

HepaOne[®] Recombinant Human Heparanase-1 (rhHPA1)

Catalog Number: *INS-26-0-0000-94* (300 ng)
INS-26-0-0000-93 (1 µg)
INS-26-0-0000-90 (4 µg)
INS-26-0-0000-91 (8 µg)

BACKGROUND

Heparanase is an endo-β-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 glycosylated heterodimer comprised of a 50-kDa subunit, harboring the active site, and an 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).

SOURCE

HepaOne[®] is produced in CHO cells. The rhHPA1 Heparanase protein was purified by several orthogonal chromatography steps.

IDENTITY

HepaOne[®] is identified by Western blot analysis with polyclonal rabbit anti-HPA1 antibodies (Cat. # *INS-26-2-0000-11*) as 2 subunits of 8-kDa and 50-kDa (Fig. 1, A).

PURITY

>95% on SDS-PAGE (Fig. 1, B)

>95% on RP-HPLC (Fig. 1, C)

POTENCY

The specific activity of HepaOne[®] in-house standard is about 0.7 Units (1 unit = 1 µmole of reducing ends of heparan sulfate substrate formed per minute per mg HepaOne[®] at 37°C). The enzymatic activity of each HepaOne[®] batch is comparable to the standard as determined by activity assay in which immobilized heparin, released due to heparanase activity, is quantified colorimetrically. Recommended reaction buffer: 20 mM Citrate Phosphate buffer, pH 5.4; 50mM NaCl; 1mM CaCl₂.

PRODUCT

Each vial of HepaOne[®] contains 2.5 µl frozen solution of 20 mM Acetate buffer; 750 mM NaCl; pH 5.4 per 1 µg of rhHPA1 (except for *INS-26-0-0000-94* that contains 45 mM NaCl in a total volume of 10 µl).

STORAGE

Store at -80°C. When stored appropriately, HepaOne[®] is stable for one year from the date of shipment. Upon thawing of *INS-26-0-0000-93* and *INS-26-0-0000-94*, HepaOne[®] should be used immediately. Thawed *INS-26-0-0000-90* and *INS-26-0-0000-91* may be kept at 4°C for one month. Avoid freezing and thawing cycles.

RESEARCH USE

For research use only. Not for use in diagnostic procedures. Not for use in humans.

PATENTS

HepaOne[®] and its uses are protected by different patents and patent applications in the US and worldwide.

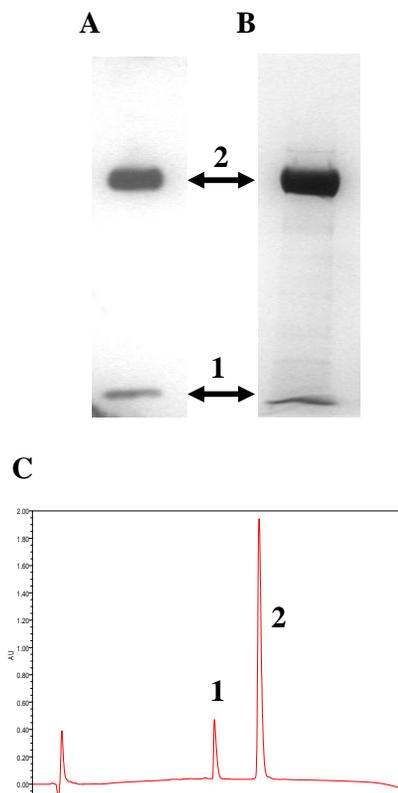


Fig. 1. Purified CHO derived rhHPA1 was analyzed by: A. Western blot analysis using Polyclonal rabbit anti-HPA1 antibodies (Cat. # *INS-26-2-0000-11*); B. SDS-PAGE/GelCode Blue staining; C. RP-HPLC; 1, 8-kDa subunit; 2, 50-kDa subunit.

REFERENCES

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