

## Beta2-Microglobulin ELISA Kit | B2M elisa kit

Beta2-Microglobulin

CATALOG #  
**AAA77874**

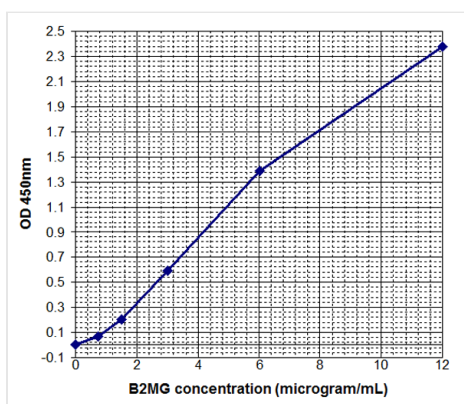
### PRODUCT SYNONYMS

Beta2-Microglobulin; B2M elisa kit

### PRODUCT SPECIFICATIONS

|                 |                                                                                                                                                                                                                                                                                                                                       |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Specificity     | Cross-reaction with the following human serum components was not found.                                                                                                                                                                                                                                                               |
| Sequence Length | 119                                                                                                                                                                                                                                                                                                                                   |
| Samples         | Human serum, other biological samples, and Cell Culture Supernatant                                                                                                                                                                                                                                                                   |
| Assay Type      | Sandwich                                                                                                                                                                                                                                                                                                                              |
| Sensitivity     | The minimal detectable dose of this B2MG assay was calculated by adding two standard deviations to the mean optical density value of 16 zero standard replicates and determining the corresponding concentration from the standard curve. The minimal detectable dose for this human B2MG assay generated by this method is 0.2?g/mL. |
| Intended Uses   | This Human Beta2-Microglobulin ELISA Kit is to be used for in vitro quantitative determination of Beta2-Microglobulin (B2MG) concentrations in human serum, other biological samples, and cell culture supernatant. The kit is intended for RESEARCH USE ONLY and is not for use in therapeutic procedures.                           |

### IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Related Product Information for B2M elisa kit | <p><b>Principle of the assay:</b> This B2MG enzyme linked immunosorbent assay (ELISA) kit uses a technique called quantitative sandwich immunoassay. The microtiter plate provided in this kit has been pre-coated with a monoclonal antibody specific for B2MG. Standards or samples are added to the microtiter plate wells and B2MG, if present, will bind to the antibody pre-coated on the wells. A preparation of horseradish peroxidase (HRP)-conjugated B2MG antibody is added to each well. The conjugated antibody will bind to the B2MG immobilized on the plate after incubation. All unbound components will be removed by subsequent washing procedure. Next, 3, 3', 5, 5' tetramethyl-benzidine(TMB), a substrate for HRP is added to each well. The colorimetric reaction is proportional to the B2MG content in each well. The reaction is terminated by the addition of a sulphuric acid solution and the colour change is measured spectrophotometrically at the wavelength of 450nm +/- 2nm. In order to quantify the amount of B2MG present in the sample, this Human B2MG ELISA Kit includes a set of calibration standards (6 standards). The calibration standards should be assayed at the same time as the samples to allow the operator to produce a standard curve of Optical Density (O.D.) versus B2MG concentration (?g/mL). The concentration of B2MG in the samples is then determined by comparing the O.D. of the samples to the standard curve.</p> <p><b>Background:</b> Beta 2 microglobulin (B2MG) is initially discovered as a small serum protein of 12,000 Dalton. The small size allows B2MG to pass through the glomerular membrane, but it is normally completely reabsorbed in the proximal tubules. B2MG normally presents in minute amount, but increases its expressions, or adapts to the fibrillary configuration in certain pathological states. B2MG is found to be a subunit of class I major histocompatibility complex (MHC I) that is expressed on all nucleated cell excluding red blood cells. B2MG non-covalently links with the <math>\alpha 3</math> domain of human leukocyte antigen (HLA) to form MHC I. Inside cytoplasm, MHC I binds to intracellular degraded foreign peptides, or self-peptides in some conditions, through the <math>\alpha 1</math> and <math>\alpha 2</math> variable domains of HLA. Subsequently, MHC I is anchored to the cell surface through the <math>\alpha 3</math> domain of HLA. By way of this procedure, MHC I presents the engulfed foreign peptides to (CD8+) cytotoxic T-cell, thus, plays an important role in cell-mediated immunity. When binding with HFE protein, B2MG was found to increase iron uptake. B2MG is also associated with MHC I - like molecules such as CD1 and Qa. This immunoassay is a tool for investigation of the function and regulation of the protein.</p> |
| Product Categories/Family for B2M elisa kit   | ELISA Kits for Human Inflammatory and Autoimmune Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

NCBI AND UNIPROT INFORMATION

|                                  |                                                                               |
|----------------------------------|-------------------------------------------------------------------------------|
| NCBI GI #                        | 179318                                                                        |
| NCBI GeneID                      | 567                                                                           |
| Molecular Weight                 | 13,715 Da                                                                     |
| NCBI Official Full Name          | beta-2-microglobulin                                                          |
| NCBI Official Synonym Full Names | beta-2-microglobulin                                                          |
| NCBI Official Symbol             | B2M                                                                           |
| NCBI Protein Information         | beta-2-microglobulin; beta chain of MHC class I molecules; beta-2-microglobin |
| UniProt Protein Name             | Beta-2-microglobulin                                                          |
| UniProt Gene Name                | <b>B2M</b>                                                                    |
| UniProt Entry Name               | B2MG_HUMAN                                                                    |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.