B2M/Beta-2-microglobulin Protein, Human (99a.a, HEK293, His)

Cat. No.:	HY-P70046
Synonyms:	rHuBeta-2-microglobulin/B2M, His; Beta-2-Microglobulin; B2M
Species:	Human
Source:	HEK293
Accession:	P61769 (I21-M119)
Gene ID:	567
Molecular Weight:	Approximately 14.0 kDa

PROPERTIES

AA Sequence	I Q R T P K I Q V Y S R H P A E N G K S N F L N C Y V S G F H P S D I E V D L L K N G E R I E K V E H S D L S F S K D W S F Y L L Y Y T E F T P T E K D E Y A C R V N H V T L S Q P K I V K W D R D M
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.2.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	B2M, or Beta-2-microglobulin, functions as a critical component of the class I major histocompatibility complex (MHC), playing a central role in presenting peptide antigens to the immune system. Notably, exogenously applied M. tuberculosis EsxA or EsxA-EsxB binds B2M and reduces its export to the cell surface, potentially leading to defects in class I antigen presentation. B2M exists as a heterodimer, composed of an alpha chain and a beta chain, with the latter serving as the beta-chain of major histocompatibility complex class I molecules. Polymers of B2M have been observed in tissues of patients on long-term hemodialysis. B2M, in its isolated form, interacts with M. tuberculosis EsxA and an EsxA-EsxB complex, forming a tripartite complex detectable in the host endoplasmic reticulum. The stability of the B2M-EsxA complex extends across a broad pH range and in the presence of high salt concentrations. Additionally, B2M forms heterotrimers with HLA-E, HLA-G, and HLA-F, along with a self- or foreign peptide, contributing to the diverse functions of the major histocompatibility

	complex. Furthermore, B2M engages in a heterotrimeric complex with MR1, playing a role in antigen presentation associated with metabolite antigens.

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