SANTA CRUZ BIOTECHNOLOGY, INC.

FCGBP siRNA (h): sc-97622

BACKGROUND

Fc (Ig constant fragment) receptors ensure protection of the host against foreign antigens, such as microorganisms and pathogens, by removing Ig-coated antigen complexes from circulation. Fc receptors are present on lymphoid and myeloid derivatives, where they mediate endocytosis of Ig-antigen complexes, antibody production in B cells through T cell antigen presentation, cytotoxicity and the release of cytokines and reactive oxygen species. The Fc γ-binding protein (FCGBP) interacts with the Fc portion of IgG and MUC2 to mediate the maintenance of the mucosal structure. FCGBP is a 5,405 amino acid protein that contains 12 TIL (trypsin inhibitory-like) domains and 13 VWFD domains. It is predominantly expressed in placenta and colon epithelium as well as in thyroid and serum. Patients with various autoimmune diseases seemingly have higher levels of FCGBP protein present in their serum.

REFERENCES

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2. Rubin, D.C., et al. 2000. Novel goblet cell gene related to IgGFcγBP is regulated in adapting gut after small bowel resection. Am. J. Physiol. Gastrointest. Liver Physiol. 279: G1003-G1010.
3. Kobayashi, K., et al. 2001. Detection of Fcγ binding protein antigen in human sera and its relation with autoimmune diseases. Immunol. Lett. 79: 229-235.
4. O'Donovan, N., et al. 2002. Differential expression of IgG Fc binding protein (FcγBP) in human normal thyroid tissue, thyroid adenomas and thyroid carcinomas. J. Endocrinol. 174: 517-524.
5. Johansson, M.E., et al. 2009. Proteomic analyses of the two mucus layers of the colon barrier reveal that their main component, the Muc2 mucin, is strongly bound to the Fcgbp protein. J. Proteome Res. 8: 3549-3557.
6. Kim, Y.S. and Ho, S.B. 2010. Intestinal goblet cells and mucins in health and disease: recent insights and progress. Curr. Gastroenterol. Rep. 12: 319-330.
7. Albert, T.K., et al. 2010. Human intestinal TFF3 forms disulfide-linked heteromers with the mucus-associated FCGBP protein and is released by hydrogen sulfide. J. Proteome Res. 9: 3108-3117.

CHROMOSOMAL LOCATION

Genetic locus: FCGBP (human) mapping to 19q13.2.

PRODUCT

FCGBP siRNA (h) 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 FCGBP shRNA Plasmid (h): sc-97622-SH and FCGBP shRNA (h) Lentiviral Particles: sc-97622-V as alternate gene silencing products.

For independent verification of FCGBP (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-97622A and sc-97622B.

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

FCGBP siRNA (h) is recommended for the inhibition of FCGBP 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 FCGBP gene expression knockdown using RT-PCR Primer: FCGBP (h)-PR: sc-97622-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.