SPECIFICATION SHEET
Rev 082728A

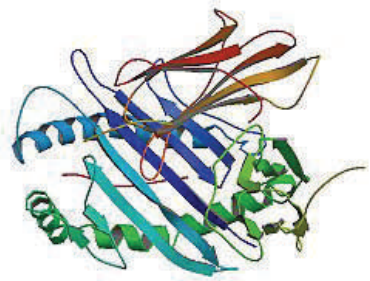
MHC class I chain-related gene A

Human, Recombinant (rHuMIC-A)

Expressed in *E. coli*
Cat. No. CRP08128
Lot. No. (See product label)

PRODUCT INFORMATION

Description: MIC-A (MHC class I chain-related gene A) is a transmembrane glycoprotein that functions as a ligand for human NKG2D. A closely related protein, MICB, shares 85% amino acid identity with MICA. These proteins are distantly related to the MHC class I proteins. They possess three extracellular Ig-like domains, but they have no capacity to bind peptide or interact with β2-microglobulin. The genes encoding these proteins are found within the Major Histocompatibility Complex on human chromosome 6. The MICA locus is highly polymorphic with more than 50 recognized human alleles. MICA is absent from most cells but is frequently expressed in epithelial tumors and can be induced by bacterial and viral infections. MICA is a ligand for human NKG2D, an activating receptor expressed on NK cells, NKT cells, γδ T cells, and CD8+ αβ T cells. Recognition of MICA by NKG2D results in the activation of cytolytic activity and/or cytokine production by these effector cells. MICA recognition is involved in tumor surveillance, viral infections, and autoimmune diseases.
Amino-Acid Sequence: 320 amino acid residues containing the extracellular domain of mature human MICA (amino acid residues Ala23 – Gln308)
M. W. : approximately 36 kDa
Recombinant: Expressed in *E. coli*
Purity: >95% by SDS-PAGE and HPLC analyses.
Formulation: Lyophilized from a 0.2μm filtered concentrated (1mg/ml) solution in PBS, pH 7.4.
Specific Activity: Measured by its ability to bind MICA antibody in a ELISA.
Physical Appearanc: Sterile Filtered White lyophilized (freeze-dried) powder.
Endotoxin: Less than 1EU/μg of rHuMIC-A as determined by LAL method.
Reconstitution: We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at <-20°C. Further dilutions should be made in appropriate buffered solutions.
Storage: This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.



PDB rendering based on 1a1m.
Available structures: HLA-A1, HLA-A2, HLA-A11

GENE INFORMATION

Gene Name: HLA-A
Synonmys: major histocompatibility complex, class I, A; 1A31_HUMAN; HLA class I histocompatibility antigen, A-31; alpha chain [Precursor]; MHC class I antigen A*31; HLAA;A-1;A-10; A-28; A-9; Aw-19; Aw-24; Aw-33; Aw-34; Aw-36; Aw-43; Aw-66; Aw-68; Aw-69; Aw-74;Aw-80; HLA class I; HLA class I histocompatibility antigen, A alpha chain precursor; MHC class I antigen HLA-A heavy chain; MHC leukocyte antigen; antigen presenting molecule; leucocyte antigen class I;leukocyte antigen class I-A.
mRNA Refseq: NM_002116
Protein Refseq : NP_002107
MIM: 142800
UniProt ID : P04439
Gene ID: 3105
Chromosome Location: 6p21.3
Pathway: Antigen processing and presentation; Cell adhesion molecules (CAMs); Natural killer cell mediated cytotoxicity; Type I diabetes mellitus; Signaling in Immune system.

REFERENCES

1.Trowsdale J, Lee J, Kelly A, et al (February 1984). Isolation and sequencing of a cDNA clone for a human HLA-ABC antigen. Mol. Biol. Med. 2 (1): 53–61.

2.Marsh SG..et al.(2005). Nomenclature for factors of the HLA System, 2004. Tissue antigens 65: 301–369.

3. Marsh SG .et al. (2005). Nomenclature for factors of the HLA System, 2004. Tissue antigens 65: 301–369.

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