

## Recombinant Rat BMG/ $\beta$ 2-MG Protein (His Tag)

**Catalog Number:** PDMR100024

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

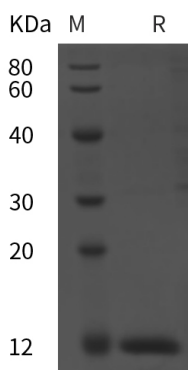
### Description

<b>Species</b>	Rat
<b>Source</b>	HEK293 Cells-derived Rat BMG; $\beta$ 2-MG protein Met1-Met119, with an C-terminal His
<b>Calculated MW</b>	13.0 kDa
<b>Observed MW</b>	12 kDa
<b>Accession</b>	P07151
<b>Bio-activity</b>	Not validated for activity

### Properties

<b>Purity</b>	> 95% as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU/mg of the protein as determined by the LAL method
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with 5% Trehalose and 5% Mannitol.
<b>Reconstitution</b>	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

### Data



SDS-PAGE analysis of Rat BMG/ $\beta$ 2-MG proteins, 2  $\mu$ g/lane of Recombinant Rat BMG/ $\beta$ 2-MG proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 12 kDa.

### Background

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$\beta$ -2-Microglobulin (B2M) is a secreted protein with 1 Ig-like C1-type (immunoglobulin-like) domain which belongs to the beta-2-microglobulin family. B2M component of major histocompatibility complex (MHC) class I molecules, involved in the presentation of peptide antigens to the immune system. Polymers of beta 2-microglobulin can be found in tissues from patients on long-term hemodialysis. B2M is a protein found on the surface of many cells and plentiful on the surface of white blood cells. Serum B2M concentration is increased in renal diseases, various malignant diseases and some inflammatory and autoimmune disorders. B2M may adopt the fibrillar configuration of amyloid in certain pathologic states. The capacity to assemble into amyloid fibrils is concentration dependent. 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.