

Rev03
Update: Dec,14,2021

DATASHEET

MIC-B, Human

Cat. No.: Z02801

Product Introduction

Species	Human
Protein Construction	MIC-B [Ala23-Gly254 (Gly39Glu)] Accession # Q29980
Purity	> 95% as analyzed by SDS-PAGE > 95% as analyzed by HPLC
Endotoxin Level	< 1 EU/ μ g of protein by LAL method
Biological Activity	Fully biologically active when compared to standard. The specific activity is determined by binding MICB antibody in ELISA.
Expression System	E. coli
Theoretical Molecular Weight	32.8 kDa
Formulation	Lyophilized from a 0.2 μ m filtered solution in 20 mM Tris, 150 mM NaCl, pH 8.0.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

Background

Target Background : MIC-B (MHC class I chain-related gene B) is a transmembrane glycoprotein that functions as a ligand for human NKG2D. A closely related protein, MIC-A, shares 85% amino acid identity with MIC-B. These 2 proteins are distantly related to the MHC class I proteins. MIC-A and MIC-B (MIC-A/B) possess three extracellular immunoglobulin-like domains, but have no capacity to bind peptide or interact with β 2-microglobulin. The genes encoding MIC-A/B are found within the major histocompatibility complex on human chromosome 6. The MIC-B locus is polymorphic with more than 15 recognized human alleles. MIC-A/B are minimally expressed on normal cells, but are frequently expressed on epithelial tumors and can be induced by bacterial and viral infections. MIC-A/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 MIC-A/B by NKG2D results in the activation of cytolytic activity and/or cytokine production by these effector cells. MIC-A/B recognition is involved in tumor surveillance, viral infections, and autoimmune diseases. The release of soluble forms of MIC-A/B from tumors down-regulates NKG2D surface expression on effector cells resulting in the impairment of anti-tumor immune response.

Synonyms : MICB; PERB11.2; MHC class I polypeptide-related sequence B

For laboratory research use only. Direct human use, including taking orally and injection and clinical use are forbidden.