SANTA CRUZ BIOTECHNOLOGY, INC.

Ly-49H siRNA (m): sc-42942

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The activity of natural killer (NK) cells is regulated by members of multiple receptor families that recognize class I MHC molecules, such as the killer cell inhibitory receptor/leukocyte immunoglobulin-like receptor (KIR/LIR) family and the C-type lectin superfamily. The KIR/LIR family includes p91A (also designated pp130 or PIR-B, for paired Immunoglobulin-like receptor-B) and p91B (also designated PIR-A). p91A acts as an inhibitory receptor through interactions with SHP-1, whereas p91B acts as an activating receptor. CD94, NKG2 and Ly-49 are members of the C-type lectin superfamily of type II membrane glycoproteins. CD94 forms heterodimers with NKG2 isoforms on the surface of NK cells, whereas Ly-49 isoforms form homodimers. There are at least 21 Ly-49 proteins, ranging from 230 to 280 amino acids in length. The Ly-49 isoforms, which are clustered on human chromosome 16, all function to present the C-type lectin domain on the cell membrane. NKG2-D, expressed on NK cells, $\gamma\delta$ T cells, and $CD8^+$ $\alpha\beta$ T cells, is a receptor for the stress inducible protein MICA, an antigen frequently expressed in epithelial tumors.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Klra8 (mouse) mapping to 6 F3.

PROTOCOLS

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

PRODUCT

Ly-49H 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ly-49H shRNA Plasmid (m): sc-42942-SH and Ly-49H shRNA (m) Lentiviral Particles: sc-42942-V as alternate gene silencing products.

For independent verification of Ly-49H (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-42942A and sc-42942B.

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

Ly-49H siRNA (m) is recommended for the inhibition of Ly-49H 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 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.

GENE EXPRESSION MONITORING

Ly-49 (14B11): sc-53022 is recommended as a control antibody for monitoring of Ly-49H 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ly-49H gene expression knockdown using RT-PCR Primer: Ly-49H (m)-PR: sc-42942-PR (20 µl, 403 bp). 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.