

MICA*018 Protein, Human, Recombinant (His)

General Information

Synonyms:	MHC class I polypeptide-related sequence A;FLJ36918;MGC21250;DAMA-345G11.2;MGC111087;PERB11.1;FLJ60820;MIC-A
Protein Construction:	Glu24-Gln308
Species:	Human
Expression Host:	HEK293 Cells
Accession:	AAH16929.1
Molecular Weight:	33.87 kDa (Predicted); 60 kDa (Reducing conditions)

QC Testing

Biological Activity:	Loaded Human NKG2D-Fc on Protein A Biosensor, can bind Human MICA-His with an affinity constant of 24.6 nM as determined in BLI assay. (Regularly tested)
Purity:	> 95% as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 µg/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

MHC Class I Polypeptide-Related Sequence A (MICA) is a transmembrane glycoprotein that functions as a ligand for human NKG2D. Unlike classical MHC class I molecules, MICA does not form a heterodimer with beta-2-microglobulin. MICA shares 85% amino acid identity with a closely related protein, MICB. MICA acts as a stress-induced self-antigen that is recognized by NK cells, NKT cells, and most of the subtypes of T cells. As a Ligand for the KLRK1/NKG2D receptor, MICA binds to KLRK1 leads to cell lysis. MICA functions as an antigen for gamma delta T cells and is frequently expressed in epithelial tumors. MICA antigens are able to elicit the synthesis of

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alloantibodies in transplant recipients. Studies have shown that anti-MICA antibodies are associated with acute renal allograft rejection and failure. MICA recognition is involved in tumor surveillance, viral infections, and autoimmune diseases.

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