SANTA CRUZ BIOTECHNOLOGY, INC.

PAF acetylhydrolase siRNA (m): sc-39692

BACKGROUND

The platelet activating factor (PAF) acetylhydrolases catalyze hydrolysis of the sn-2 ester bond of PAF and related pro-inflammatory phospholipids and thus attenuate their bioactivity. The family of PAF acetylhydrolases include one secreted plasma isozyme and four intracellular proteins. The intracellular isozymes are distinguished by differences in their primary sequence, tissue localization, subunit composition and substrate preferences. The most thoroughly characterized intracellular isoform, Ib, contains two homologous (63% identity) catalytic subunits (α1 and α2), which harbor all the enzyme's activity and a regulatory β subunit. The α subunits readily associate with very high affinity to form homodimers, and this dimerization is essential for both stability and catalytic activity. The β subunit is a product of the LIS1 gene, mutations of which cause Miller-Dieker lissencephaly.

REFERENCES

1. Tjoelker, L.W. and Stafforini, D.M. 2000. Platelet-activating factor acetylhydrolases in health and disease. Biochim. Biophys. Acta 1488: 102-123.
2. McMullen, T.W., et al. 2000. The functional implications of the dimerization of the catalytic subunits of the mammalian brain platelet-activating factor acetylhydrolase (Ib). Protein Eng. 13: 865-871.
3. Kuijpers, T.W., et al. 2001. The impact of platelet-activating factor (PAF)-like mediators on the functional activity of neutrophils: anti-inflammatory effects of human PAF acetylhydrolase. Clin. Exp. Immunol. 123: 412-420.
4. Goudevenos, J., et al. 2001. Platelet-associated and secreted PAF acetylhydrolase activity in patients with stable angina: sequential changes of the enzyme activity after angioplasty. Eur. J. Clin. Invest. 31: 15-23.
5. Quarck, R., et al. 2001. Adenovirus-mediated gene transfer of human platelet-activating factor acetylhydrolase prevents injury-induced neointima formation and reduces spontaneous atherosclerosis in apolipoprotein E-deficient mice. Circulation 103: 2495-2500.

CHROMOSOMAL LOCATION

Genetic locus: Pla2g7 (mouse) mapping to 17 B3.

PRODUCT

PAF acetylhydrolase 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 PAF acetylhydrolase shRNA Plasmid (m): sc-39692-SH and PAF acetylhydrolase shRNA (m) Lentiviral Particles: sc-39692-V as alternate gene silencing products.

For independent verification of PAF acetylhydrolase (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-39692A, sc-39692B and sc-39692C.

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 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

PAF acetylhydrolase siRNA (m) is recommended for the inhibition of PAF acetylhydrolase 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 PAF acetylhydrolase gene expression knockdown using RT-PCR Primer: PAF acetylhydrolase (m)-PR: sc-39692-PR (20 µl, 491 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.