

GBP2 siRNA (m): sc-41708

BACKGROUND

Guanylate-binding proteins, GBP1 and GBP2, are GTP-binding proteins with a high-turnover GTPase activity and an antiviral effect. GBP1 mediates an antiviral effect against both vesicular stomatitis virus and encephalomyocarditis virus, and plays a role in the IFN-mediated antiviral response against these viruses. GBP1 and GBP2 belong to a group of large GTP-binding proteins with a high concentration-dependent GTPase activity that have the common ability to undergo oligomerization. GBP1 and GBP2 are bone marrow-derived GTPases encoded by interferon-activated genes and are inducible following IFN treatment. Specifically, GBP1 is expressed in cultured mammary epithelial tumor cell lines after treatment with IFN- γ and LPS.

REFERENCES

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2. Anderson, S.L., Carton, J.M., Zhang, X. and Rubin, B.Y. 1999. Genomic organization and chromosomal localization of a new member of the murine interferon-induced guanylate-binding protein family. *J. Interferon Cytokine Res.* 19: 487-494.
3. Anderson, S.L., Carton, J.M., Lou, J., Xing, L. and Rubin, B.Y. 1999. Interferon-induced guanylate binding protein-1 (GBP1) mediates an antiviral effect against vesicular stomatitis virus and encephalomyocarditis virus. *Virology* 256: 8-14.
4. Sun, H., Jackson, M.J., Kundu, N. and Fulton, A.M. 1999. Interleukin-10 gene transfer activates interferon- γ and the interferon- γ -inducible genes GBP1/Mag-1 and Mig-1 in mammary tumors. *Int. J. Cancer* 80: 624-629.
5. Prakash, B., Praefcke, G.J., Renault, L., Wittinghofer, A. and Herrmann, C. 2000. Structure of human guanylate-binding protein 1 representing a unique class of GTP-binding proteins. *Nature* 403: 567-571.

CHROMOSOMAL LOCATION

Genetic locus: Gbp2 (mouse) mapping to 3 H1.

PRODUCT

GBP2 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 GBP2 shRNA Plasmid (m): sc-41708-SH and GBP2 shRNA (m) Lentiviral Particles: sc-41708-V as alternate gene silencing products.

For independent verification of GBP2 (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-41708A, sc-41708B and sc-41708C.

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

GBP2 siRNA (m) is recommended for the inhibition of GBP2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GBP2 gene expression knockdown using RT-PCR Primer: GBP2 (m)-PR: sc-41708-PR (20 μ l, 559 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.