SANTA CRUZ BIOTECHNOLOGY, INC.

ICEBERG siRNA (h): sc-105550

BACKGROUND

ICEBERG is a member of the death-domain-fold superfamily that is induced by proinflammatory stimuli. Primarily expressed in the heart and placenta, ICEBERG inhibits the generation of IL-1 β which blocks apoptosis during an inflammatory stimulus. ICEBERG inhibits IL-1 β by associating with caspase-1, thereby preventing caspase-1 from interacting with the pro-apoptotic protein RIP2. The association of ICEBERG with caspase-1 is facilitated by the charge-charge interactions between the prodomain of caspase-1 and the surface charge of ICEBERG. The association of caspase-1 with RIP2 will inhibit apoptosis by generating IL-1 β. However, the association of caspase-1, which serves both pro and antiapoptotic roles, with ICEBERG induces apoptosis by inhibiting the generation of IL-1 β.

REFERENCES

1. Watson, R.W., et al. 1998. The IL-1 β-converting enzyme (caspase-1) inhibits apoptosis of inflammatory neutrophils through activation of IL-1 β. J. Immunol. 161: 957-962.
2. McCarthy, J.V., et al. 1998. RIP2 is a novel NFκB-activating and cell death-inducing kinase. J. Biol. Chem. 273: 16968-16975.
3. Pazdernik, N.J., et al. 1999. Mouse receptor interacting protein 3 does not contain a caspase-recruiting or a death domain but induces apoptosis and activates NFκB. Mol. Cell. Biol. 19: 6500-6508.
4. Laliberte, R.E., et al. 1999. ATP treatment of human monocytes promotes caspase-1 maturation and externalization. J. Biol. Chem. 274: 36944-36951.
5. Humke, E.W., et al. 2000. ICEBERG: a novel inhibitor of interleukin-1 β generation. Cell 103: 99-111.

CHROMOSOMAL LOCATION

Genetic locus: CARD18 (human) mapping to 11q22.3.

PRODUCT

ICEBERG 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ICEBERG shRNA Plasmid (h): sc-105550-SH and ICEBERG shRNA (h) Lentiviral Particles: sc-105550-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 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.

RESEARCH USE

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

APPLICATIONS

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

SELECT PRODUCT CITATIONS

1. Goblos, A., et al. 2016. Keratinocytes express functional CARD18, a negative regulator of inflammasome activation, and its altered expression in psoriasis may contribute to disease pathogenesis. Mol. Immunol. 73: 10-18.

PROTOCOLS

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