SANTA CRUZ BIOTECHNOLOGY, INC.

ATP4A siRNA (m): sc-141344

BACKGROUND

ATP4A (ATPase, H^+/K^+ exchanging, α polypeptide), also known as potassium-transporting ATPase α chain 1, gastric H^+/K^+ ATPase subunit α, proton pump or ATP6A, is a 1,035 amino acid multi-pass membrane protein that belongs to the cation transport ATPase (P-type) family and the type IIC subfamily. Encoded by a gene that maps to human chromosome 19q13.12, ATP4A is composed of two subunits: α (catalytic) and β, and is conserved in canine, bovine, mouse and rat. Expressed in gastric parietal cells, specifically in cytoplasmic vesicles or apical plasma membranes of the secretory canaliculus, ATP4A is responsible for acid production in the stomach. ATP4A catalyzes the hydrolysis of ATP, coupled with H^+ and K^+ ion exchange across the plasma membrane. ATP4A shares approximately 70% cDNA homology with the ATP1A3 gene.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Atp4a (mouse) mapping to 7 B1.

RESEARCH USE

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

PRODUCT

ATP4A 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 ATP4A shRNA Plasmid (m): sc-141344-SH and ATP4A shRNA (m) Lentiviral Particles: sc-141344-V as alternate gene silencing products.

For independent verification of ATP4A (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-141344A, sc-141344B and sc-141344C.

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

ATP4A siRNA (m) is recommended for the inhibition of ATP4A 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 ATP4A gene expression knockdown using RT-PCR Primer: ATP4A (m)-PR: sc-141344-PR (20 µl). 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.