

Recombinant Human MHC Class I Polypeptide-Related Sequence B

Information

Gene ID	
Accession #	
Alternate Names	
Source	Escherichia coli.
M.Wt	Approximately 32.8 kDa, a single non-glycosylated polypeptide chain containing 287 amino acids.
AA Sequence	AEPHSLRYNL MVLSQDESVQ SGFLAEGHLD GQPFLRYDRQ KRRAKPQGQW AEDVLGAKTW DTETEDLTEN GQDLRRTLTH IKDQKGGLHS LQEIRVCEIH EDSSTRGSRH FYYDGELFLS QNLETQESTV PQSSRAQTLA MNVTNFWKED AMKTKTHYRA MQADCLQKLQ RYLKSGVAIR RTVPPMVNVT CSEVSEGNIT VTCRASSFYP RNITLTWRQD GVSLSHNTQQ WGDVLPDGNG TYQTWVATRI RQGEEQRFTC YMEHSGNHGT HPVPSGKVLV LQSQRTD
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - 12 months from date of receipt, -20 to -70 °C as supplied - 1 month, 2 to 8 °C under sterile conditions after reconstitution - 3 months, -20 to -70 °C under sterile conditions after reconstitution
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in 20 mM Tris, 150 mM NaCl, pH 8.0.
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 \leq -20 °C. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Fully biologically active when compared to standard. The specific activity is determined by binding MICB antibody in ELISA.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.
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Components and Storage

Components	10µg	100µg	500µg
Recombinant Human MHC Class I Polypeptide-Related Sequence B	10µg	100µg	500µg

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- 1 month, 2 to 8 °C under sterile conditions after reconstitution
- 3 months, -20 to -70 °C under sterile conditions after reconstitution

Quality Control	(One of the second seco	elQ.
Purity	> 95 % by SDS-PAGE and HPLC analyses.	PER TOTAL
Endotoxin	Less than 1 EU/µg of rHuMIC-B as determine	d by LAL method.

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.

Reference

Komatsu-Wakui M, Tokunaga K, Ishikawa Y, et al. 1999. Immunogenetics, 49: 620-8
Holmes MA, Li P, Petersdorf EW, et al. 2002. J Immunol, 169: 1395-400

3. Gambelunghe G, Falorni A, Ghaderi M, et al. 1999. J Clin Endocrinol Metab, 84: 3701-7.

