SANTA CRUZ BIOTECHNOLOGY, INC.

MAGE-C2 siRNA (h): sc-62580

BACKGROUND

MAGE-C2/C3 (Melanoma-associated antigen C2, Hepatocellular carcinoma-associated antigen 587) is a 373 amino acid protein encoded by the human gene MAGEC2. Genes of the MAGE family direct the expression of tumor antigens that are recognized on human melanomas by autologous cytolytic T lymphocytes. Among tumor tissues, MAGE-C2/C3 is frequently expressed in seminomas, melanomas, and bladder transitional cell carcinomas. It is also expressed in a significant fraction of head and neck carcinomas, breast carcinomas, nonsmall-cell lung carcinomas, and sarcomas. In hepatocellular carcinoma, there is a inverse correlation between tumor differentiation and protein expression, i.e. the lower the differentiation, the higher percentage of expression. MAGE-C2/C3 is not expressed in normal tissues, except in germ cells in the seminiferous tubules and in Purkinje cells of the cerebellum. It is strongly expressed in spermatogonia and primary spermatocytes, however, at later stages of maturation, expression gradually decreases to become undetectable in mature spermatids.

REFERENCES

1. Lurquin, C., et al. 2005. Contrasting frequencies of antitumor and anti-vaccine T cells in metastases of a melanoma patient vaccinated with a MAGE tumor antigen. J. Exp. Med. 201: 249-257.
2. Chapiro, J., et al. 2006. Destructive cleavage of antigenic peptides either by the immunoproteasome or by the standard proteasome results in differential antigen presentation. J. Immunol. 176: 1053-1061.
3. Liang, Z., et al. 2006. The expression of 11 cancer/testis (CT) antigen genes in esophageal carcinoma. Zhonghua Zhong Liu Za Zhi 27: 534-537.
4. Zhuang, R., et al. 2006. Generation of monoclonal antibodies to cancer/testis (CT) antigen CT10/MAGE-C2. Cancer Immun. 6: 7.
5. Atanackovic, D., et al. 2006. Expression of cancer-testis antigens as possible targets for antigen-specific immunotherapy in head and neck squamous cell carcinoma. Cancer Biol. Ther. 5: 1218-1225.
6. Atanackovic, D., et al. 2007. Cancer-testis antigens are commonly expressed in multiple myeloma and induce systemic immunity following allogeneic stem cell transplantation. Blood 109: 1103-1112.
7. Godelaine, D., et al. 2007. A new tumor-specific antigen encoded by MAGE-C2 and presented to cytolytic T lymphocytes by HLA-B44. Cancer Immunol. Immunother. 56: 753-759.
8. Yang, B., et al. 2007. Epigenetic control of MAGE gene expression by the KIT tyrosine kinase. J. Invest. Dermatol. 127: 2123-2128.

CHROMOSOMAL LOCATION

Genetic locus: MAGEC2 (human) mapping to Xq27.2.

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.

PRODUCT

MAGE-C2 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 MAGE-C2 shRNA Plasmid (h): sc-62580-SH and MAGE-C2 shRNA (h) Lentiviral Particles: sc-62580-V as alternate gene silencing products.

For independent verification of MAGE-C2 (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-62580A, sc-62580B and sc-62580C.

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

MAGE-C2 siRNA (h) is recommended for the inhibition of MAGE-C2 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 MAGE-C2 gene expression knockdown using RT-PCR Primer: MAGE-C2 (h)-PR: sc-62580-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.