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CD203c siRNA (m): sc-142185

BACKGROUND

Ecto-nucleotide pyrophosphatase/phosphodiesterase-1 enzymes (E-NPP), a group of type II transmembrane proteins, cleave phosphodiester and phosphosulfate bonds in deoxynucleotides, NAD, and nucleotide sugars. There exist three closely related proteins in mammalian species: E-NPP1 (PC-1), E-NPP2 (PDNP2), and E-NPP-3, also known as CD203c, each expressed in different cells or at different locations in the same cells. Basophils, a type of major proinflammatory effector cells involved in diverse pathologic reactions, exhibit CD203c expression. For instance, CD203c expression increases in response to a variety of allergens, including cat dander, latex, and bee and wasp venom. However, these allergies are not the only condition associated with CD203c upregulation; CD203c upregulation may also serve as a tumor marker for colon carcinoma.

REFERENCES

1. Binder, M., et al. 2002. Individual hymenoptera venom compounds induce upregulation of the basophil activation marker ectonucleotide pyrophosphatase/phosphodiesterase 3 (CD203c) in sensitized patients. *Int. Arch. Allergy Immunol.* 129: 160-168.
2. Yano, Y., et al. 2003. Expression and localization of ecto-nucleotide-pyrophosphatase/phosphodiesterase I-3 (E-NPP3/CD203c/PD-I β /B10/gp130RB13-6) in human colon carcinoma. *Int. J. Mol. Med.* 12: 763-766.
3. Majlesi, Y., et al. 2003. Cerivastatin and atorvastatin inhibit IL-3-dependent differentiation and IgE-mediated histamine release in human basophils and downmodulate expression of the basophil-activation antigen CD203c/E-NPP3. *J. Leukoc. Biol.* 73: 107-117.
4. Gronlund, H., et al. 2003. Formation of disulfide bonds and homodimers of the major cat allergen Fel d 1 equivalent to the natural allergen by expression in *Escherichia coli*. *J. Biol. Chem.* 278: 40144-40151.
5. Boumiza, R., et al. 2003. Marked improvement of the basophil activation test by detecting CD203c instead of CD63. *Clin. Exp. Allergy* 33: 259-265.

CHROMOSOMAL LOCATION

Genetic locus: Enpp3 (mouse) mapping to 10 A4.

PRODUCT

CD203c 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CD203c shRNA Plasmid (m): sc-142185-SH and CD203c shRNA (m) Lentiviral Particles: sc-142185-V as alternate gene silencing products.

For independent verification of CD203c (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-142185A, sc-142185B and sc-142185C.

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 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

CD203c siRNA (m) is recommended for the inhibition of CD203c 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 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 CD203c gene expression knockdown using RT-PCR Primer: CD203c (m)-PR: sc-142185-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Tsai, S.H., et al. 2015. The ectoenzyme E-NPP3 negatively regulates ATP-dependent chronic allergic responses by basophils and mast cells. *Immunity* 42: 279-293.

RESEARCH USE

For research use only, not for use in diagnostic procedures.