

MICA

Recombinant Human MHC class I chain-related gene A

Catalog No.	CRM127A	Quantity:	10 µg
	CRM127B		50 µg
	CRM127C		1.0 mg

Alternate Names: MIC-A

Description: Recombinant Human MICA produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 284 amino acids.

Background: 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.

Gene ID: 100507436

Source: *E. coli*

Molecular Weight: ~32.8 kDa

Formulation: Lyophilized from a 0.2 µm filtered concentrated solution in 30 % Acetonitrile, 0.1% TFA.

Purity: >95% by SDS-PAGE and HPLC

Endotoxin Level: <1 EU/µg of rHuMIC-A as determined by LAL method.

Biological Activity: Fully biologically active when compared to standard. The specific activity is determined by binding MICA antibody in ELISA.

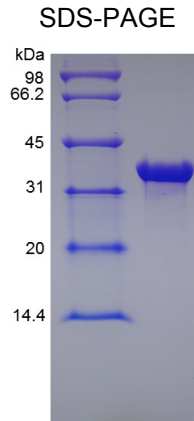
Amino Acid Sequence: EPHSLRYNLT VLSWDGVSQS GFLAEVHLDG QPFLRYDRQK CRAKPQQQWA
EDVLGNKTWD RETRDLTGNG KDLRMTLAHI KDQKEGLHSL QEIRVCEIHE
DNSTRSSQHF YYDGELFLSQ NLETEEWTVP QSSRAQTLAM NVRNFLKEDA
MKTKTHYHAM HADCLQELRR YLESGVLLRR TVPPMVNVTR SEASEGNITV
TCRASSFYPR NIILTWRQDG VLSHDTQQW GDVLPDGNGT YQTWVATRIC
RGEEQRFTCY MEHSGNHSTH PVPSGKVLVL QSHW

Reconstitution: **Centrifuge vial prior to opening.** Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration less than 0.2 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 & Stability:

The 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.



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