



Product Datasheet

Product Name	MHC Class-I chain related gene B Human Recombinant
Cata No	CB500989
Source	<i>Escherichia Coli.</i>
Synonyms	MHC class I polypeptide-related sequence B, MIC-B, MICB, PERB11.2.

Description

MICB (MHC class I chain-related gene B) is a transmembrane glycoprotein that functions as a ligand for human NKG2D type II receptor. A closely related protein, MICA, shares 85% amino acid identity with MICB. These 2 proteins are distantly related to the MHC class I proteins. MICA and MICB (MICA/B) possess three extracellular immunoglobulin-like domains, but have no capacity to bind peptide or interact with β 2-microglobulin. The genes encoding MICA/B 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. MICB Human Recombinant 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).

The MICB is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Biological Activity

Measured by its ability to bind MICB antibody in ELISA.

Purity

Greater than 95.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

Formulation

Lyophilized from a concentrated (1mg/ml) solution containing no additives.

Reconstitution

It is recommended to reconstitute the lyophilized MICB in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized MICB although stable at room temperature for 3 weeks, should be stored desiccated below -18 $^{\circ}$ C. Upon reconstitution MICB should be stored at 4 $^{\circ}$ C between 2-7 days and for future use below -18 $^{\circ}$ C.

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For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles. Product Datasheet

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