SANTA CRUZ BIOTECHNOLOGY, INC.

CAGE-1 siRNA (h): sc-95313

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The Power to Question

BACKGROUND

DEAD box helicase family members include cancer-associated gene proteins (CAGE) that localize to the nucleus and are found exclusively in the testis of normal adult tissue and in a wide variety of cancer tissues and cell lines. Overexpression of CAGE leads to the activation of FAK, ERK and p38 MAPK along with a reduction in reactive oxygen species (ROS). CAGE is also responsible for inducing catalase activity, therefore, enhancing cell motility. This suggests that CAGE may enhance the migration of cancer cells. In addition, hypomethylation of the CAGE promoter region is associated with tumor progression and may serve as a valuable marker in cancer diagnosis. CAGE-1 (cancer antigen 1), also known as CT95 or CTAG3, is a 777 amino acid protein exists as four alternatively spliced variants and may be a valuable target for cancer immunotherapy. CAGE-1 also plays a crucial role during the phenotypical morphogenesis of vesical adenocarcinomas including signet ring cell carcinomas by an epigenetic mechanism.

REFERENCES

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3. Cho, B., et al. 2003. Promoter hypomethylation of a novel cancer/testis antigen gene CAGE is correlated with its aberrant expression and is seen in premalignant stage of gastric carcinoma. Biochem. Biophys. Res. Commun. 307: 52-63.
4. Iwata, T., et al. 2005. Frequent immune responses to a cancer/testis antigen, CAGE, in patients with microsatellite instability-positive endometrial cancer. Clin. Cancer Res. 11: 3949-3957.
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8. Kunze, E., et al. 2006. Promoter hypermethylation of the 14-3-3 σ, SYK and CAGE-1 genes is related to the various phenotypes of urinary bladder carcinomas and associated with progression of transitional cell carcinomas. Int. J. Mol. Med. 18: 547-557.
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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: CAGE1 (human) mapping to 6p24.3.

PRODUCT

CAGE-1 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 CAGE-1 shRNA Plasmid (h): sc-95313-SH and CAGE-1 shRNA (h) Lentiviral Particles: sc-95313-V as alternate gene silencing products.

For independent verification of CAGE-1 (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-95313A, sc-95313B and sc-95313C.

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

CAGE-1 siRNA (h) is recommended for the inhibition of CAGE-1 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 CAGE-1 gene expression knockdown using RT-PCR Primer: CAGE-1 (h)-PR: sc-95313-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.