Rev03
Update: Dec,14,2021

DATASHEET

MIC-A, Human

Cat. No.: Z02800

Product Introduction

Species	Human
Protein Construction	Expressed with the mutations of Thr47Ala, Cys59Tyr, Lys148Glu, Met152Val, Lys196Glu, Gly229Ser, Trp233Arg, Thr236Ile, Ser238Thr. **MIC-A (Glu24-Asp255) Accession # Q29983**
Purity	> 95% as analyzed by SDS-PAGE > 95% as analyzed by HPLC
Endotoxin Level	< 1 EU/μg of protein by LAL method
Biological Activity	Fully biologically active when compared to standard. The specific activity is determined by binding MICA antibody in ELISA.
Expression System	E. coli
Theoretical Molecular Weight	32.8 kDa
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.4.
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 -20°C or -70°C. Upon reconstitution, the product should be stable for up to 1 week at 2-8°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

Background

Target 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 ß2-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, γδ T cells, and CD8+ αβT 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.

Synonyms : MHC class I polypeptide-related sequence A

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