

Recombinant Human MICB protein

Cat. No. MICB-08H Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant Human MICB protein was expressed in Escherichia coli.

Species Human

Source E.coli

ProteinLength 287

Description

MIC-B (MHC class I chain-related gene B) is a single-pass type I member protein. It is widely expressed in many, but not all, epithelial tumors of lung, breast, kidney, ovary, prostate and colon. In addition to this, it is produced by hepatocellular carcinomas, which is only in tumor cells but not in surrounding non-cancerous tissue and can be induced by bacterial and viral infections. MIC-B shares 85% amino acid identity with MIC-A and they are distantly related to the MHC class I proteins. Because they possess three extracellular Ig-like domains, but unlike classical MHC class I molecules, they do not form a heterodimer with beta2 microglobulin, but bind as a monomer to a KLRK1/NKG2D that is an activating receptor expressed on NK cells, NKT cells, $\gamma\delta$ T cells, and CD8+ $\alpha\beta$ T cells. Recognition of MIC-B by NKG2D results in the activation of cytolytic activity and/or cytokine production by these effector cells. MIC-B recognition plays an important role in tumor surveillance, viral infections, and autoimmune diseases.

Form

Lyophilized from a 0.2 μ m filtered concentrated solution in 20 mM Tris, 150 mM NaCl, pH 8.0.

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Bio-activity	Fully biologically active when compared to standard. The specific activity is determined by binding MICB antibody in ELISA.
Molecular Mass	Approximately 32.8 kDa, a single non-glycosylated polypeptide chain containing 287 amino acids.
AA Sequence	AEPHSLRYNLMVLSQDESQSGFLAEGHLDGQPFLRYDRQKRRAKPQGQWAEDVL GAKTWDTETEDLTENGQDLRRTLTHIKDQKGGHLHSLQEIRVCEIHEDSSTRGSRHFY YDGELFLSQNLETQESTVPQSSRAQTLAMNVNFWKEDAMKTKTHYRAMQADCLQ KLQRYLKSGVAIRRTVPPMVNVCSEVSEGNITVTCRASSFYPRNITLTWRQDGVSL SHNTQQWGDVLPDGNQTYQTWVATRIRQGEEQRFTCYMEHSGNHGTHPVPSGKV LVLQSQRD
Endotoxin	Less than 1 EU/g of rHuMIC-B as determined by LAL method.
Purity	>95% by SDS-PAGE and HPLC analysis.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
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 centigrade. Further dilutions should be made in appropriate buffered solutions.

GENE INFORMATION

Gene Name MICB

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Official Symbol	MICB
Synonyms	MICB; MHC class I polypeptide-related sequence B; PERB11.2; MIC-B; MHC class I mic-B antigen; stress inducible class I homolog; MHC class I chain-related protein B; MHC class I-like molecule PERB11.2-IMX;
Gene ID	4277
mRNA Refseq	NM_005931
Protein Refseq	NP_005922
MIM	602436
UniProt ID	Q29980

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