

FLAP siRNA (m): sc-41395

BACKGROUND

Arachidonate 5-lipoxygenase-activating protein (FLAP) is an arachidonic acid binding protein that is critical in the biosynthesis of leukotrienes. FLAP is an integral membrane protein that catalyzes the transformation of arachidonic acid to leukotriene A₄. Leukotrienes are the biologically active metabolites of arachidonic acid that are involved in host defense pathways and play an important role in inflammatory diseases like asthma, inflammatory bowel disease, psoriasis and arthritis. Inhibitors of FLAP function prevent translocation of 5-lipoxygenase from the cytosol to the membrane and inhibit 5-lipoxygenase activation. The human FLAP gene, which maps to chromosome 13q12.3, encodes a 161 amino acid protein. In alveolar macrophages treated with LPS, FLAP activity is suppressed by the inhibition by nitric oxide synthase, although there is no observable decrease in FLAP expression by this pathway.

REFERENCES

1. Dixon, R.A., et al. 1990. Requirement of a 5-lipoxygenase-activating protein for leukotriene synthesis. *Nature* 343: 282-284.
2. Steinhilber, D. 1994. 5-lipoxygenase: enzyme expression and regulation of activity. *Pharm. Acta Helv.* 69: 3-14.
3. Lammers, C.H., et al. 1996. Arachidonate 5-lipoxygenase and its activating protein: prominent hippocampal expression and role in somatostatin signaling. *J. Neurochem.* 66: 147-152.
4. Yandava, C.N., et al. 1999. Cytogenetic and radiation hybrid mapping of human arachidonate 5-lipoxygenase-activating protein (ALOX5AP) to chromosome 13q12. *Genomics* 56: 131-133.
5. Coffey, M.J., et al. 2000. Prolonged exposure to lipopolysaccharide inhibits macrophage 5-lipoxygenase metabolism via induction of nitric oxide synthesis. *J. Immunol.* 165: 3592-3598.
6. LocusLink Report (LocusID: 241) <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Alox5ap (mouse) mapping to 5 G3.

PRODUCT

FLAP 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 FLAP shRNA Plasmid (m): sc-41395-SH and FLAP shRNA (m) Lentiviral Particles: sc-41395-V as alternate gene silencing products.

For independent verification of FLAP (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-41395A, sc-41395B and sc-41395C.

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 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

FLAP siRNA (m) is recommended for the inhibition of FLAP 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 FLAP gene expression knockdown using RT-PCR Primer: FLAP (m)-PR: sc-41395-PR (20 μ l). 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.