SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-HB1 siRNA (h): sc-91802

BACKGROUND

Minor histocompatibility antigens (mHags) play an important role in the reactivity of cytotoxic T lymphocytes against leukemia. After recognition by specific T-cells, mHags form a complex with MHC resulting in an immune response. HLA-HB1, also known as HMHB1 (minor histocompatibility protein HB-1) or mHag HB-1, is a 41 amino acid protein precursor to the histocompatibility antigen HB-1. HLA-HB1 binds to the cell surface of MHC class I HLA-B44, and when treated with human histocompatibility leukocyte antigen (HLA) identical allogenic bone marrow transplantation, this complex evokes reactivity of donor-cytotoxic T lymphocytes present in B-cell acute lymphoblastic leukemia (B-ALL). The gene encoding HLA-HB1 maps to human chromosome 5q31.3 and is expressed in B cell acute lymphoblastic leukemia cells and Epstein-Barr virus-transformed B cells.

REFERENCES

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2. Dolstra, H., et al. 1999. A human minor histocompatibility antigen specific for B cell acute lymphoblastic leukemia. J. Exp. Med. 189: 301-308.
3. Dolstra, H., et al. 2002. Bi-directional allelic recognition of the human minor histocompatibility antigen HB-1 by cytotoxic T lymphocytes. Eur. J. Immunol. 32: 2748-2758.
4. de Rijke, B., et al. 2003. Generation of autologous cytotoxic and helper T-cell responses against the B-cell leukemia-associated antigen HB-1: relevance for precursor B-ALL-specific immunotherapy. Blood 102: 2885-2891.
5. Spierings, E., et al. 2004. Minor histocompatibility antigens—big in tumour therapy. Trends Immunol. 25: 56-60.
6. Heinold, A., et al. 2008. Role of minor histocompatibility antigens in renal transplantation. Am. J. Transplant. 8: 95-102.
7. Larsen, M.E., et al. 2010. Degree of predicted minor histocompatibility antigen mismatch correlates with poorer clinical outcomes in nonmyeloablative allogeneic hematopoietic cell transplantation. Biol. Blood Marrow Transplant. 16: 1370-1381.
8. Park, M.J., et al. 2010. Improved genotyping of the human minor histocompatibility antigen HB-1 by polymerase chain reaction with sequence-specific primers using a complementary oligonucleotide. Tissue Antigens 76: 482-486.

CHROMOSOMAL LOCATION

Genetic locus: HMHB1 (human) mapping to 5q31.3.

PRODUCT

HLA-HB1 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 HLA-HB1 shRNA Plasmid (h): sc-91802-SH and HLA-HB1 shRNA (h) Lentiviral Particles: sc-91802-V as alternate gene silencing 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

HLA-HB1 siRNA (h) is recommended for the inhibition of HLA-HB1 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.

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.