SANTA CRUZ BIOTECHNOLOGY, INC.

ODCp siRNA (h): sc-61896

BACKGROUND

ODCp (ornithine decarboxylase-paralog), also known as arginine decarboxylase (ADC), AZI2 or ODC1L, is a 460 amino acid protein that is expressed in brain and testis. ODCp is a member of the Orn/Lys/Arg decarboxylase class-II family that catalyzes the creation of CO_2 and agmatine from L-arginine. Mammalian ODCp differs from the forms expressed in bacteria and plants and shares less than 50% homology with Ornithine decarboxylase (ODC). ODCp is associated with the mitochondrial membrane where excess agmatine can be degraded by the enzyme Agmatinase or bound by the imidazoline recepto. In the brain, the highest levels of ODCp are found in the hypothalamus. Mammalian ODCp is thermally unstable and can be inhibited by Ca^{2+}, CO_2^{+} and polyamines.

REFERENCES

1. McCann, P.P., Bacchi, C.J., Bitonti, A.J., Kierszenbaum, F. and Sjoerdsma, A. 1989. Inhibition of Ornithine or Arginine decarboxylase as an experimental approach to African or American trypanosomiasis. Adv. Exp. Med. Biol. 250: 727-735.
2. Regunathan, S., Feinstein, D.L., Raasch, W. and Reis, D.J. 1996. Agmatine (decarboxylated Arginine) is synthesized and stored in astrocytes. Neuroreport 6: 1897-1900.
3. Regunathan, S. and Reis, D.J. 2000. Characterization of Arginine decarboxylase in rat brain and liver: distinction from Ornithine decarboxylase. J. Neurochem. 74: 2201-2208.
4. Zhu, M.Y., Iyo, A., Piletz, J.E. and Regunathan, S. 2004. Expression of human Arginine decarboxylase, the biosynthetic enzyme for agmatine. Biochim. Biophys. Acta 1670: 156-164.
5. Iyo, A.H., Zhu, M.Y., Ordway, G.A. and Regunathan, S. 2006. Expression of Arginine decarboxylase in brain regions and neuronal cells. J. Neurochem. 96: 1042-1050.

CHROMOSOMAL LOCATION

Genetic locus: ADC (human) mapping to 1p35.1.

PRODUCT

ODCp 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ODCp shRNA Plasmid (h): sc-61896-SH and ODCp shRNA (h) Lentiviral Particles: sc-61896-V as alternate gene silencing products.

For independent verification of ODCp (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-61896A, sc-61896B and sc-61896C.

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 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

ODCp siRNA (h) is recommended for the inhibition of ODCp 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 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 ODCp gene expression knockdown using RT-PCR Primer: ODCp (h)-PR: sc-61896-PR (20 µl). 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.