

Recombinant Human MHC class I polypeptide-related sequence A

Human, Recombinant (MICA)

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 β 2-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, $\gamma\delta$ T cells, and CD8+ $\alpha\beta$ 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 0.2 μ m filtered concentrated (1mg/ml) solution in PBS, pH 7.4.

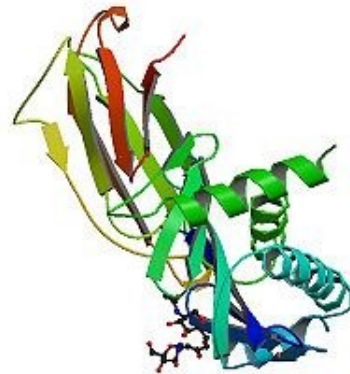
Specific Activity: Measured by its ability to bind MICA antibody in a ELISA.

Physical Appearance: Sterile Filtered White Lyophilized (freeze-dried) powder.

Endotoxin: Less than 1EU/ μ g 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 1b3j](#). Available structures: [1b3j](#), [1hyr](#)

GENE INFORMATION

Gene Name: [MICA MHC class I polypeptide-related sequence A \[Homo sapiens \]](#)

Synonyms: MICA; MHC class I polypeptide-related sequence A; FLJ60820; PERB11.1; MGC111087; MICA; MHC class I polypeptide-related sequence A; OTTHUMP00000029088; OTTHUMP00000035033; OTTHUMP00000035034; HLA class I antigen; Stress inducible class I homolog; MHC class I chain-related gene A protein; Stress inducible class I homolog

GeneID: [4276](#)

mRNA Refseq: [NM_000247](#)

Protein Refseq: [NP_000238](#)

MIM: [600169](#)

UniProt ID: [Q29983](#)

Chromosome Location: 6p21.33

Pathway: Natural killer cell mediated cytotoxicity; Signaling in Immune system

Function: NOT beta-2-microglobulin binding; natural killer cell lectin-like receptor binding

REFERENCES

- 1.Klein J, O'hUigin C (1994). "The conundrum of nonclassical major histocompatibility complex genes.". Proc. Natl. Acad. Sci. U.S.A. 91 (14): 6251-2.
- 2.Bahram S, Spies T (1997). "The MIC gene family.". Res. Immunol. 147 (5): 328-33.
- 3.Blumberg RS (1998). "Current concepts in mucosal immunity. II. One size fits all: nonclassical MHC molecules fulfill multiple roles in epithelial cell function.". Am. J. Physiol. 274 (2 Pt 1): G227-31.

FOR RESEARCH USE ONLY

Creative Biolabs All rights reserved.

45-16 Ramsey Road Shirley, NY 11967, USA
Technical Support: T: 631-871-5806 · F: 631-207-8356
E-mail: info@creative-biolabs.com
www.creative-biolabs.com