SANTA CRUZ BIOTECHNOLOGY, INC.

ABP1 siRNA (h): sc-62519

BACKGROUND

Amine oxidase, copper containing 1 (APB1), also known as kidney amine oxidase (KAO), diamine oxidase (DAO) and amiloride-binding protein (ABP), is a member of the copper/topaquinone oxidase family. Notable compounds degraded by ABP1 include putrescine, histamine, spermine and spermidine, as well as substances involved in allergic and immune responses, cell proliferation, tissue differentiation, tumor formation, and possibly apoptosis. The secreted ABP1 protein can be detected in the extracellular space of placenta and kidney. Placental ABP1 is thought to play a role in the regulation of female reproductive function. ABP1 consists of two isoforms due to alternative splicing. Isoform 1 is the common 751 amino acid form, while isoform 2 contains the additional 19 amino acids between residues 619 and 637.

REFERENCE

1. Valette, G., et al. 1954. Intracellular distribution of diamine oxidase (histaminase) in the pig kidney. C.R. Seances Soc. Biol. Fil. 148: 1762-1764.
2. Kapeller-Adler, R., et al. 1963. Purification and identification of hog-kidney histaminase. Biochim. Biophys. Acta 67: 542-565.
3. Bardsley, W.G., et al. 1972. Oxidation of p-dimethylaminomethylbenzylamine by pig kidney diamine oxidase. A new method for spectrophotometric assay. Biochem. J. 127: 875-879.
4. Matsumoto, T., et al. 1984. 3-(p-hydroxyphenyl)propionic acid as a new fluorogenic reagent for amine oxidase assays. Anal. Biochem. 138: 133-136.
5. Silva, I.J., et al. 1996. Superoxide anion radical generation during the oxidation of various amines by diamine oxidase. Free Radic. Res. 24: 167-175.
6. Gokturk, C., et al. 2004. Semicarbazide-sensitive amine oxidase in transgenic mice with diabetes. Biochem. Biophys. Res. Commun. 325: 1013-1020.
7. Stolen, C.M., et al. 2004. Semicarbazide sensitive amine oxidase overexpression has dual consequences: Insulin mimicry and diabetes-like complications. FASEB J. 18: 702-704.
8. Mura, A., et al. 2006. Properties of copper-free pig kidney amine oxidase: role of topa quinone. FEBS Lett. 580: 4317-4324.

CHROMOSOMAL LOCATION

Genetic locus: AOC1 (human) mapping to 7q36.1.

PRODUCT

ABP1 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 ABP1 shRNA Plasmid (h): sc-62519-SH and ABP1 shRNA (h) Lentiviral Particles: sc-62519-V as alternate gene silencing products.

For independent verification of ABP1 (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-62519A, sc-62519B and sc-62519C.

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

ABP1 siRNA (h) is recommended for the inhibition of ABP1 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.

GENE EXPRESSION MONITORING

ABP1 (F-9): sc-398006 is recommended as a control antibody for monitoring of ABP1 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ABP1 gene expression knockdown using RT-PCR Primer: ABP1 (h)-PR: sc-62519-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.