Data Sheet (Cat.No.TMPY-02630)

TargetMol

B2M/beta 2-Microglobulin Protein, Mouse, Recombinant (His)

General Information

Synonyms:	beta2-m;β2-m;β-2 microglobulin;beta2m;beta-2 microglobulin;Ly-m11;β2m
Protein Construction:	A DNA sequence encoding the mouse B2M (P01887) (Met 1-Met 119), without the propeptide, was fused with a C-terminal polyhistidine tag. Predicted N terminal: Ile 21
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P01887
Molecular Weight:	13 kDa (predicted); 15 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 97 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. 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

B2M, also known as β2-Microglobulin or CDABP0092, is a component of MHC class I molecules found expression in all nucleated cells (excludes red blood cells). The major function of MHC class I moleculesis is to display fragments of proteins from within the cell to T-cells and cells containing foreign proteins will be attacked. B2M (β2-Microglobulin) is a low molecular weight protein. It was demonstrated that B2M (β2-Microglobulin) was localized in the membranes of nucleated cells and was found to be associated with HL-A antigens. B2M (β2- Microglobulin)

is present in free form in various body fluids and as a subunit of histocompatibility antigens on cell surfaces lateral to the α3 chain. Unlike α3, β2 has no transmembrane region. Directly above β2 lies the α1 chain, which itself is lateral to the α2. In the absence of B2M (β2 microglobulin), very limited amounts of MHC class I (classical and non-classical) molecules can be detected on the surface. In the absence of MHC class I, CD8 T cells, a subset of T cells involved in the development of acquired immunity cannot develop. Low levels of B2M (β2 microglobulin) can indicate non-progression of HIV.

Reference

Poulik MD,et al.(1979) Beta 2-Microglobulin: methods and clinical applications. CRC Ctit Rev Clin Lab Sci. 10(3): 225-45.

Poulik MD,et al.(1975) Beta2-Microglobulins. Contemp Top Mol Immunol. 4: 157-204.

Berggard I. (1976) Beta2-Microglobulins: isolation, properties, and distribution. Fed Proc. 35(5): 1167-70.