

## New England Biolabs Certificate of Analysis

**Product Name:**  $\beta$ 1-4 Galactosidase S  
**Catalog Number:** P0745L  
**Concentration:** 8,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to cleave > 95% of the terminal,  $\beta$ -D-galactose from 1 nmol Gal $\beta$ 1-4GlcNAc $\beta$ 1-3Gal $\beta$ 1-4Glc-7-amino-4-methyl-coumarin (AMC), in 1 hour at 37°C in a total reaction volume of 10  $\mu$ l.  
**Lot Number:** 10056942  
**Expiration Date:** 10/2021  
**Storage Temperature:** -20°C  
**Storage Conditions:** 50 mM NaCl, 20 mM Tris-HCl, 1 mM EDTA, (pH 7.5 @ 25°C)  
**Specification Version:** PS-P0745S/L v1.0

| <b><math>\beta</math>1-4 Galactosidase S Component List</b> |                              |                   |                             |
|---|------------------------------|-------------------|-----------------------------|
| <b>NEB Part Number</b>                                      | <b>Component Description</b> | <b>Lot Number</b> | <b>Individual QC Result</b> |
| P0745LVIAL  | $\beta$ 1-4 Galactosidase S  | 10055877          | <b>Pass</b>                 |
| B1727SVIAL  | 10X GlycoBuffer 1            | 10041785          | <b>Pass</b>                 |

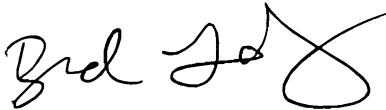
| <b>Assay Name/Specification</b>  | <b>Lot # 10056942</b> |
|--|-----------------------|
| <p><b>Glycosidase Activity (<math>\beta</math>-Mannosidase)</b><br/>           A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\beta</math>-Mannosidase substrate (Man<math>\beta</math>1-4Man<math>\beta</math>1-4Man-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>                                  | <b>Pass</b>           |
| <p><b>Glycosidase Activity (<math>\beta</math>-N-Acetylgalactosaminidase)</b><br/>           A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\beta</math>-N-Acetylgalactosaminidase substrate (GalNAc<math>\beta</math>1-4Gal<math>\beta</math>1-4Glc-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>   | <b>Pass</b>           |
| <p><b>Glycosidase Activity (<math>\beta</math>-N-Acetylglucosaminidase)</b><br/>           A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\beta</math>-N-Acetylglucosaminidase substrate (GlcNAc<math>\beta</math>1-4GlcNAc<math>\beta</math>1-4GlcNAc-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p> | <b>Pass</b>           |

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|---|----------------|
| <p><b>Glycosidase Activity (<math>\beta</math>-Xylosidase)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\beta</math>-Xylosidase substrate (Xyl<math>\beta</math>1-4Xyl<math>\beta</math>1-4Xyl<math>\beta</math>1-4Xyl-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>                                  | <b>Pass</b>    |
| <p><b>Glycosidase Activity (<math>\beta</math>1-3 Galactosidase)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\beta</math>-Galactosidase substrate (Gal<math>\beta</math>1-3GlcNAc<math>\beta</math>1-4Gal<math>\beta</math>1-4Glc-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>                      | <b>Pass</b>    |
| <p><b>Protease Activity (SDS-PAGE)</b><br/>A 20 <math>\mu</math>l reaction in 1X Glyco Buffer 1 containing 24 <math>\mu</math>g of a standard mixture of proteins and a minimum of 80 units of <math>\beta</math>1-4 Galactosidase S 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.</p>   | <b>Pass</b>    |
| <p><b>Protein Purity Assay (SDS-PAGE)</b><br/><math>\beta</math>1-4 Galactosidase S is <math>\geq</math> 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>  | <b>Pass</b>    |
| <p><b>Glycosidase Activity (<math>\alpha</math>1-3 Fucosidase)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\alpha</math>-Fucosidase substrate (Fuc<math>\alpha</math>1-3Gal<math>\beta</math>1-4GlcNAc<math>\beta</math>1-3Gal<math>\beta</math>1-4Glc-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p> | <b>Pass</b>    |
| <p><b>Glycosidase Activity (<math>\alpha</math>1-3 Galactosidase)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\alpha</math>-Galactosidase substrate (Gal<math>\alpha</math>1-3Gal<math>\beta</math>1-4GlcNAc-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>   | <b>Pass</b>    |
| <p><b>Glycosidase Activity (<math>\alpha</math>1-3 Mannosidase)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\alpha</math>-Mannosidase substrate (Man<math>\alpha</math>1-3Man<math>\beta</math>1-4GlcNAc-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>   | <b>Pass</b>    |
| <p><b>Glycosidase Activity (<math>\alpha</math>1-6 Galactosidase)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\alpha</math>-Galactosidase substrate (Gal<math>\alpha</math>1-6Gal<math>\alpha</math>1-6Glc<math>\alpha</math>1-2Fru-AMC) and 80 units of <math>\beta</math>1-4</p>   | <b>Pass</b>    |

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|--|----------------|
| Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.   |                |
| <p><b>Glycosidase Activity (<math>\alpha</math>1-6 Mannosidase)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\alpha</math>-Mannosidase substrate (Man<math>\alpha</math>1-6Man<math>\alpha</math>1-6(Man<math>\alpha</math>1-3)Man-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p> | <b>Pass</b>    |
| <p><b>Glycosidase Activity (<math>\alpha</math>1-2 Fucosidase)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\alpha</math>-Fucosidase substrate (Fuca1-2Gal<math>\beta</math>1-4Glc-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>   | <b>Pass</b>    |
| <p><b>Glycosidase Activity (Endo F1, F2, H)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled Endo F1, F2, H substrate (Dansylated invertase high mannose) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>   | <b>Pass</b>    |
| <p><b>Glycosidase Activity (Endo F2, F3)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled Endo F2, F3 substrate (Dansylated fibrinogen biantennary) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>   | <b>Pass</b>    |
| <p><b>Glycosidase Activity (PNGase F)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled PNGase F substrate (Fluoresceinated fetuin triantennary) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>   | <b>Pass</b>    |
| <p><b>Glycosidase Activity (<math>\alpha</math>-Glucosidase)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\alpha</math>-Glucosidase substrate (Glc<math>\alpha</math>1-6Glc<math>\alpha</math>1-4Glc-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>                               | <b>Pass</b>    |
| <p><b>Glycosidase Activity (<math>\alpha</math>-N-Acetylgalactosaminidase)</b><br/>A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\alpha</math>-N-Acetylgalactosaminidase substrate (GalNAc<math>\alpha</math>1-3(Fuca1-2)Gal<math>\beta</math>1-4Glc-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no</p>  | <b>Pass</b>    |

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|---|--------------------|
| <p>detectable activity as determined by thin layer chromatography.</p> <p><b>Glycosidase Activity (<math>\alpha</math>-Neuraminidase)</b><br/>           A 10 <math>\mu</math>l reaction in Glyco Buffer 1 containing 1 nM of fluorescently-labeled <math>\alpha</math>-Neuraminidase substrate (Neu5Ac<math>\alpha</math>2-3Gal<math>\beta</math>1-3GlcNAc<math>\beta</math>1-3Gal<math>\beta</math>1-4Glc-AMC) and 80 units of <math>\beta</math>1-4 Galactosidase S incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p> | <p><b>Pass</b></p> |

This product has been tested and shown to be in compliance with all specifications.



Brad Landgraf  
Production Scientist  
02 Apr 2019



Josh Hersey  
Packaging Quality Control Inspector  
03 Oct 2019