

granzyme F siRNA (m): sc-105413

BACKGROUND

The granzyme family of proteins belong to the larger peptidase S1 family. Granzymes are serine proteases that are released by cytoplasmic granules of natural killer cells and cytotoxic T-cells. Once released, they enter virus-infected cells to cleave caspases and induce apoptosis. Granzyme F, also known as Cytotoxic cell protease 4 and Cytotoxic serine protease 3, is a 248 amino acid protein that is thought to be involved in the process of target cell lysis in cell-mediated immune responses. Murine granzyme F is highly expressed in NK3.1 cells and lymphokine-activated killer cells. Granzyme F induces a novel cell death pathway which causes reactive oxygen species accumulation, mitochondrial swelling and depolarization. Interestingly, granzyme F-induced death impairs mitochondrial electron transport and abolishes ATP generation, which then leads to inactivation of caspase activity.

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CHROMOSOMAL LOCATION

Genetic locus: *Gzmf* (mouse) mapping to 14 C3.

PRODUCT

granzyme F siRNA (m) is a pool of 2 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 granzyme F shRNA Plasmid (m): sc-105413-SH and granzyme F shRNA (m) Lentiviral Particles: sc-105413-V as alternate gene silencing products.

For independent verification of granzyme F (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-105413A and sc-105413B.

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

granzyme F siRNA (m) is recommended for the inhibition of granzyme F 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 granzyme F gene expression knockdown using RT-PCR Primer: granzyme F (m)-PR: sc-105413-PR (20 μ l). 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.

PROTOCOLS

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