SANTA CRUZ BIOTECHNOLOGY, INC.

NY-ESO-1 siRNA (h): sc-37321

BACKGROUND

NY-ESO-1 (also known as autoimmunogenic cancer/testis antigen) is a tumor-specific shared antigen with distinctive immunogenicity. NY-ESO-1 is a member of the cancer/testis (CT) family of human tumor-associated antigens. NY-ESO-1 is an attractive candidate tumor antigen for the development of immunotherapy for a wide variety of cancers. NY-ESO-1 is expressed in multiple types of tumors, but its normal tissue distribution is primarily limited to the testis and ovaries. In addition, NY-ESO-1 elicits frequent antibody responses in cancer patients that are accompanied by strong $CD8^+$ T cell responses against HLA-A2-restricted epitopes. Therefore, both humoral and cellular immune responses can be mounted against NY-ESO-1.

REFERENCES

1. Stockert, E., et al. 1998. A survey of the humoral immune response of cancer patients to a panel of human tumor antigens. J. Exp. Med. 187: 1349-1354.
2. Schultz-Thater, E., et al. 2000. NY-ESO-1 tumour associated antigen is a cytoplasmic protein detectable by specific monoclonal antibodies in cell lines and clinical specimens. Br. J. Cancer 83: 204-208.
3. Gnjatic, S., et al. 2000. Strategy for monitoring T cell responses to NY-ESO-1 in patients with any HLA class I allele. Proc. Natl. Acad. Sci. USA 97: 10917-10922.
4. Zeng, G., et al. 2001. $CD4^+$ T cell recognition of MHC class II-restricted epitopes from NY-ESO-1 presented by a prevalent HLA-DP4 allele: association with NY-ESO-1 antibody production. Proc. Natl. Acad. Sci. USA 98: 3964-9396.
5. Chen, C.H., et al. 2001. Expressions of cancer-testis antigens in human hepatocellular carcinomas. Cancer Lett. 164: 189-195.
6. Jager, D., et al. 2001. Vaccination for malignant melanoma: recent developments. Oncology 60: 1-7.
7. Bownds, S., et al. 2001. Induction of tumor-reactive cytotoxic T lymphocytes using a peptide from NY-ESO-1 modified at the carboxy-terminus to en-hance HLA-A2.1 binding affinity and stability in solution. J. Immunother. 24: 1-9.

CHROMOSOMAL LOCATION

Genetic locus: CTAG1B (human) mapping to Xq28.

PRODUCT

NY-ESO-1 siRNA (h) is a target-specific 19-25 nt siRNA 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 NY-ESO-1 shRNA Plasmid (h): sc-37321-SH and NY-ESO-1 shRNA (h) Lentiviral Particles: sc-37321-V as alternate gene silencing products.

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

NY-ESO-1 siRNA (h) is recommended for the inhibition of NY-ESO-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.

GENE EXPRESSION MONITORING

NY-ESO-1 (E978): sc-53869 is recommended as a control antibody for monitoring of NY-ESO-1 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 NY-ESO-1 gene expression knockdown using RT-PCR Primer: NY-ESO-1 (h)-PR: sc-37321-PR (20 µl, 495 bp). 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.