SANTA CRUZ BIOTECHNOLOGY, INC.

PILR-α siRNA (m): sc-106411

BACKGROUND

PILR-α (paired immunoglobulin (Ig)-like type 2 receptor α), also known as FDF03, is a member of the paired Ig-like type 2 receptor family and is predominantly expressed in hemopoietic tissues but is also found in macrophages, monocytes, granulocytes and dendritic cells. Typically consisting of two highly related but functionally opposite (inhibiting and activating) receptors, paired receptors play an important role in the regulation of the immune system and in the recognition of the sialylated O-glycosylated ligand MIC2. PILR-α is the inhibitory component of the paired Ig-like type 2 receptor and PILR-β is the activating component. PILR-α contains an immune receptor tyrosine-based inhibitory motif (ITIM) which mediates the recruitment of a phosphatase for the inhibition of immune responses. Due to alternative splicing events, four isoforms exist for PILR-α. Isoforms 1 and 2 are single-pass type I membrane proteins and localize to the cell membrane, while isoforms 3 and 4 are secreted proteins.

REFERENCES

1. Fournier, N., et al. 2000. FDF03, a novel inhibitory receptor of the immunoglobulin superfamily, is expressed by human dendritic and myeloid cells. J. Immunol. 165: 1197-1209.
2. Mousseau, D.D., et al. 2000. PILR-α, a novel immunoreceptor tyrosine-based inhibitory motif-bearing protein, recruits SHP-1 upon tyrosine phosphorylation and is paired with the truncated counterpart PILR-β. J. Biol. Chem. 275: 4467-4474.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605341. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Velten, F.W., et al. 2004. A gene signature of inhibitory MHC receptors identifies a BDCA3+ subset of IL-10-induced dendritic cells with reduced allostimulatory capacity *in vitro*. Eur. J. Immunol. 34: 2800-2811.
5. Shiratori, I., et al. 2004. Activation of natural killer cells and dendritic cells upon recognition of a novel CD99-like ligand by paired immunoglobulin-like type 2 receptor. J. Exp. Med. 199: 525-533.
6. Wilson, M.D., et al. 2006. Comparative analysis of the paired immunoglobulin-like receptor (PILR) locus in six mammalian genomes: duplication, conversion, and the birth of new genes. Physiol. Genomics 27: 201-218.

CHROMOSOMAL LOCATION

Genetic locus: Pilra (mouse) mapping to 5 G2.

PRODUCT

PILR-α 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 PILR-α shRNA Plasmid (m): sc-106411-SH and PILR-α shRNA (m) Lentiviral Particles: sc-106411-V as alternate gene silencing products.

For independent verification of PILR-α (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-106411A and sc-106411B.

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

PILR-α siRNA (m) is recommended for the inhibition of PILR-α 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

PILR-α/β (H-2): sc-390847 is recommended as a control antibody for monitoring of PILR-α 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PILR-α gene expression knockdown using RT-PCR Primer: PILR-α (m)-PR: sc-106411-PR (20 µl). 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.