sg V maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome.

REFERENCES

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6. Taupenot, L., et al. 2003. The chromogranin-secretogranin family. N. Engl. J. Med. 348: 1134-1149.
7. Bouatia-Naji, N., et al. 2007. Secretory granule neuroendocrine protein 1 (SGNE1) genetic variation and glucose intolerance in severe childhood and adult obesity. BMC Med. Genet. 8: 44.
8. Waha, A., et al. 2007. SGNE1/7B2 is epigenetically altered and transcriptionally downregulated in human medulloblastomas. Oncogene 26: 5662-5668.
9. Stridsberg, M., et al. 2008. Measurements of secretogranins II, III, V and proconvertases 1/3 and 2 in plasma from patients with neuroendocrine tumours. Regul. Pept. 148: 95-98.

CHROMOSOMAL LOCATION

Genetic locus: SCG5 (human) mapping to 15q13.3.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

Sg V 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Sg V shRNA Plasmid (h): sc-76489-SH and Sg V shRNA (h) Lentiviral Particles: sc-76489-V as alternate gene silencing products.

For independent verification of Sg V (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-76489A, sc-76489B and sc-76489C.

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

Sg V siRNA (h) is recommended for the inhibition of Sg V 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 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 Sg V gene expression knockdown using RT-PCR Primer: Sg V (h)-PR: sc-76489-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.