SANTA CRUZ BIOTECHNOLOGY, INC.

GBP5 siRNA (m): sc-145352

BACKGROUND

GBP5 (guanylate binding protein 5), also known as GBP-TA antigen, is a 586 amino acid protein that localizes to the cytoplasmic side of the cell membrane. Belonging to the interferon (IFN)-inducible guanylate-binding protein (GBP) family, GBP5 may be involved in the inflammatory response or with cell proliferation and is suggested to have possible cancer-related functions. The gene encoding GBP5 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

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2. Han, B.H., et al. 1998. Cloning, expression, and characterization of a novel guanylate-binding protein, GBP3 in murine erythroid progenitor cells. Biochim. Biophys. Acta 1384: 373-386.
3. Nguyen, T.T., et al. 2002. Murine GBP-5, a new member of the murine guanylate-binding protein family, is coordinately regulated with other GBPs *in vivo* and *in vitro*. J. Interferon Cytokine Res. 22: 899-909.
4. Fellenberg, F., et al. 2004. GBP-5 splicing variants: new guanylate-binding proteins with tumor-associated expression and antigenicity. J. Invest. Dermatol. 122: 1510-1517.
5. Olszewski, M.A., et al. 2006. In silico genomic analysis of the human and murine guanylate-binding protein (GBP) gene clusters. J. Interferon Cytokine Res. 26: 328-352.
6. Saban, M.R., et al. 2007. Repeated BCG treatment of mouse bladder selectively stimulates small GTPases and HLA antigens and inhibits single-spanning uroplakins. BMC Cancer 7: 204.
7. Kitaya, K., et al. 2007. Genes regulated by interferon-γ in human uterine microvascular endothelial cells. Int. J. Mol. Med. 20: 689-697.

CHROMOSOMAL LOCATION

Genetic locus: Gbp5 (mouse) mapping to 3 H1.

PRODUCT

GBP5 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 GBP5 shRNA Plasmid (m): sc-145352-SH and GBP5 shRNA (m) Lentiviral Particles: sc-145352-V as alternate gene silencing products.

For independent verification of GBP5 (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-145352A, sc-145352B and sc-145352C.

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

GBP5 siRNA (m) is recommended for the inhibition of GBP5 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 GBP5 gene expression knockdown using RT-PCR Primer: GBP5 (m)-PR: sc-145352-PR (20 µl, 578 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.