

## 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:** MICA

**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  $\beta$ 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.

Recombinant Human MICA produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 320 amino acids. The sequence contains the extracellular domain of the mature human MICA (amino acid residues Ala23-Gln308).

**Source:** *E. coli*

**Molecular Weight:** 36 kDa

**Formulation:** Lyophilized from a concentrated (1 mg/mL) solution in PBS, pH 7.4

**Purity:** >95% by SDS-PAGE and HPLC

**Endotoxin Level:** <0.1 ng/µg (1 EU/µg) of Recombinant Human MICA.

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

**Reconstitution:** **Centrifuge vial prior to opening.** Add sterile distilled water or aqueous buffer to a concentration of 0.1-1.0 mg/mL. Further dilutions should be made in appropriate buffered solutions.

**Storage & Stability:** Stable at 2-8°C, but best kept desiccated -20°C. Upon reconstitution, stable for up to 1 week at 2-8°C. For longer term, store in working aliquots below -20°C. **Avoid repeated freeze/thaw cycles.**

**NOT FOR HUMAN USE. FOR RESEARCH ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.**

