

**Product:** MHC Class-I chain related gene B (MICB), human, recombinant  
**Catalog #:** 12-4416  
**Amount:** 5 µg

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**DESCRIPTION:**

Recombinant human MICB (rHuMICB)  
rHuMICB 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 MICB locus is polymorphic with more than 15 recognized human alleles. MICA/B are minimally expressed on normal cells, but are frequently expressed on epithelial tumors and can be induced by bacterial and viral infections. MICA/B are ligands for NKG2D, an activating receptor expressed on NK cells, NKT cells,  $\gamma\delta$  T cells, and CD8+  $\alpha\beta$  T cells. Recognition of MICA/B by NKG2D results in the activation of cytolytic activity and/or cytokine production by these effector cells. MICA/B recognition is involved in tumor surveillance, viral infections, and autoimmune diseases. The release of soluble forms of MICA/B from tumors down-regulates NKG2D surface expression on effector cells resulting in the impairment of anti-tumor immune response. rHuMICB produced in E.Coli is a single, non-glycosylated polypeptide chain containing 326 amino acids and having a molecular mass of 37kDa.

The sequence contains the extracellular domain of the mature human MICB (amino acid residues Ala23 – Tyr312)

**SOURCE:**

*Escherichia coli* expression system

**PURITY:**

> 95%, as determined by:

- (a) Analysis by RP-HPLC.
- (b) Anion-exchange FPLC
- (c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel

**ENDOTOXIN:**

Less than 0.1 ng/µg (IEU/µg) of rHuMICB

**DIMERS & AGGREGATES:**

Less than 1% as determined by silver stained SDS-PAGE gel analysis

**PROTEIN CONTENT:**

Protein quantitation was carried out by 2 independent methods:

- UV spectroscopy at 280 nm
- Analysis by RP-HPLC

**FORM:**

Purified, in 0.1% BSA

**STORAGE:**

-20°C (aliquot), avoid freezing and thawing cycles

**BIOLOGICAL ACTIVITY:**

rHuMICB is fully biologically active when compared to standards.

Measured by its ability to bind MICB antibody in ELISA.

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