Human B2M / Beta-2-microglobulin Protein (His Tag)

Catalog Number: **11976-H08H**

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Biological Solution Specialist

General Information

Gene Name Synonym:

CDABP0092

Protein Construction:

A DNA sequence encoding the human B2M (NP_004039.1) (Met 1-Met 119) was expressed, with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Ile 21

Molecular Mass:

The recombinant human B2M consists of 110 amino acids and migrates as an approximately 13.5 kDa band in SDS-PAGE under reducing conditions as predicted.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

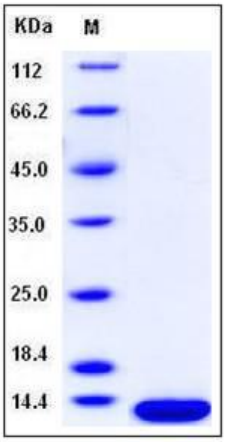
Usage Guide

Storage:

Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Beta-2-microglobulin, also known as B2M, is a secreted protein which belongs to the beta-2-microglobulin family. It contains oneIg-like C1-type (immunoglobulin-like) domain. Beta-2 microglobulin (B2M) plays a pivotal role in the biology of mammals, including its association with major histocompatibility complex (MHC) Class I gene products. The latter molecules have been shown to affect reproduction in both mice and humans. B2M forms the small invariable light chain subunit of class I HLA antigens on the cell membrane of all nucleated cells. During the continuous turnover of the HLA molecules. B2M is shed from the cell membrane into blood. Lymphocytes are the main source of serum free B2M. Serum B2M concentration is increased in renal diseases, various malignant diseases and some inflammatory and autoimmune disorders. In lymphatic malignancies serum B2M has significant prognostic value. B2M has been shown as a marker for monitoring inflammatory disease activity and it appears likely to have a destructive role in amyloidosis-related arthritis. B2M might be involved in the OA (osteoarthritis) pathogenesis. Defects in B2M are the cause of hypercatabolic hypoproteinemia. Affected individuals show marked reduction in serum concentrations of immunoglobulin and albumin, probably due to rapid degradation. B2M could be a potential therapeutic target in ovarian cancer.

References

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2. Remes,K. et al.,1996, Leuk Lymphoma21 (3-4): 233-8.
3. Trinh C.H., et al., 2002, Proc. Natl. Acad. Sci. USA. 99: 9771-9776.
4. He X.H., et al., 2004, Sheng Wu Gong Cheng Xue Bao 20: 99-103.
5. Kihara M., et al., 2006, J. Biol. Chem. 281: 31061-31069.
6. Ricagno S.,et al., 2009, Biochem.Biophys.Res.Commun. 380: 543-547.