## Heparinase II | Research Grade

| PN 50-011 |
| PN 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 temperature range: 20 °C – 37 °C

### Purity
≥90 % by reversed phase HPLC analysis.

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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

- 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*.”