SANTA CRUZ BIOTECHNOLOGY, INC.

Fc γ RIII siRNA (m): sc-145145

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 FcγRIIA (Fc γ RIII), FcγRIIB1 (Fc γ RIIb), FcγRIIB3, and FcγRIIC. 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 RIII and FcγRIIC forms are found on neutrophils.

REFERENCES

1. Bijsterbosch, M.K. and Klaus, G.G. 1985. Crosslinking of surface immunoglobulin and Fc receptors on B lymphocytes inhibits stimulation of inositol phospholipid breakdown via the antigen receptors. J. Exp. Med. 162: 1825-1836.
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. and Kinet, J.P. 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 RII (CD32) isoforms produced in insect cells. Biochemistry 38: 8469-8477.

CHROMOSOMAL LOCATION

Genetic locus: Fcgr3 (mouse) mapping to 1 H3.

PRODUCT

Fc γ RIII 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Fc γ RIII shRNA Plasmid (m): sc-145145-SH and Fc γ RIII shRNA (m) Lentiviral Particles: sc-145145-V as alternate gene silencing products.

For independent verification of Fc γ RIII (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-145145A, sc-145145B and sc-145145C.

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 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

Fc γ RIII siRNA (m) is recommended for the inhibition of Fc γ RIII 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Fc γ RIII gene expression knockdown using RT-PCR Primer: Fc γ RIII (m)-PR: sc-145145-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.