



PBF siRNA (h): sc-91397

BACKGROUND

PBF, also known as PTTG1IP (pituitary tumor-transforming 1 interacting protein), is a 180 amino acid single-pass type I membrane protein that localizes to both the cytoplasm and the nucleus and contains a coiled-coil domain. Expressed ubiquitously, PBF interacts with PTTG and is thought to facilitate the nuclear translocation of PTTG, thereby allowing the PTTG-dependent transcriptional activation of fibroblast growth factor (FGF). The gene encoding PBF maps to human chromosome 21, which houses approximately 300 genes and comprises nearly 1.5% of the human genome. Chromosome 21-associated disorders include Alzheimer's disease, amyotrophic lateral sclerosis and, most notably, Down syndrome (also known as trisomy 21).

REFERENCES

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2. Yaspo, M.L., et al. 1998. Cloning of a novel human putative type Ia integral membrane protein mapping to 21q22.3. *Genomics* 49: 133-136.
3. Chien, W. and Pei, L. 2000. A novel binding factor facilitates nuclear translocation and transcriptional activation function of the pituitary tumor-transforming gene product. *J. Biol. Chem.* 275: 19422-19427.
4. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 603784. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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6. Tfelt-Hansen, J., et al. 2004. Expression of pituitary tumor transforming gene (PTTG) and its binding protein in human astrocytes and astrocytoma cells: function and regulation of PTTG in U87 astrocytoma cells. *Endocrinology*. 145: 4222-4231.
7. Boelaert, K., et al. 2007. PTTG and PBF repress the human sodium iodide symporter. *Oncogene* 26: 4344-4356.

CHROMOSOMAL LOCATION

Genetic locus: PTTG1IP (human) mapping to 21q22.3.

PRODUCT

PBF 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 PBF shRNA Plasmid (h): sc-91397-SH and PBF shRNA (h) Lentiviral Particles: sc-91397-V as alternate gene silencing products.

For independent verification of PBF (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-91397A, sc-91397B and sc-91397C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

PBF siRNA (h) is recommended for the inhibition of PBF 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

PBF (E-8): sc-376960 is recommended as a control antibody for monitoring of PBF 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PBF gene expression knockdown using RT-PCR Primer: PBF (h)-PR: sc-91397-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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