SANTA CRUZ BIOTECHNOLOGY, INC.

STEAP2 siRNA (m): sc-76588

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The Power to Question

BACKGROUND

STEAP2 (six transmembrane epithelial antigen of the prostate 2), also known as STMP, IPCA1, PUMPCn, STAMP1 or PCANAP1, is a 490 amino acid multi-pass membrane protein that localizes to the cell membrane and the endosomal membrane, as well as to the Golgi and to vesicular tubular structures in the cytosol. Highly expressed in prostate and present at lower levels in kidney, heart, ovary, brain and pancreas, STEAP2 contains one ferric oxidoreductase domain and, using FAD as a cofactor, functions as a metalloreductase that is able to reduce both Cu^{2+} and Fe^{3+} to Cu^{1+} and Fe^{2+}, respectively, thereby playing a role in iron and copper metabolism. Overexpression of STEAP2 is associated with the progression of prostate cancer, suggesting a role for STEAP2 in tumorigenesis. Multiple isoforms of STEAP2 exist due to alternative splicing events.

REFERENCES

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5. Knutson, M.D. 2007. Steap proteins: implications for iron and copper metabolism. Nutr. Rev. 65: 335-340.
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CHROMOSOMAL LOCATION

Genetic locus: Steap2 (mouse) mapping to 5 A1.

PROTOCOLS

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

PRODUCT

STEAP2 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 STEAP2 shRNA Plasmid (m): sc-76588-SH and STEAP2 shRNA (m) Lentiviral Particles: sc-76588-V as alternate gene silencing products.

For independent verification of STEAP2 (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-76588A, sc-76588B and sc-76588C.

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

STEAP2 siRNA (m) is recommended for the inhibition of STEAP2 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 STEAP2 gene expression knockdown using RT-PCR Primer: STEAP2 (m)-PR: sc-76588-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.