



Pirb siRNA (m): sc-42952

BACKGROUND

Leukocyte immunoglobulin-like receptors (LIRs) are members of the immunoglobulin superfamily of glycoproteins and are predominantly expressed by monocytes, B cells, dendritic cells, natural killer (NK) cells, peripheral blood leukocytes and tissues such as placenta, lung and liver. These receptors all contain a cytoplasmic immunoreceptor tyrosine-based inhibitory motif (ITIM), have an inhibitory function and are type I membrane proteins. When they bind to MHC (or other ligands) and ITIM is tyrosine phosphorylated, protein-tyrosine phosphatases are recruited and an inhibitory signal cascade triggered. LILRB3 (leukocyte immunoglobulin-like receptor, subfamily B (with TM and ITIM domains), member 3), also known as Pirb, is an 841 amino acid mouse protein that belongs to the LIR family of immunoglobulin glycoproteins.

REFERENCES

1. Colonna, M., et al. 1997. A common inhibitory receptor for major histocompatibility complex class I molecules on human lymphoid and myelomonocytic cells. *J. Exp. Med.* 186: 1809-1818.
2. Arm, J.P., et al. 1997. Molecular identification of a novel family of human Ig superfamily members that possess immunoreceptor tyrosine-based inhibition motifs and homology to the mouse gp49B1 inhibitory receptor. *J. Immunol.* 159: 2342-2349.
3. Borges, L., et al. 1997. A family of human lymphoid and myeloid Ig-like receptors, some of which bind to MHC class I molecules. *J. Immunol.* 159: 5192-5196.
4. Wende, H., et al. 2000. Extensive gene duplications and a large inversion characterize the human leukocyte receptor cluster. *Immunogenetics.* 51: 703-713.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604820. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Tedla, N., et al. 2003. Activation of human eosinophils through leukocyte immunoglobulin-like receptor 7. *Proc. Natl. Acad. Sci. USA* 100: 1174-1179.
7. Sloane, D.E., et al. 2004. Leukocyte immunoglobulin-like receptors: novel innate receptors for human basophil activation and inhibition. *Blood* 104: 2832-2839.
8. Huynh, O.A., et al. 2007. Down-regulation of leukocyte immunoglobulin-like receptor expression in the synovium of rheumatoid arthritis patients after treatment with disease-modifying anti-rheumatic drugs. *Rheumatology* 46: 742-751.
9. Tedla, N., et al. 2008. Differential expression of leukocyte immunoglobulin-like receptors on cord-blood-derived human mast cell progenitors and mature mast cells. *J. Leukoc. Biol.* 83: 334-343.

CHROMOSOMAL LOCATION

Genetic locus: Pirb (mouse) mapping to 7 A1.

PROTOCOLS

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

PRODUCT

Pirb 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Pirb shRNA Plasmid (m): sc-42952-SH and Pirb shRNA (m) Lentiviral Particles: sc-42952-V as alternate gene silencing products.

For independent verification of Pirb (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-42952A and sc-42952B.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Pirb gene expression knockdown using RT-PCR Primer: Pirb (m)-PR: sc-42952-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.