SANTA CRUZ BIOTECHNOLOGY, INC.

PGE synthase 2 siRNA (h): sc-92841

BACKGROUND

PGE synthase 2, also known as PTGES2, PGES2, prostaglandin E synthase 2, microsomal prostaglandin E synthase 2 (mPGES-2) or GATE-binding factor-1 (GBF1), is a 377 amino acid isomerase that belongs to the GST superfamily and catalyzes the conversion of Prostaglandin H2 to Prostaglandin E2. Synthesized as a single-pass membrane protein of the golgi apparatus, PGE synthase 2 becomes cleaved to form a soluble truncated form which is enriched in the perinuclear region. Overexpressed in colorectal cancer, PGE synthase 2 is widely expressed with high levels found in liver, kidney, heart and brain, and may activate IFN-γ transcriptional activity. Containing a glutaredoxin domain and a GST C-terminal domain, PGE synthase 2 exists as a homodimer that interacts with both EXOSC10 and C/EBP β, and is known to bind dihydrolipoic acid as a cofactor.

REFERENCES

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2. Hu, J., et al. 2002. A novel transactivating factor that regulates interferon-γ-dependent gene expression. J. Biol. Chem. 277: 30253-30263.
3. Murakami, M., et al. 2003. Cellular prostaglandin E2 production by membrane-bound prostaglandin E synthase-2 via both cyclooxygenases-1 and -2. J. Biol. Chem. 278: 37937-37947.
4. Nitz, I., et al. 2007. Association of prostaglandin E synthase 2 (PTGES2) Arg298His polymorphism with type 2 diabetes in two German study populations. J. Clin. Endocrinol. Metab. 92: 3183-3188.
5. Lindner, I., et al. 2007. Prostaglandin E synthase 2 (PTGES2) Arg298His polymorphism and parameters of the metabolic syndrome. Mol. Nutr. Food Res. 51: 1447-1451.
6. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 608152. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Fischer, A., et al. 2009. Association analysis between the prostaglandin E synthase 2 R298H polymorphism and body mass index in 8079 participants of the KORA study cohort. Genet. Test. Mol. Biomarkers 13: 223-226.

CHROMOSOMAL LOCATION

Genetic locus: PTGES2 (human) mapping to 9q34.11.

PRODUCT

PGE synthase 2 siRNA (h) is a target-specific 19-25 nt siRNA 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 PGE synthase 2 shRNA Plasmid (h): sc-92841-SH and PGE synthase 2 shRNA (h) Lentiviral Particles: sc-92841-V as alternate gene silencing products.

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 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

PGE synthase 2 siRNA (h) is recommended for the inhibition of PGE synthase 2 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.

GENE EXPRESSION MONITORING

PGE synthase 2 (A-2): sc-514224 is recommended as a control antibody for monitoring of PGE synthase 2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 PGE synthase 2 gene expression knockdown using RT-PCR Primer: PGE synthase 2 (h)-PR: sc-92841-PR (20 µl). 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.