

Determination of Galactosamine Containing Organic Impurities in Heparin Using a Compact Ion Chromatography System

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Key Words

HPIC, HPAE-PAD, Integrion, CarboPac PA20, Galactosamine, Chondroitin Sulfates

Introduction

This application proof note demonstrates a sensitive method for the determination of galactosamine in acid-hydrolyzed heparin samples, enabling the identification of heparin that has been contaminated with chondroitin sulfates. In this proof note, which is based on the method published in Application Note 233,¹ a Thermo Scientific™ Dionex™ Integrion™ HPIC™ system is used for the analysis.

Method

IC System:	Thermo Scientific Dionex Integrion HPIC system
Columns:	Thermo Scientific™ Dionex™ CarboPac™ PA20 Analytical (3 × 150 mm) Thermo Scientific Dionex CarboPac PA20 Guard (3 × 30 mm)
Eluent:	14 mM KOH
Gradient:	14.0 mM KOH (0.0–10.0 min), 14.0–100 mM KOH (10.00–10.05 min), 100 mM KOH (10.05–20.00 min), 100–14.0 mM KOH (20.00–20.05 min)
Flow Rate:	0.5 mL/min
Injection Volume:	10 µL
Temperature:	30 °C
Detection:	Pulsed amperometry, using Thermo Scientific Dionex Carbohydrate Disposable Au Working Electrodes

Reference

1. Thermo Scientific Application Note 233: Determination of Galactosamine Containing Organic Impurities in Heparin by HPAE-PAD Using the CarboPac PA20 Column, Sunnyvale, CA [Online] <http://www.thermoscientific.com/content/dam/tfs/ATG/CMD/CMD%20Documents/Application%20&%20Technical%20Notes/Chromatography/Ion%20Chromatography/IC%20and%20RFIC%20Columns/77324-AN233-HPAE-IC-Heparin-29June09-LPN2286.pdf> (accessed Dec. 28, 2015)

For application support, visit the [AppsLab Library](#) where you can find detailed method information, chromatograms and related compound information. All the information needed to run, process and report the analysis is available in ready-to-use eWorkflows, which can be executed directly in your chromatography data system. www.thermoscientific.com/appslib

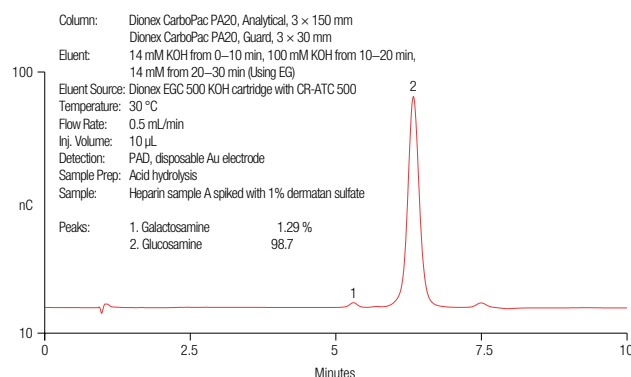
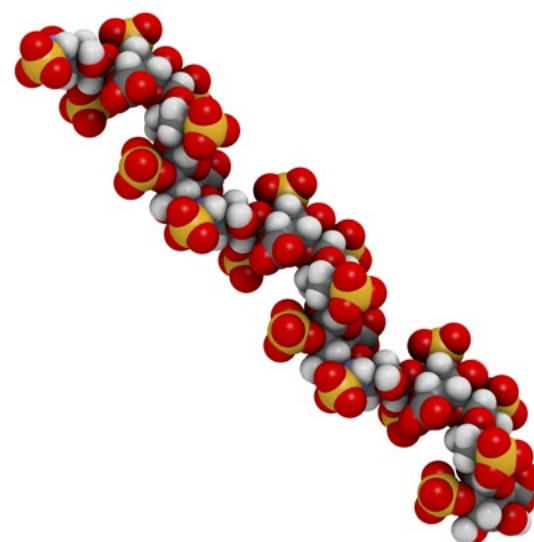


Figure 1. Separation of heparin sample spiked with 1% dermatan sulfate.

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