

DATASHEET

Version 20181206

MIC-A, Human

Cat. No.: Z02800-1

Size: 1.0 mg

Synonyms: MIC-A, Human;

Description:

MIC-A (MHC class I chain-related gene A) is a trans-membrane 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 β 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, I^3I^+ 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.

Amino Acid Sequence:

```
00001 EPHSLRYNLT VLSWDGVSQS GFLAEVHLDG QPFLRYDRQK
00041 CRAKPQQQWA EDVLGNKTWD RETRDLTGNG KDLRMTLAHI
00081 KDQKEGLHSL QEIRVCEIHE DNSTRSSQHF YYDGELFLSQ
00121 NLETEEWTPV QSSRAQTLAM NVRNFLKEDA MKTKTHYHAM
00161 HADCLQELRR YLESGVVLRR TVPPMVNVTR SEASEGNITV
00201 TCRASSFYPR NIILTRWDG VLSHDTQQW GD
```

Source: *E. coli*

Species: Human

Biological Activity: Fully biologically active when compared to standard. The specific activity is determined by binding MICA antibody in ELISA.

Molecular Weight: Approximately 32.8 kDa, a single non-glycosylated polypeptide chain containing 285 amino acids.

Formulation: Lyophilized from a 0.2 μ m filtered concentrated solution in PBS, pH 7.4.

Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Reconstitution: We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Purity: > 95 % by SDS-PAGE and HPLC analyses.

Endotoxin Level: Less than 1 EU/ μ g of rHuMIC-A, His as determined by LAL method.

Storage: This lyophilized preparation is stable at 2-8 °C, but should be kept at -20 °C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 °C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 °C to -70 °C. Avoid repeated freeze/thaw cycles.