SANTA CRUZ BIOTECHNOLOGY, INC.

B7RP-1 siRNA (h): sc-42768

BACKGROUND

T cell costimulatory molecule, inducible costimulator (ICOS)/B7-related protein-1 (B7RP-1, B7-H2, GL50, ICOS-L) is a ligand for the ICOS receptor that initiates T and B cell proliferation and cytokine secretion. B7RP-1 interactions play an essential role in T cell dependent B cell activation in peripheral lymphoid organs such as spleen and lymph nodes. B7RP-1 protein is present in myeloid leukocytes and by Northern blot there are 2.4, 3.0 and 7.0 kb transcripts in brain, heart, kidney and liver, with lower expression in colon and thymus and a 1.1 kb transcript in leukocytes. Tumor necrosis factor α (TNFα), granulocyte-macrophage colony-stimulating factor (GM-CSF) and interleukin 4 (IL-4) enhance B7RP-1 expression. LPS induced up regulation of B7RP-1 is dependent on the MyD88 dependent signaling pathway.

REFERENCES

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3. Ling, V., et al. 2000. Cutting edge: identification of GL50, a novel B7 like protein that functionally binds to ICOS receptor. J. Immunol. 164: 1653-1657.
4. Richter, G., et al. 2001. Tumor receptor ligand on CD34$^+$ progenitor cells during differentiation into antigen presenting cells. J. Biol. Chem. 276: 45686-45693.
5. Flesch, I.E. 2002. Inducible costimulator-ligand (ICOS-L). J. Biol. Regul. Homeost. Agents 16: 217-219.
6. Khayyamian, S., et al. 2002. ICOS-ligand, expressed on human endothelial cells, costimulates cytokine secretion by memory CD4$^+$ T cells. Proc. Natl. Acad. Sci. USA 99: 6198-6203.
7. Wahl, P., et al. 2003. Interaction of B7RP-1 with ICOS negatively regulates antigen presentation by B cells. Inflammation 27: 191-200.
8. Iiyama, R., et al. 2003. The role of inducible costimulator (ICOS)/B7-related protein-1 (B7RP-1) interaction in the functional development of Peyer's patches. Immunol. Lett. 88: 63-70.
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CHROMOSOMAL LOCATION

Genetic locus: ICOSLG (human) mapping to 21q22.3.

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.

PRODUCT

B7RP-1 siRNA (h) 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 B7RP-1 shRNA Plasmid (h): sc-42768-SH and B7RP-1 shRNA (h) Lentiviral Particles: sc-42768-V as alternate gene silencing products.

For independent verification of B7RP-1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-42768A, sc-42768B and sc-42768C.

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

B7RP-1 siRNA (h) is recommended for the inhibition of B7RP-1 expression in human 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor B7RP-1 gene expression knockdown using RT-PCR Primer: B7RP-1 (h)-PR: sc-42768-PR (20 µl, 580 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.