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KLRG1 siRNA (m): sc-42938

BACKGROUND

Killer cell lectin-like receptor G1 (KLRG1) is expressed as a homodimer, composed of glycosylated 30-38 kDa subunits, on natural killer (NK) cells and activated CD8 T cells. KLRG1 expression is tightly regulated and is induced through different molecular mechanisms in varying subsets of immune-responsive cells. Induction of the receptor leads to inhibition of NK cell-mediated cytotoxicity and cytokine production, indicating a role for KLRG1 in the termination of NK cell activation. A rat homologue of KLRG1, designated mast cell function-associated antigen (MAFA), was originally isolated from the RBL-2H3 cell line. MAFA is expressed in rat mast cells and basophils.

REFERENCES

1. Corral, L., et al. 2000. NK cell expression of the killer cell lectin-like receptor G1 (KLRG1), the mouse homolog of MAFA, is modulated by MHC class I molecules. *Eur. J. Immunol.* 30: 920-930.
2. Voehringer, D., et al. 2001. Genomic structure, alternative splicing, and physical mapping of the killer cell lectin-like receptor G1 gene (KLRG1), the mouse homologue of MAFA. *Immunogenetics* 52: 206-211.
3. Robbins, S.H., et al 2002. Cutting edge: inhibitory functions of the killer cell lectin-like receptor G1 molecule during the activation of mouse NK cells. *J. Immunol.* 168: 2585-2589.
4. Abramson, J., et al. 2002. Clustering the mast cell function-associated antigen (MAFA) leads to tyrosine phosphorylation of p62^{Dok} and SHIP and affects RBL-2H3 cell cycle. *Immunol. Lett.* 82: 23-28.
5. Robbins, S.H., et al. 2003. Differential regulation of killer cell lectin-like receptor G1 expression on T cells. *J. Immunol.* 170: 5876-5885.

CHROMOSOMAL LOCATION

Genetic locus: Klrp1 (mouse) mapping to 6 F1.

PRODUCT

KLRG1 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 KLRG1 shRNA Plasmid (m): sc-42938-SH and KLRG1 shRNA (m) Lentiviral Particles: sc-42938-V as alternate gene silencing products.

For independent verification of KLRG1 (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-42938A, sc-42938B and sc-42938C.

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

KLRG1 siRNA (m) is recommended for the inhibition of KLRG1 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.

GENE EXPRESSION MONITORING

KLRG1 (2F1): sc-32755 is recommended as a control antibody for monitoring of KLRG1 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 KLRG1 gene expression knockdown using RT-PCR Primer: KLRG1 (m)-PR: sc-42938-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.