SANTA CRUZ BIOTECHNOLOGY, INC.

Kap siRNA (m): sc-146339

BACKGROUND

Kap (Kidney androgen-regulated protein) is a 121 amino acid gene product that pared down to a 103 amino acid secreted protein. The Kap promoter is specific to proximal tubules in the kidney and is regulated by androgen, likely at an L1 repeat near the promoter. Androgen, or testoids, are hormonal compounds that, through androgen receptor binding, stimulates or controls the development and maintenance of male characteristics. Kap expression has been shown to be critical for cardiovascular-renal homeostasis. Kap overexpression has been associated with hypertension likely due to increased oxidative stress. The interaction of androgen with the Kap promoter implies a sex-influenced pathway to blood pressure regulation and will likely be of use clinically.

REFERENCES

1. Soler, M., et al. 2002. Hormone-specific regulation of the kidney androgen-regulated gene promoter in cultured mouse renal proximal-tubule cells. Biochem. J. 366: 757-766.
2. Tzortzaki, E.G., et al. 2002. Gender- and age-dependent changes in kidney androgen protein mRNA expression in a knockout mouse model for nephrolithiasis. J. Histochem. Cytochem. 50: 1663-1669.
3. Lavoie, J.L., et al. 2004. Increased blood pressure in transgenic mice expressing both human renin and angiotensinogen in the renal proximal tubule. Am. J. Physiol. Renal Physiol. 286: F965-F971.
4. Malstrom, S.E., et al. 2004. The characterization and hormonal regulation of kidney androgen-regulated protein (Kap)-luciferase transgenic mice. Toxicol. Sci. 79: 266-277.
5. Teixidó, N., et al. 2006. CCAAT/enhancer binding protein-mediated role of thyroid hormone in the developmental expression of the kidney androgen-regulated protein gene in proximal convoluted tubules. Mol. Endocrinol. 20: 389-404.
6. Fan, L., et al. 2008. Identification and characterization of the minimal androgen-regulated kidney-specific kidney androgen-regulated protein gene promoter. Acta Biochim. Biophys. Sin. 40: 979-988.

CHROMOSOMAL LOCATION

Genetic locus: Kap (mouse) mapping to 6 G1.

PRODUCT

Kap siRNA (m) is a pool of 2 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 Kap shRNA Plasmid (m): sc-146339-SH and Kap shRNA (m) Lentiviral Particles: sc-146339-V as alternate gene silencing products.

For independent verification of Kap (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-146339A and sc-146339B.

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

Kap siRNA (m) is recommended for the inhibition of Kap 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 Kap gene expression knockdown using RT-PCR Primer: Kap (m)-PR: sc-146339-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.