

APHC siRNA (m): sc-141152

BACKGROUND

APHC (alkaline phytoceramidase), also known as ACER3 (alkaline ceramidase 3), PHCA (phytoceramidase, alkaline) or alkaline dihydroceramidase SB89, is a 267 amino acid multi-pass membrane protein that belongs to the alkaline ceramidase family and exists as two alternatively spliced isoforms. Encoded by a gene that maps to human chromosome 11q13.5, APHC is ubiquitously expressed, with highest expression in placenta, and localizes to endoplasmic reticulum and Golgi apparatus membranes. Activated by Ca^{2+} and inhibited by Zn^{2+} , APHC is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, *Saccharomyces cerevisiae*, *Gluyveromyces lactis*, *Magnaporthe grisea*, *Neurospora crassa*, *Arabidopsis thaliana* and rice. APHC hydrolyzes phytoceramide into phytosphingosine and free fatty acid, but does not exhibit reverse activity. APHC also participates in hydrolyase activity, acting on carbon-nitrogen bonds, but not peptide bonds, in linear amides.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Acer3 (mouse) mapping to 7 E2.

PRODUCT

APHC siRNA (m) is a target-specific 19-25 nt siRNA 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 APHC shRNA Plasmid (m): sc-141152-SH and APHC shRNA (m) Lentiviral Particles: sc-141152-V as alternate gene silencing 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

APHC siRNA (m) is recommended for the inhibition of APHC 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 APHC gene expression knockdown using RT-PCR Primer: APHC (m)-PR: sc-141152-PR (20 μl). Annealing temperature for the primers should be $55-60^{\circ}\text{C}$ and the extension temperature should be $68-72^{\circ}\text{C}$.

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.