

Recombinant Mouse Heparanase/HPA Protein (His Tag)

Catalog Number: PDMM100209

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

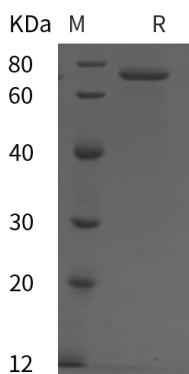
Description

| | |
|----------------------|--|
| Species | Mouse |
| Source | Mammalian-derived Mouse Heparanase protein Met1-Ile535, with an C-terminal His |
| Calculated MW | 58.7 kDa |
| Observed MW | 70 kDa |
| Accession | Q6YGZ1 |
| Bio-activity | Not validated for activity |

Properties

| | |
|-----------------------|---|
| Purity | > 95% as determined by reducing SDS-PAGE. |
| Endotoxin | < 1.0 EU/mg of the protein as determined by the LAL method |
| Storage | 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. |
| Shipping | This product is provided as lyophilized powder which is shipped with ice packs. |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol. |
| Reconstitution | 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 Mouse Heparanase/HPA proteins, 2 µg/lane of Recombinant Mouse Heparanase/HPA proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 70 kDa.

Background

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Heparanase (HPSE) selectively cleaves heparan sulfate (HS) at specific sites on HS proteoglycans (HSPGs). The enzyme is synthesized as an inactive 65 kDa proenzyme that is secreted via the Golgi apparatus and associates with the cell membrane through interaction with HSPGs. It is then endocytosed and transferred to lysosomes where cathepsin L activates it by removing an internal inhibitory peptide, forming a heterodimer composed of an 8 kDa and a 50 kDa subunit. Under certain stimuli, the active enzyme is transferred back to the cell surface, where it participates in extracellular matrix degradation and remodeling. HPSE facilitates cell migration associated with metastasis, wound healing and inflammation. An increase in its activity is associated with an increase in VEGF activity, which further enhances angiogenesis. HPSE also enhances shedding of syndecans and increases endothelial invasion and angiogenesis in myelomas. It acts as a procoagulant by increasing the generation of activation factor X in the presence of tissue factor and activation factor VII. In addition, it increases cell adhesion to the extracellular matrix (ECM), independent of its enzymatic activity. HPSE is highly expressed in placenta and spleen and weakly expressed in lymph node, thymus, peripheral blood leukocytes, bone marrow, endothelial cells, fetal liver and tumor tissues. Mouse HPSE shows 76% identity to human HPSE at amino acid sequence. The enzyme activity of recombinant mouse HPSE was assayed using recombinant syndecan 4 that was biotinylated at the non-reducing end of its HS chains in ELISA format.

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