

DCIR siRNA (m): sc-60508

BACKGROUND

DCIR (dendritic cell immunoreceptor), is a type II membrane glycoprotein with a single carbohydrate recognition domain (CRD), closest in homology to those of the macrophage lectin and hepatic asialoglycoprotein receptors. The intracellular domain of DCIR contains a consensus immunoreceptor tyrosine-based inhibitory motif. DCIR is expressed on dendritic cells, monocytes, macrophages, B lymphocytes, and granulocytes, but not detected on NK and T cells. DCIR expression in dendritic cells is decreased by signals inducing its maturation, such as LPS, TNF α or CD40. DCIR contains one copy of a cytoplasmic motif that is referred to as the immunoreceptor tyrosine-based inhibitor motif (ITIM). This motif is involved in modulation of cellular responses such as protein tyrosine phosphorylation and B-cell-receptor-mediated calcium mobilization. The phosphorylated ITIM motif can bind the SH2 domain of several SH2-containing phosphatases.

REFERENCES

- Huang, X., et al. 2001. Cloning and characterization of a novel ITIM containing lectin-like immunoreceptor LLIR and its two transmembrane region deletion variants. *Biochem. Biophys. Res. Commun.* 281: 131-140.
- Richard, M., et al. 2002. The expression pattern of the ITIM-bearing lectin CLECSF6 in neutrophils suggests a key role in the control of inflammation. *J. Leukoc. Biol.* 71: 871-880.
- Richard, M., et al. 2003. The ITIM-bearing CLECSF6 (DCIR) is down-modulated in neutrophils by neutrophil activating agents. *Biochem. Biophys. Res. Commun.* 310: 767-773.
- Kanazawa, N., et al. 2003. Dendritic cell immunoactivating receptor, a novel C-type lectin immunoreceptor, acts as an activating receptor through association with Fc receptor γ chain. *J. Biol. Chem.* 278: 32645-32652.
- Kanazawa, N., et al. 2004. Signaling and immune regulatory role of the dendritic cell immunoreceptor (DCIR) family lectins: DCIR, DCAR, Dectin-2 and BDCA-2. *Immunobiology* 209: 179-190.
- Velten, F.W., et al. 2004. A gene signature of inhibitory MHC receptors identifies a BDCA-3⁺ subset of IL-10-induced dendritic cells with reduced allostimulatory capacity *in vitro*. *Eur. J. Immunol.* 34: 2800-2811.

CHROMOSOMAL LOCATION

Genetic locus: Clec4a2 (mouse) mapping to 6 F2.

PRODUCT

DCIR 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 DCIR shRNA Plasmid (m): sc-60508-SH and DCIR shRNA (m) Lentiviral Particles: sc-60508-V as alternate gene silencing products.

For independent verification of DCIR (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-60508A, sc-60508B and sc-60508C.

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

DCIR siRNA (m) is recommended for the inhibition of DCIR 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

DCIR (G-9): sc-374583 is recommended as a control antibody for monitoring of DCIR 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-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 DCIR gene expression knockdown using RT-PCR Primer: DCIR (m)-PR: sc-60508-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.