HMHB1 siRNA – Minor Histocompatibility Protein Hb-1 (Human)

PRODUCT OVERVIEW

Product Name	HMHB1, siRNA
Full Product Name	HMHB1 siRNA (Human)
Product Gene Name	HMHB1 sirna
Product Synonym Names	Minor histocompatibility protein HB-1
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	HMHB1 siRNA (Human) is a target-specific 19-23 nt siRNA oligo duplexes designed to knock down gene expression.
Preparation and Storage	Shipped at 4 degree C. Store at -20 degree C for one year.
Molecular Weight	4,965 Da
OMIM	609961
3D Structure	ModBase 3D Structure for O97980
Negative Control	siRNA Negative Control (Catalog# MBS8241404) is a non-targeting 21 nt siRNA recommended as a negative control for experiments using targeted siRNA transfection.
Quality Control	Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency.
Directions for Use	We recommends transfection with 100 nM siRNA 48 to 72 hours prior to cell lysis. Before resuspending, briefly centrifuge the tube to ensure the lyophilized siRNA is at the bottom of the tube. Resuspend the siRNA oligos to an appropriate concentration with DEPC water. For each vial, suitable for 250 transfections in 24 well plate (20 pmol for each well).
Components	We offer pre-designed sets of 3 different target-specific siRNA oligo duplexes of human HMHB1 gene. Each vial contains 5 nmol of lyophilized siRNA. The duplexes can be transfected individually or pooled together to achieve knockdown of the target gene, which is most commonly assessed by qPCR or western blot. Our siRNA oligos are also chemically modified (2'-OMe) at no extra charge for increased stability and enhanced knockdown in vitro and in vivo.
Applications Tested/Suitable for HMHB1 sirna	RNA Interference (RNAi)
Related Product Information for HMHB1 sirna	MBS8223711 is an siRNA targeting HMHB1. Also known as HMHB1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit HMHB1 expression using RNA interference
Other Notes	Small volumes of HMHB1 sirna vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for HMHB1. It may not necessarily be applicable to this product.

NCBI GI #	10863983
NCBI GeneID	57824
NCBI Accession #	NP_067005.1
UniProt Primary Accession #	O97980
UniProt Secondary Accession #	Q9MY25
UniProt Related Accession #	O97980
GenBank Nucleotide #	NM_021182.1
NCBI Official Full Name	minor histocompatibility protein HB-1
NCBI Official Synonym Full Names	histocompatibility (minor) HB-1
NCBI Official Symbol	HMHB1
NCBI Official Synonym Symbols	HB-1; HB-1Y; HLA-HB1
UniProt Protein Name	Minor histocompatibility protein HB-1
Protein Family	Minor histocompatibility protein
UniProt Gene Name	HMHB1
UniProt Synonym Gene Names	mHag HB-1
UniProt Entry Name	HMHB1_HUMAN
NCBI Protein Information	minor histocompatibility protein HB-1
NCBI Summary for HMHB1	This gene encodes one of the minor histocompatibility antigens, which play an important role in the induction of cytotoxic T lymphocyte (CTL) reactivity against leukemia after human histocompatibility leukocyte antigen (HLA)-identical allogeneic bone marrow transplantation (BMT). This gene is only expressed in B cell acute lymphoblastic leukemia cells and Epstein-Barr virus-transformed B cells. The translation of this mRNA initiates at a non-AUG (CUG) codon. [provided by RefSeq, Jul 2008]
UniProt Comments for HMHB1	HMHB1: Precursor of the histocomplatibility antigen HB-1. More generally, minor histocomplatibility antigens (mHags) refer to immunogenic peptide which, when complexed with MHC, can generate an immune response after recognition by specific T-cells. The peptides are derived from polymorphic intracellular proteins, which are cleaved by normal pathways of antigen processing. The binding of these peptides to MHC class I or class II molecules and its expression on the cell surface can stimulate T-cell responses and thereby trigger graft rejection or graft-versus-host disease (GVHD) after hematopoietic stem cell transplantation from HLA- identical sibling donor. GVHD is a frequent complication after bone marrow transplantation (BMT), due to mismatch of minor histocomplatibility antigen in HLA-matched sibling marrow transplants. HB-1 is presented on the cell surface by MHC class I HLA-B44. This complex specifically elicits donor-cytotoxic T lymphocyte (CTL) reactivity in B-cell acute lymphoblastic leukemia (B-ALL) after treatment by HLA-identical allogenic bone marrow transplantation (BMT). It induces cell recognition and lysis by CTL. However, HB-1 restricted expression in B-ALL cells and not in normal tissues may allow a specific CTL reactivity against B-ALL without the risk of evoking graft-versus-host disease. Chromosomal Location of Human Ortholog: 5q31.3 Biological Process: immune system process
Research Articles on HMHB1	**1.** Improved genotyping of the human minor histocompatibility antigen HB-1 by polymerase chain reaction with sequence-specific primers using a complementary oligonucleotide.
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