

granulysin siRNA (h): sc-42887

BACKGROUND

Granulysin (NKG5) is a saposin-like protein (SAPLIP) that is expressed in granular cells and functions as an effector molecule for antimicrobial responses in the hematopoietic system. Upon antigen stimulation generated from intracellular pathogens such as bacteria, fungi, and parasites, granulysin mediates the release of cytotoxic granules from Cytolytic T lymphocytes (CTLs) and Natural killer cells (NKs), a process that can lead to apoptosis. The potent antimicrobial activity of granulysin may occur through elevated pathogen host-cell permeability and lysis. Human granulysin is expressed as proteins of two sizes derived from three unique transcripts. Granulysin expressing CTLs, in the presence of perforin, can kill extracellular and intracellular *Mycobacterium tuberculosis* through a granule-dependent mechanism, suggesting that granulysin may play a broad role in T cell mediated host protection against certain pathogens.

REFERENCES

1. Houchins, J.P., et al. 1993. Genomic structure of NKG5, a human NK and T cell-specific activation gene. *Immunogenetics* 37: 102-107.
2. Pena, S.V., et al. 1997. Granulysin, a new human cytolytic granule-associated protein with possible involvement in cell-mediated cytotoxicity. *Semin. Immunol.* 9: 117-125.
3. Gamen, S., et al. 1998. Granulysin-induced apoptosis. I. Involvement of at least two distinct pathways. *J. Immunol.* 161: 1758-1764.
4. Stenger, S., et al. 1998. An antimicrobial activity of cytolytic T cells mediated by granulysin. *Science* 282: 121-125.
5. Stenger, S., et al. 1999. Granulysin: a lethal weapon of cytolytic T cells. *Immunol. Today* 20: 390-394.
6. Hanson, D.A., et al. 1999. Biosynthesis of granulysin, a novel cytolytic molecule. *Mol. Immunol.* 36: 413-422.

CHROMOSOMAL LOCATION

Genetic locus: GNLY (human) mapping to 2p11.2.

PRODUCT

granulysin siRNA (h) is a target-specific 19-25 nt siRNA 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 granulysin shRNA Plasmid (h): sc-42887-SH and granulysin shRNA (h) Lentiviral Particles: sc-42887-V as alternate gene silencing 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

granulysin siRNA (h) is recommended for the inhibition of granulysin 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 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.

GENE EXPRESSION MONITORING

granulysin (F-9): sc-271119 is recommended as a control antibody for monitoring of granulysin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor granulysin gene expression knockdown using RT-PCR Primer: granulysin (h)-PR: sc-42887-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.