SANTA CRUZ BIOTECHNOLOGY, INC.

MAGE-D2 siRNA (h): sc-62581

BACKGROUND

The melanoma-associated antigen (MAGE) family consists of a number of antigens recognized by cytotoxic T lymphocytes. The MAGE genes were initially isolated from different kinds of tumors and, based on their virtually exclusive tumor-specific expression in adult tissues, they have been used as targets for cancer immunotherapy. MAGE genes encode for tumor-rejection antigens that are expressed in tumors of different histologic types and in normal testis and placenta. MAGE-D2 (melanoma-associated antigen D2), also known as BCG1 (breast cancer-associated gene 1), 11B6, HCA10 or JCL-1, is a 606 amino acid protein that contains one MAGE domain. Expressed throughout the body, MAGE-D2 is thought to function as a negative regulator of p53 (a potent tumor suppressor), possibly contributing to tumor formation and metastasis. Multiple isoforms of MAGE-D2 exist due to alternative splicing events.

REFERENCES

1. Lucas, S., et al. 1999. A new MAGE gene with ubiquitous expression does not code for known MAGE antigens recognized by T cells. Cancer Res. 59: 4100-4103.
2. Langnaese, K., et al. 2001. Expression pattern and further characterization of human MAGE-D2 and identification of rodent orthologues. Cytogenet. Cell Genet. 94: 233-240.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300470. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Harper, R., et al. 2004. Identification of a novel MAGE-D2 antisense RNA transcript in human tissues. Biochem. Biophys. Res. Commun. 324: 199-204.
5. Bertrand, M., et al. 2004. Comparative expression analysis of the MAGED genes during embryogenesis and brain development. Dev. Dyn. 230: 325-334.
6. Kidd, M., et al. 2006. The role of genetic markers—NAP1L1, MAGE-D2, and MTA1—in defining small-intestinal carcinoid neoplasia. Ann. Surg. Oncol. 13: 253-262.
7. Papageorgio, C., et al. 2007. MAGE-D2: a novel p53-dissociator. Int. J. Oncol. 31: 1205-1211.

CHROMOSOMAL LOCATION

Genetic locus: MAGED2 (human) mapping to Xp11.21.

PRODUCT

MAGE-D2 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-D2 shRNA Plasmid (h): sc-62581-SH and MAGE-D2 shRNA (h) Lentiviral Particles: sc-62581-V as alternate gene silencing products.

For independent verification of MAGE-D2 (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-62581A, sc-62581B and sc-62581C.

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-D2 siRNA (h) is recommended for the inhibition of MAGE-D2 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.

GENE EXPRESSION MONITORING

MAGE-D2 (FW.6): sc-130443 is recommended as a control antibody for monitoring of MAGE-D2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MAGE-D2 gene expression knockdown using RT-PCR Primer: MAGE-D2 (h)-PR: sc-62581-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.