

Active Human beta 2-Microglobulin Reference Standard

Cat. No. B2M-6H Lot. No. (See product label)

SPECIFICATION

Species

Human

Description

Beta 2 microglobulin is an 11 kDa protein associated with the outer membrane of many cells including lymphocytes. It is the small subunit of the MHC class I molecule. Association with beta 2-microglobulin is generally required for the transport of class I heavy chains from the endoplasmic reticulum to the cell surface. Beta 2 microglobulin associates with class I-like molecules such as CD1 and Qa as well as with the alpha chain of MHC class I molecules. Very limited amounts of MHC class I molecules can be found on the surface in the absence of Beta 2 microglobulin. CD8 T cells cannot develop in the absence of MHC class I. Beta 2-microglobulin is present in small amounts in serum, csf, and urine of normal people, and to a much greater degree in the urine and plasma of patients with tubular proteinaemia, renal failure, or kidney transplants. Human Beta 2 microglobulin levels can rise either because its rate of synthesis has increased (e.g. in AIDS, malignant monoclonal plasma cell dyscrasia, solid tumors and autoimmune disease) or because of impaired renal filtration (e.g. due to renal insufficiency, graft rejection or nephrotoxicity induced by post-transplantation immunosuppressive therapy). Beta-2 microglobulin levels might also be elevated in multiple myeloma and lymphoma cases. Dialysis-related amyloidosis develops after a long-term hemodialysis, it can aggregate into amyloid fibers that deposit in joint spaces.

Form

Liquid

Bio-activity

The level of beta 2-Microglobulin in the serum was quantified using ELISA.

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Usage	For research use only, not for diagnostic or therapeutic use.
Quality Control Test	Generated from a human serum pool. This lot has been tested by standard laboratory procedures and found to be negative for HIV 1, HIV 2, Hepatitis B and Hepatitis C.
Storage	Stored at -20 °C, 4 °C for less than seven days, frozen for greater than seven days.
Concentration	1.77 ug/ml
Preservative	0.1% sodium azide

GENE INFORMATION

Gene Name	B2M beta-2-microglobulin [Homo sapiens]
Official Symbol	B2M
Synonyms	B2M; beta-2-microglobulin; beta-2-microglobin; beta chain of MHC class I molecules;
Gene ID	567
mRNA Refseq	NM_004048
Protein Refseq	NP_004039
MIM	109700
UniProt ID	P61769
Chromosome Location	15q21-q22.2

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Pathway

Adaptive Immune System, organism-specific biosystem; Amyloids, organism-specific biosystem; Antigen Presentation: Folding, assembly and peptide loading of class I MHC, organism-specific biosystem; Antigen processing and presentation, organism-specific biosystem; Antigen processing and presentation, conserved biosystem; Antigen processing-Cross presentation, organism-specific biosystem; Class I MHC mediated antigen processing and

Function

protein binding;

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