SANTA CRUZ BIOTECHNOLOGY, INC.

PAFAH1B2 siRNA (h): sc-96312

BACKGROUND

PAFAH1B2 (platelet-activating factor acetylhydrolase IB subunit beta), also known as PAFAHB, is a 229 amino acid cytoplasmic protein that belongs to the GDSL lipolytic enzyme family and the platelet-activating factor acetylhydrolase IB β/γ subunits subfamily. A ubiquitously expressed catalytic subunit of the cytosolic PAFAH1B heterotrimeric complex, PAFAH1B2 inactivates PAF by removing the acetyl group at the sn-2 position. Along with the β subunit, PAFAH1B is made up of α and γ subunits. The gene that encodes PAFAH1B2 consists of approximately 32,628 bases and maps to human chromosome 11q23.3. Chromosome 11 houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that map to chromosome 11.

REFERENCES

1. Albrecht, U., et al. 1996. Platelet-activating factor acetylhydrolase expression and activity suggest a link between neuronal migration and platelet-activating factor. Dev. Biol. 180: 579-593.
2. Adachi, H., et al. 1997. Differential tissue distribution of the β- and γ-subunits of human cytosolic platelet-activating factor acetylhydrolase (isoform I). Biochem. Biophys. Res. Commun. 233: 10-13.
3. Moro, F., et al. 1998. The β and γ subunits of the human platelet-activating factor acetyl hydrolase isoform Ib (PAFAH1B2 and PAFAH1B3) map to chromosome 11q23 and 19q13.1, respectively. Genomics 51: 157-159.
4. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602508. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Sweeney, K.J., et al. 2000. Lissencephaly associated mutations suggest a requirement for the PAFAH1B heterotrimeric complex in brain development. Mech. Dev. 92: 263-271.
6. Sheffield, P.J., et al. 2001. Preparation and crystal structure of the recombinant α1/α2 catalytic heterodimer of bovine brain platelet-activating factor acetylhydrolase Ib. Protein Eng. 14: 513-519.

CHROMOSOMAL LOCATION

Genetic locus: PAFAH1B2 (human) mapping to 11q23.3.

PRODUCT

PAFAH1B2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PAFAH1B2 shRNA Plasmid (h): sc-96312-SH and PAFAH1B2 shRNA (h) Lentiviral Particles: sc-96312-V as alternate gene silencing products.

For independent verification of PAFAH1B2 (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-96312A, sc-96312B and sc-96312C.

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

PAFAH1B2 siRNA (h) is recommended for the inhibition of PAFAH1B2 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

PAFAH1B2 (E-9): sc-393217 is recommended as a control antibody for monitoring of PAFAH1B2 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 PAFAH1B2 gene expression knockdown using RT-PCR Primer: PAFAH1B2 (h)-PR: sc-96312-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.