

ACLP/AEBP1 siRNA (h): sc-40327

BACKGROUND

Aortic carboxypeptidase-like protein (ACLP), of which adipocyte enhancer binding protein 1 (AEBP1) is an isoform, is a transcriptional repressor with carboxypeptidase activity that is expressed in vascular smooth muscle cells, and at lower levels in adipose and osteoblastic cells. ACLP contains a signal peptide sequence, a lysine- and proline-rich repeating motif, a discoidin-like protein and a carboxypeptidase-like domain. ACLP is secreted into the extracellular matrix and may play a role in abdominal wall development and dermal wound healing. Additionally, ACLP is downregulated during adipogenesis and upregulated during vascular smooth muscle cell differentiation, suggesting a possible role in tissue development. AEBP1, which may function as a transcriptional repressor, is a truncated form of ACLP which specifically lacks a 380 amino acid N-terminal sequence.

REFERENCES

1. Layne, M.D., et al. 1998. Aortic carboxypeptidase-like protein, a novel protein with discoidin and carboxypeptidase-like domains, is upregulated during vascular smooth muscle cell differentiation. *J. Biol. Chem.* 273: 15654-15660.
2. Ro, H.S., et al. 2001. Gene structure and expression of the mouse adipocyte enhancer-binding protein. *Gene* 280: 123-133.
3. Layne, M.D., et al. 2001. Impaired abdominal wall development and deficient wound healing in mice lacking aortic carboxypeptidase-like protein. *Mol. Cell. Biol.* 21: 5256-5261.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 602981. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Layne, M.D., et al. 2002. Characterization of the mouse aortic carboxypeptidase-like protein promoter reveals activity in differentiated and dedifferentiated vascular smooth muscle cells. *Circ. Res.* 90: 728-736.
6. LocusLink Report (LocusID: 165). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: AEBP1 (human) mapping to 7p13.

PRODUCT

ACLP/AEBP1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ACLP/AEBP1 shRNA Plasmid (h): sc-40327-SH and ACLP/AEBP1 shRNA (h) Lentiviral Particles: sc-40327-V as alternate gene silencing products.

For independent verification of ACLP/AEBP1 (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-40327A, sc-40327B and sc-40327C.

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 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

ACLP/AEBP1 siRNA (h) is recommended for the inhibition of ACLP and AEBP1 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 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.

GENE EXPRESSION MONITORING

ACLP/AEBP1 (G-1): sc-271374 is recommended as a control antibody for monitoring of ACLP and AEBP1 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ACLP/AEBP1 gene expression knockdown using RT-PCR Primer: ACLP/AEBP1 (h)-PR: sc-40327-PR (20 μ l, 576 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.