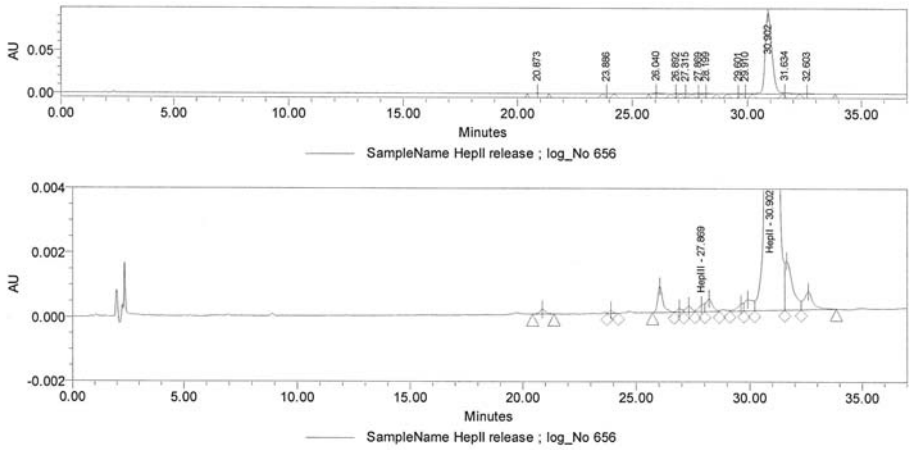
Data Sheet

Heparinase II | Research Grade

PN 50-011
50-011-001

Synonyms	Heparitinase
Source	*Flavobacterium heparinum* (recombinant)
EC Number	None assigned
Catalyzed Reaction	The enzyme cleaves, via an elimination mechanism, sulfated polysaccharide chains containing 1-4 linkages between hexosamines and uronic acid residues (both iduronic and glucuronic acid residues). The reaction yields oligosaccharide products (mainly disaccharides) containing unsaturated uronic acids which can be detected by UV spectroscopy at 232 nm. The enzyme cleaves both heparin and heparan sulfate, with the heparan sulfate activity being about twice as high as the heparin activity.
Substrate Specificity	Heparin, heparan sulfate.
Properties	• Molecular weight: 85,765 Da • Isoelectric point: 9.1 – 9.2 • pH optimum for activity: 7 - 8 • pH range for activity: 5 – 9 • Optimal testing temperature range: 20 °C – 37 °C • Optimal storage temperature: – 70 °C
Purity	≥90 % by reversed phase HPLC analysis.



IBEX Pharmaceuticals Inc.

5485 Paré, Suite 100, Montréal, Québec, Canada H4P 1P7
Tél : (514) 344-4004 Fax : (514) 344-8827 Website : www.IBEX.ca

Specific Activity

≥ 5 IU/mg – using heparan sulfate as substrate

One international unit (IU) is defined as the amount of enzyme that will liberate 1.0 μmole unsaturated oligosaccharides from heparin or heparan sulfate per minute at 30 °C and pH 7.5

Stability

- PN 50-011 (vial of 0.5 IU): Expiration is 18 months from manufacturing date frozen at -70 °C in aqueous buffer containing Sodium Chloride, Sodium Phosphate and Sucrose 5%.
- PN 50-011-001 (vial of 0.1 IU): Expiration is 18 months from manufacturing date frozen at -70 °C in aqueous buffer containing Sodium Chloride, Sodium Phosphate and Sucrose 5%.

Applications

- As research reagent (glycosaminoglycan degradation).
- For the preparation of di- and oligo-saccharides of heparin and heparan sulfate and the preparation of oligosaccharide libraries.

Availability

A proprietary expression system for *F. heparinum* and the fermentation and isolation processes developed by IBEX Pharmaceuticals allow the production of large quantities of high purity product.

References

- Review: "Enzymatic Degradation of Glycosaminoglycans". S. *Ernst et al. in Critical Reviews in Biochemistry and Molecular Biology (1995), 30(5): 387-444.*
- "Purification and Characterization of Heparin Lyases from *Flavobacterium heparinum*". *D.L. Lohse and R.J. Linhardt in J. Biol. Chem. (1992) 267: 24347-24355.*
- "Substrate Specificity of the Heparin Lyases from *Flavobacterium heparinum*". *U.R.Desai, H.Wang and R.J. Linhardt in Archives of Biochemistry and Biophysics (1993) 306(2): 461-468.*
- "Heparinase-II-Catalyzed Degradation of N-Propionylated Heparin". *C.F. Moffat, W.F. Long, M.W. McLean and F.B. Williamson in Archives of Biochemistry and Biophysics (1997) 338 (2): 201-206.*
- "Isolation and Expression in *Escherichia coli* of *hep*B and *hep*C, Genes Coding for the Glycosaminoglycan-Degrading Enzymes Heparinase II and Heparinase III, Respectively, from *Flavobacterium heparinum*". *HongSheng Su, Françoise Blain, Roy A. Musil, Joseph J.F. Zimmermann, KangFu Gu and D. Clark Bennett, in Applied and Environmental Microbiology, (1996): 2723-2734.*
- US Patents 5,681,733 and 5,919,693 "Nucleic Acid sequences and Expression Systems for Heparinase II and Heparinase III derived from *Flavobacterium heparinum".*

5485 Paré, Suite 100, Montréal, Québec, Canada H4P 1P7
Tél : (514) 344-4004 Fax : (514) 344-8827 Website : www.IBEX.ca