

PAF-R siRNA (m): sc-40166

BACKGROUND

Platelet-activating factor (PAF) is a pro-inflammatory lipid mediator that activates many cell types including leukocytes, platelets and vascular endothelial cells in response to cutaneous inflammation. PAF signaling is primarily directed through binding to the G protein-coupled PAF-receptors (PAF-R) and results in signal transduction by various pathways that are regulated by phospholipase C, phospholipase A2 and mitogen-activated protein kinases. Activation of PAF-R is associated with alterations in cell morphology, cytoskeletal remodeling and expression of inflammatory modulators, including cyclo-oxygenase-2, interleukin (IL)-6 and IL-8. Expression of PAF-R is upregulated by PAF and gut flora in intestinal epithelium. PAF-R transcription is downregulated by glucocorticoids as a result of eosinophil depletion, suggesting that PAF-R may play a role in both host defenses and inflammatory responses.

REFERENCES

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2. Kunz, D., et al. 1992. The human leukocyte platelet-activating factor receptor. cDNA cloning, cell surface expression and construction of a novel epitope-bearing analog. *J. Biol. Chem.* 267: 9101-9106.
3. Muller, E., et al. 1993. Identification and functional characterization of platelet-activating factor receptors in human leukocyte populations using polyclonal anti-peptide antibody. *Proc. Natl. Acad. Sci. USA* 90: 5818-5822.
4. Predescu, D., et al. 1996. The vascular distribution of the platelet-activating factor receptor. *Eur. J. Cell Biol.* 69: 86-98.
5. Kotelevets, L., et al. 1998. Inhibition by platelet-activating factor of Src- and hepatocyte growth factor-dependent invasiveness of intestinal and kidney epithelial cells. Phosphatidylinositol 3'-kinase is a critical mediator of tumor invasion. *J. Biol. Chem.* 273: 14138-14145.
6. Barber, L.A., et al. 1998. Expression of the platelet-activating factor receptor results in enhanced ultraviolet B radiation-induced apoptosis in a human epidermal cell line. *J. Biol. Chem.* 273: 18891-18897.
7. Ahmed, A., et al. 1998. Localization, quantification, and activation of platelet-activating factor receptor in human endometrium during the menstrual cycle: PAF stimulates NO, VEGF, and FAKp125. *FASEB J.* 12: 831-843.
8. Wang, H., et al. 1999. Platelet-activating factor receptor mRNA is localized in eosinophils and epithelial cells in rat small intestine: regulation by dexamethasone and gut flora. *Immunology* 97: 447-454.
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CHROMOSOMAL LOCATION

Genetic locus: Ptafr (mouse) mapping to 4 D2.3.

RESEARCH USE

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

PRODUCT

AF-R 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PAF-R shRNA Plasmid (m): sc-40166-SH and PAF-R shRNA (m) Lentiviral Particles: sc-40166-V as alternate gene silencing products.

For independent verification of PAF-R (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-40166A, sc-40166B and sc-40166C.

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

PAF-R siRNA (m) is recommended for the inhibition of PAF-R 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PAF-R gene expression knockdown using RT-PCR Primer: PAF-R (m)-PR: sc-40166-PR (20 μ l, 568 bp). 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.