SANTA CRUZ BIOTECHNOLOGY, INC.

SCRN1 siRNA (h): sc-89818

BACKGROUND

The secretory process is a coordinated cellular response, initiated by surface receptors and comprising an ordered sequence of biochemical steps subject to multiple controls. Mast cells are secretory cells found on the mucosal and serosal surfaces of tissues throughout the body where they are involved in the allergic response. Mast cells secrete a variety of inflammatory mediators, including histamine, from granules that contain many lysosomal markers. SCRN1 (secernin-1), also known as SES1, is a 414 amino acid cytosolic protein that is involved in the regulation of exocytosis in peritoneal mast cells. Belonging to the peptidase C69 family, SCRN1 increases both the extent of secretion and increases the sensitivity of mast cells to stimulation with calcium. SCRN1 is also considered a novel marker for gastric cancer.

REFERENCES

1. Gomperts, B.D., et al. 1987. The dual effector system for exocytosis in mast cells: obligatory requirement for both Ca^{2+} and GTP. Biosci. Rep. 7: 369-381.
2. Howell, T.W., et al. 1989. Protein phosphorylation and the dependence on Ca^{2+} and GTP-γ-S for exocytosis from permeabilised mast cells. Cell. Signal. 1: 157-163.
3. Gomperts, B.D. 1990. Exocytosis: the role of Ca^{2+}, GTP and ATP as regulators and modulators in the rat mast cell model. J. Exp. Pathol. 71: 423-431.
4. Gomperts, B.D., et al. 1991. Intracellular mechanisms regulating exocytotic secretion in mast cells. Int. Arch. Allergy Appl. Immunol. 94: 38-46.
5. Lillie, T.H., et al. 1992. Nucleotides and divalent cations as effectors and modulators of exocytosis in permeabilized rat mast cells. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 336: 25-34.
6. Way, G., et al. 2002. Purification and identification of secernin, a novel cytosolic protein that regulates exocytosis in mast cells. Mol. Biol. Cell 13: 3344-3354.

CHROMOSOMAL LOCATION

Genetic locus: SCRN1 (human) mapping to 7p14.3.

PRODUCT

SCRN1 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 SCRN1 shRNA Plasmid (h): sc-89818-SH and SCRN1 shRNA (h) Lentiviral Particles: sc-89818-V as alternate gene silencing products.

For independent verification of SCRN1 (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-89818A, sc-89818B and sc-89818C.

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

SCRN1 siRNA (h) is recommended for the inhibition of SCRN1 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 SCRN1 gene expression knockdown using RT-PCR Primer: SCRN1 (h)-PR: sc-89818-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.