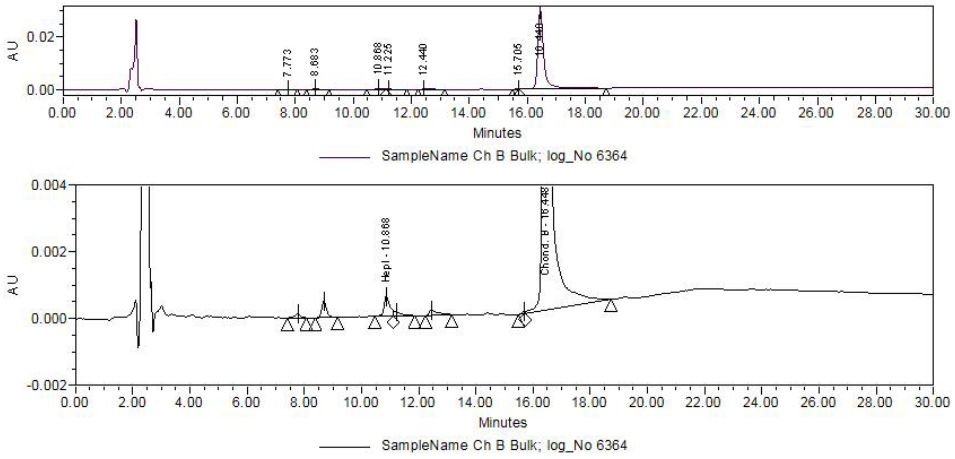
Data Sheet

Chondroitinase B	**Research Grade** PN 50-018
Synonyms	Chondroitin B eliminase
Source	*Flavobacterium heparinum* (recombinant)
EC Number	4.2.2.19
CAS Number	52227-83-5
Catalyzed Reaction	The enzyme cleaves, via an elimination mechanism, polysaccharide chains containing 1-4 linkages between hexosamines and iduronic acid residues in dermatan sulfate (chondroitin sulfate B). The reaction yields oligosaccharide products (mainly disaccharides) containing unsaturated uronic acids which can be detected by UV spectroscopy at 232 nm.
Substrate Specificity	Dermatan sulfate (chondroitin sulfate B).
Properties	• Molecular weight: 54,779 Da • Isoelectric point: 9.4 – 9.6 • pH optimum for activity: 7 – 8 • pH range for activity: 5 – 10 • Optimal testing temperature range: 20 °C – 37 °C • Optimal storage temperature: – 70 °C • Crystal structure has been determined and published (see references)
Purity	≥90 % by reversed phase HPLC analysis.



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Specific Activity

≥550 IU/mg (substrate: dermatan sulfate)

One international unit (IU) is defined as the amount of enzyme that will liberate 1.0 μmole unsaturated oligosaccharides from dermatan sulfate per minute at 30 °C and pH 8.0.

Stability

Refer to the respective lot-specific certificate of analysis for the actual activity and the shelf life.

Applications

- As research reagent (glycosaminoglycan degradation).
- For the preparation of di- and oligo- saccharides of dermatan sulfate.

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.
- "Isolation and Expression in *Escherichia coli* of *cslA* and *cslB*, Genes Coding for the Chondroitin Sulfate-Degrading Enzymes Chondroitinase AC and Chondroitinase B, Respectively, from *Flavobacterium heparinum". A.L. Tkalec, D. Fink, F. Blain, G. Zhang-Sun, M. Laliberté, D.C. Bennett, K. Gu, J.J.F. Zimmermann and H. Su, in Applied and Environmental Microbiology (2000) 66(1): 29-35.*
- "Purification, Characterization and Specificity of Chondroitin Lyases and Glycuronidase from *Flavobacterium heparinum*". *K. Gu, R.J. Linhardt, M. Laliberté, K. Gu and J. Zimmermann, in Biochem. J. (1995) 312: 569-577.*
- "A comparative Study Between a Chondroitinase B and a Chondroitinase AC from *Flavobacterium heparinum*". *M.Y.M. Michelacci and D.C.P. Dietrich, in Biochemical Journal (1975) 151: 121-129.*
- "Crystal Structure of Chondroitinase B from *Flavobacterium heparinum* and its Complex with a Disaccharide Product at 1.7 Å Resolution". *W. Huang, A. Matte, Y. Li, Y.S. Kim, R.J. Linhardt, H. Su and M. Cygler, in J. Mol. Biol. (1999) 294: 1257-1269.*

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