240 County Road Ipswich, MA 01938-2723 Tel 978-927-5054 Fax 978-921-1350 www.neb.com info@neb.com

## New England Biolabs Certificate of Analysis

Product Name: Bacteroides Heparinase III

Catalog #: P0737S/L
Concentration: 700 units/ml

Unit Definition: One unit is defined as the amount of enzyme that will liberate 1.0 µmol unsaturated oligosaccharides from heparan sulfate per

minute at 30°C and pH 7.0 in a total reaction volume of 100  $\mu$ l.

 Lot #:
 0031605

 Assay Date:
 05/2016

 Expiration Date:
 5/2017

 Storage Temp:
 -80°C

Storage Conditions: 100 mM NaCl, 20 mM Tris-HCl, 1 mM EDTA, 5 mM CaCl<sub>2</sub>, (pH 7.5 @ 25°C)

Specification Version: PS-P0737S/L v1.0 Effective Date: 19 Feb 2016

Assay Name/Specification (minimum release criteria)	Lot #0031605
Glycosidase Activity ( $\beta$ 1-3 Galactosidase) - A 10 $\mu$ l reaction in Heparinase Reaction Buffer containing 1 nM of fluorescently-labeled $\beta$ -Galactosidase substrate (Gal $\beta$ 1-3GlcNAc $\beta$ 1-4Gal $\beta$ 1-4Glc-AMC) and 1 unit of <i>Bacteroides</i> Heparinase III incubated for 20 hours at 30°C results in no detectable activity as determined by thin layer chromatography.	Pass
Glycosidase Activity ( $\beta$ 1-4 Galactosidase) - A 10 $\mu$ l reaction in Heparinase Reaction Buffer containing 1 nM of fluorescently-labeled $\beta$ -Galactosidase substrate (Gal $\beta$ 1-4GlcNAc $\beta$ 1-3Gal $\beta$ 1-4Glc - AMC) and 1 unit of <i>Bacteroides</i> Heparinase III incubated for 20 hours at 30°C results in no detectable activity as determined by thin layer chromatography.	Pass
Glycosidase Activity ( $\beta$ -N-Acetylgalactosaminidase) - A 10 $\mu$ l reaction in Heparinase Reaction Buffer containing 1 nM of fluorescently-labeled $\beta$ -N-Acetylgalactosaminidase substrate (GalNAc $\beta$ 1-4Gal $\beta$ 1-4Glc-AMC) and 1 unit of <i>Bacteroides</i> Heparinase III incubated for 20 hours at 30°C results in no detectable activity as determined by thin layer chromatography.	Pass
Glycosidase Activity (β-N-Acetylglucosaminidase) - A 10 μl reaction in Heparinase Reaction Buffer containing 1 nM of fluorescently-labeled β-N-Acetylglucosaminidase substrate (GlcNAcβ1-4GlcNAcβ1- 4GlcNAc-AMC) and 1 unit of <i>Bacteroides</i> Heparinase III incubated for 20 hours at 30°C results in no detectable activity as determined by thin layer chromatography.	Pass









## New England Biolabs Certificate of Analysis

Assay Name/Specification (minimum release criteria)	Lot #0031605
<b>Protease Activity (SDS-PAGE)</b> - A 20 μl reaction in 1X Heparinase Reaction Buffer containing 24 μg of a standard mixture of proteins and a minimum of 5 units of <i>Bacteroides</i> Heparinase III incubated for 20 hours at 37° C, results in no detectable degradation of the protein mixture as determined by SDS-PAGE with Coomassie Blue detection.	Pass
<b>Protein Purity Assay (SDS-PAGE)</b> - <i>Bacteroides</i> Heparinase III is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	Pass
<b>Sulfatase Activity (2γ)</b> - A 10 μl reaction in Heparinase Reaction Buffer containing 1 nM of fluorescently-labeled 2-O-Sulfatase substrate (ΔUA2S-(1-4)-GlcNS6S-AMC) and 1 unit of <i>Bacteroides</i> Heparinase III incubated for 20 hours at 30°C results in no detectable activity as determined by thin layer chromatography.	Pass
<b>Sulfatase and Uronidase Activity (N,6γ)</b> - A 10 μl reaction in Heparinase Reaction Buffer containing 1 nM of fluorescently-labeled N,6- <i>O</i> -Sulfatase substrate (ΔUA-(1-4)-GlcNS6S-AMC) and 1 unit of <i>Bacteroides</i> Heparinase III incubated for 20 hours at 30°C results in no detectable activity as determined by thin layer chromatography.	Pass

Authorized by Derek Robinson 19 Feb 2016







Inspected by Alicia Bielik 12 May 2016