

CD32-B siRNA (h): sc-42774

BACKGROUND

CD32 (also designated Fc γ RII) is a low affinity receptor for the Fc fragment of aggregated IgG. CD32 is responsible for the clearance of immunocomplexes by macrophages and also plays an important role in the regulation of antibody production by B cells. IgG can noncooperatively bind either one or two highly glycosylated CD32 molecules, and this binding delivers a negative signal for B cells. CD32 exists as several isoforms that are produced by alternative splicing of three distinct genes, A, B, and C. These isoforms are designated Fc γ RIIA, Fc γ RIIB1, Fc γ RIIB3, and Fc γ RIIC. All isoforms are present on monocytes, placental trophoblasts and endothelial cells. In addition, the Fc γ RIIB forms are present on B lymphocytes, and the Fc γ RIIA and Fc γ RIIC forms are found on neutrophils.

REFERENCES

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2. Huizinga, T.W.J., et al. 1989. Binding characteristics of dimeric IgG subclass complexes to human neutrophils. *J. Immunol.* 142: 2365-2369.
3. Stuart, S.G., et al. 1989. Human IgG Fc receptor (hFcRII, CD32) exists as multiple isoforms in macrophages, lymphocytes and IgG-transporting placental epithelium. *EMBO J.* 8: 3657-3666.
4. Raveth, J.V., et al. 1991. Fc receptors. *Annu. Rev. Immunol.* 9: 457-492.
5. Barclay, A.N., et al. 1993. *The Leukocyte Antigen Facts Book*. London: Academic Press: 170-172.
6. Sondermann, P., et al. 1999. Characterization and crystallization of soluble human Fc γ receptor II (CD32) isoforms produced in insect cells. *Biochemistry* 38: 8469-8477.

CHROMOSOMAL LOCATION

Genetic locus: FCGR2B (human) mapping to 1q23.3.

PRODUCT

CD32-B 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CD32-B shRNA Plasmid (h): sc-42774-SH and CD32-B shRNA (h) Lentiviral Particles: sc-42774-V as alternate gene silencing products.

For independent verification of CD32-B (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-42774A, sc-42774B and sc-42774C.

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 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

CD32-B siRNA (h) is recommended for the inhibition of CD32-B 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 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

CD32-B (F-4): sc-365864 is recommended as a control antibody for monitoring of CD32-B 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 CD32-B gene expression knockdown using RT-PCR Primer: CD32-B (h)-PR: sc-42774-PR (20 μ l, 581 bp). 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.