SANTA CRUZ BIOTECHNOLOGY, INC.

Ly-6A/E siRNA (m): sc-72121

BACKGROUND

The activity of natural killer (NK) cells is regulated by members of multiple receptor families that recognize MHC class I molecules, such as the killer cell inhibitory receptor/leukocyte immunoglobulin-like receptor (KIR/LIR) family and the C-type lectin superfamily. The Ly-6 alloantigens represent a family of phosphatidylinositol-anchored proteins that play a role in the process of T lymphocyte activation. Ly-6 expression is commonly induced on T and B lymphocytes after activation by mitogens. Ly-6A/E is a phosphatidylinositol-linked transmembrane member of the Ly-6 family that is produced in humans after 4 weeks of age. γ-interferon and TNF regulate Ly-6A/E at the level of transcription and mRNA stabilization in certain thymocytes and T-cells.

REFERENCES

1. Ortega, G., Korty, P.E., Shevach, E.M. and Malek, T.R. 1986. Role of Ly-6 in lymphocyte activation. I. Characterization of a monoclonal antibody to a nonpolymorphic Ly-6 specificity. J. Immunol. 137: 3240-3246.
2. Palfree, R.G., Dumont, F.J. and Hammerling, U. 1986. Ly-6A.2 and Ly-6E.1 molecules are antithetical and identical to MALA-1. Immunogenetics 23: 197-207.
3. Codias, E.K., Cray, C., Baler, R.D., Levy, R.B. and Malek, T.R. 1989. Expression of Ly-6A/E alloantigens in thymocyte and T-lymphocyte subsets: variability related to the Ly-6A and Ly-6B haplotypes. Immunogenetics 29: 98-107.
4. Malek, T.R., Danis, K.M. and Codias, E.K. 1989. Tumor necrosis factor synergistically acts with IFN-γ to regulate Ly-6A/E expression in T lymphocytes, thymocytes and bone marrow cells. J. Immunol. 142: 1929-1936.
5. Codias, E.K. and Malek, T.R. 1990. Regulation of B lymphocyte responses to IL-4 and IFN-γ by Ly-6A/E molecules. J. Immunol. 144: 2197-2204.

CHROMOSOMAL LOCATION

Genetic locus: Ly6a (mouse) mapping to 15 D3.

PRODUCT

Ly-6A/E 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ly-6A/E shRNA Plasmid (m): sc-72121-SH and Ly-6A/E shRNA (m) Lentiviral Particles: sc-72121-V as alternate gene silencing products.

For independent verification of Ly-6A/E (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-72121A, sc-72121B and sc-72121C.

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.

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-6A/E siRNA (m) is recommended for the inhibition of Ly-6A/E 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-6A/E (D7): sc-52601 is recommended as a control antibody for monitoring of Ly-6A/E 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-6A/E gene expression knockdown using RT-PCR Primer: Ly-6A/E (m)-PR: sc-72121-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.