SANTA CRUZ BIOTECHNOLOGY, INC.

XAGE-1 siRNA (h): sc-61806

BACKGROUND

XAGE-1 is a cancer testis antigen with an expression pattern that is limited to germ cells of the testis and a variety of neoplastic tissues, but is abundantly expressed in breast, prostate and lung cancer, as well as in Ewing's sarcomas and rhabdomyosarcomas. The XAGE-1 gene lies on the X chromosome and encodes for a 146 amino acid protein. XAGE-1 expression in normal and cancerous tissues is regulated by methylation of the CpG island in the gene promoter. Four transcript variants of XAGE-1 (XAGE-1a-d) exist, and XAGE-1b and XAGE-1d are specifically overexpressed in lung cancer. Because XAGE-1 is present in such a diverse range of cancers, it may be useful as a target for many cancer immunotherapies.

REFERENCES

1. Liu, X.F., et al. 2000. XAGE-1, a new gene that is frequently expressed in Ewing's sarcoma. Cancer Res. 60: 4752-4755.
2. Wang, T., et al. 2001. L552S, an alternatively spliced isoform of XAGE-1, is overexpressed in lung adenocarcinoma. Oncogene 20: 7699-7709.
3. Zendman, A.J., et al. 2002. Characterization of XAGE-1b, a short major transcript of cancer/testis-associated gene XAGE-1, induced in melanoma metastasis. Int. J. Cancer 97: 195-204.
4. Zendman, A.J., et al. 2002. The XAGE family of cancer/testis-associated genes: alignment and expression profile in normal tissues, melanoma lesions and Ewing's sarcoma. Int. J. Cancer 99: 361-369.
5. Egland, K.A., et al. 2002. Characterization of overlapping XAGE-1 transcripts encoding a cancer testis antigen expressed in lung, breast, and other types of cancers. Mol. Cancer Ther. 1: 441-450.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300289. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Koizumi, F., et al. 2005. XAGE-1 mRNA expression in prostate cancer and antibody response in patients. Microbiol. Immunol. 49: 471-476.

CHROMOSOMAL LOCATION

Genetic locus: XAGE1A/XAGE1B (human) mapping to Xp11.22.

PRODUCT

XAGE-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 XAGE-1 shRNA Plasmid (h): sc-61806-SH and XAGE-1 shRNA (h) Lentiviral Particles: sc-61806-V as alternate gene silencing products.

For independent verification of XAGE-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-61806A, sc-61806B and sc-61806C.

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

XAGE-1 siRNA (h) is recommended for the inhibition of XAGE-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 XAGE-1 gene expression knockdown using RT-PCR Primer: XAGE-1 (h)-PR: sc-61806-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.