MR1 Positive Control

PRODUCT OVERVIEW

Product Name	MR1, Positive Control
Full Product Name	MR1 Positive Control
Product Gene Name	MR1 positive control
Concentration	The concentration of the sample is empirically set so that 20 ul per lane in Western and blotted with corresponding affinity purified antibody will give a clean band with a high signal to noise ratio on the gel. (lot specific)
Preparation and Storage	Store at -20 degree C for long term storage
Matching Pairs	Antibody: MR1 (MBS5401172) Positive Control: MR1 (MBS5401280)
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Molecular Weight	39,366 Da
OMIM	600764
3D Structure	ModBase 3D Structure for Q95460
Immunogen	Purified protein
Product Categories/Family for MR1 positive control	Biomolecule
Applications Tested/Suitable for MR1 positive control	Western Blot (WB)
Related Product Information for MR1 positive control	Western Blot Positive Control Major Histocompatibility Complex Class I related gene protein, isoform 1/MHC I Antibody
Other Notes	Small volumes of MR1 positive control 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.
Searchable Terms for MR1 purchase	MBS5401280 is a positive control targeting MR1.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for MR1. It may not necessarily be applicable to this product.

NCBI GI #	4504417
NCBI GeneID	3140
NCBI Accession #	NP_001522.1
UniProt Primary Accession #	Q95460
UniProt Secondary Accession #	O97985; O97986; Q53GM1; Q95HB8; Q9MY23; Q9NPL2; Q9TQB3; Q9TQB9; Q9TQK3; A8K2V9; B4E3B1
UniProt Related Accession #	Q95460
GenBank Nucleotide #	NM_001531.2
NCBI Official Full Name	major histocompatibility complex class I-related gene protein isoform 1

NCBI Official Synonym Full Names	major histocompatibility complex, class I-related
NCBI Official Symbol	MR1
NCBI Official Synonym Symbols	HLALS
UniProt Protein Name	Major histocompatibility complex class I-related gene protein
UniProt Synonym Protein Names	Class I histocompatibility antigen-like protein
Protein Family	Major histocompatibility complex class I-related gene protein
UniProt Gene Name	MR1
UniProt Synonym Gene Names	MHC class I-related gene protein
UniProt Entry Name	HMR1_HUMAN
NCBI Protein Information	major histocompatibility complex class I-related gene protein; MHC class I-like antigen MR-1; MHC class I-related gene protein; MHC class-I related-gene protein; class I histocompatibility antigen-like protein; major histocompatibility complex, class I-li
NCBI Summary for MR1	MAIT (mucosal-associated invariant T-cells) lymphocytes represent a small population of T-cells primarily found in the gut. The protein encoded by this gene is an antigen-presenting molecule that presents metabolites of microbial vitamin B to MAITs. This presentation may activate the MAITs to regulate the amounts of specific types of bacteria in the gut. Several transcript variants encoding different isoforms have been found for this gene, and a pseudogene of it has been detected about 36 kbp upstream on the same chromosome. [provided by RefSeq, Jul 2015]
UniProt Comments for MR1	MR1: Has antigen presentation function. Involved in the development and expansion of a small population of T-cells expressing an invariant T-cell receptor alpha chain called mucosal-associated invariant T-cells (MAIT). MAIT cells are preferentially located in the gut lamina propria and therefore may be involved in monitoring commensal flora or serve as a distress signal. Expression and MAIT cell recognition seem to be ligand- dependent. Belongs to the MHC class I family. 5 isoforms of the human protein are produced by alternative splicing. Protein type: Membrane protein, integral Chromosomal Location of Human Ortholog: 1q25.3 Cellular Component: endoplasmic reticulum membrane; endoplasmic reticulum; extracellular region; integral to membrane; plasma membrane; MHC class I protein complex Molecular Function: MHC class I receptor activity; peptide antigen binding; antigen binding Biological Process: antigen processing and presentation; antigen processing and presentation of peptide antigen via MHC class I; positive regulation of T cell mediated cytotoxicity; interleukin-17 production; interleukin-1 beta production; innate immune response; immune response; cytokine production during immune response; signal transduction; defense response to Gram-negative bacterium
Research Articles on MR1	**1.** [review] Mucosal-associated invariant T-cell (MAIT) T-cell antigen receptor recognizes riboflavin and folic acid metabolites bound by MR1 in a conserved docking mode and thus acts like a pattern recognition receptor.
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