



Product Datasheet

Product Name	MHC Class-I chain related gene A Human Recombinant
Cata No	CB500988
Source	<i>Escherichia Coli.</i>
Synonyms	MHC class I polypeptide-related sequence A, MIC-A, MICA, PERB11.1, HLA-B, AS, HLAB, HLAC, SPDA1, HLA-B73, HLA-B-7301.

Description

MICA (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 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, $\gamma \delta$ 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.

MICA Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 320 amino acids and having a molecular mass of 36kDa.

The sequence contains the full length extracellular domain of the mature human MICA (amino acid residues Ala23 – Gln308) The MICA is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Biological Activity

Measured by its ability to bind MICA antibody in a 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 MICA 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 MICA although stable at room temperature for 3 weeks, should be stored desiccated below -18 $^{\circ}$ C. Upon reconstitution MICA should be stored at 4 $^{\circ}$ C between 2-7 days and for future use below -18 $^{\circ}$ C.

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

Please prevent freeze-thaw cycles.

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Sequence

EPHSLRYNLTVLSWDGSGFLAEVHLDGQPFL
RYDRQKCRAPQ
GQWAEDVLGNKTWDRETRDLTGNGKDLRMTLA
HIKDQKEGLHSLQE
IRVCEIHEDNSTRSSQHFYYDGELFLSQNLETEE
WTVPQSSRAQTLAM

Product Data sheet

NVRNFLKEDAMKTKTH
SGVVLRRTVPPMVN
VTRSEASEGNITVTCRASSFYPRNIILTWRQDGVS
LSHDTQQWGDVLP
DGNQTYQTWVATRICRGEEQRFTCYMEHSGNHS
THPVPSGKVLVLQSH.

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