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## Recombinant Human Heparanase-1 Active

**CLENZ1032**  
**CLENZ1032-2**  
**CLENZ1032-3**

**Introduction:** Heparanase is an endo  $\beta$ -D-glucuronidase, which degrades heparan sulfate side chains of heparan sulfate proteoglycans (HSPGs) in the extracellular matrix. Heparanase plays an important role in ECM degradation, facilitating the migration and extravasation of tumor cells and inflammatory leukocytes (1,2,3). Upon degradation, heparanase releases growth factors and cytokines that stimulate cell proliferation and chemotaxis (4,5). Heparanase is a heterodimer comprised of a 50 kDa subunit harboring the active site and a 8 kDa subunit. It is produced as a latent 65 kDa precursor and proteolytically processed to its active form (1,6). Heparanase is highly expressed in myeloid leukocytes (i.e. neutrophils) in platelets and in human placenta. Human heparanase was found to be upregulated in various types of primary tumors, correlating in some cases with increased tumor invasiveness and vascularity and with poor prospective survival (7,8).

**Description:** Heparanase Active Enzyme is produced in CHO cells. The protein is purified by several orthogonal chromatography steps.

**Source:** CHO cells.

**Presentation:** 1  $\mu$ g (CLENZ1032), 4  $\mu$ g (CLENZ1032-2), or 16  $\mu$ g (CLENZ1032-3). Heparanase Active Enzyme is supplied in 20mM Acetate buffer and 750mM NaCl pH 5.4.

**Stability:** Store at  $-80^{\circ}\text{C}$ , avoid repeated freeze-thaw cycles.

**Purity:** Greater than 95.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

**Specificity:** Heparanase Active Enzyme is identified by Western blot analysis with polyclonal rabbit anti-HPA1 antibodies as 2 subunits of 8-kDa and 50-kDa.

**Biological Activity:** The specific activity of Heparanase Active Enzyme in-house standard is about 0.7 Units (1 unit = 1  $\mu$ mole of reducing ends of heparan sulfate substrate formed per minute per mg Heparanase Active Enzyme at  $37^{\circ}\text{C}$ ). The enzymatic activity of each Heparanase Active Enzyme batch is comparable to the standard as determined by activity assay in which immobilized heparan, released due to heparanase activity, is quantified colorimetrically. Recommended reaction buffer: 20 mM Citrate Phosphate buffer, pH 5.4; 50mM NaCl; 1mM  $\text{CaCl}_2$ .

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**Laboratory Reagent For Research Use Only**

JK 09/07/21