

## New England Biolabs Certificate of Analysis

**Product Name:**  $\alpha$ 1-3,4 Fucosidase  
**Catalog Number:** P0769S  
**Concentration:** 4,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to cleave > 95% of the  $\alpha$ -fucose from 1 nmol of Gal $\beta$ 1-4GlcNAc $\beta$ 1-3(Fu $\alpha$ 1-3)Gal $\beta$ 1-4Glc-7-amino-4-methyl-coumarin (AMC), in 1 hour at 37°C in a total reaction volume of 10  $\mu$ l.  
**Packaging Lot Number:** 10221055  
**Expiration Date:** 12/2024  
**Storage Temperature:** 4°C  
**Storage Conditions:** 50 mM NaCl , 20 mM Tris-HCl , 1 mM EDTA, (pH 7.5 @ 25°C)  
**Specification Version:** PS-P0769S/L v1.0

| <b><math>\alpha</math>1-3,4 Fucosidase Component List</b> |                              |                   |                             |
|---|------------------------------|-------------------|-----------------------------|
| <b>NEB Part Number</b>                                    | <b>Component Description</b> | <b>Lot Number</b> | <b>Individual QC Result</b> |
| P0769SVIAL  | $\alpha$ 1-3,4 Fucosidase    | 10217773          | <b>Pass</b>                 |
| B9001SVIAL  | Purified BSA                 | 10153875          | <b>Pass</b>                 |
| B1727SVIAL  | 10X GlycoBuffer 1            | 10181128          | <b>Pass</b>                 |

| <b>Assay Name/Specification</b>   | <b>Lot # 10221055</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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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 16 units of <math>\alpha</math>1-3,4 Fucosidase incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>           | <b>Pass</b>           |

| Assay Name/Specification  | Lot # 10221055 |
|---|----------------|
| <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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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(Fuc<math>\alpha</math>1-2)Gal<math>\beta</math>1-4Glc-AMC) and 16 units of <math>\alpha</math>1-3,4 Fucosidase 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>-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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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 (Fuc<math>\alpha</math>1-2Gal<math>\beta</math>1-4Glc-AMC) and 16 units of <math>\alpha</math>1-3,4 Fucosidase 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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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 16 units of <math>\alpha</math>1-3,4 Fucosidase incubated for 20 hours at 37°C results in no detectable activity as determined by thin layer chromatography.</p>                          | <b>Pass</b>    |

| Assay Name/Specification   | Lot # 10221055 |
|--|----------------|
| <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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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>-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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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>-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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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 16 units of <math>\alpha</math>1-3,4 Fucosidase 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>1-4 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>1-4GlcNAc<math>\beta</math>1-3Gal<math>\beta</math>1-4Glc-AMC) and 16 units of <math>\alpha</math>1-3,4 Fucosidase 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></p>   | <b>Pass</b>    |

| Assay Name/Specification   | Lot # 10221055     |
|--|--------------------|
| <p>A 20 µl reaction in 1X Glyco Buffer 1 containing 24 µg of a standard mixture of proteins and a minimum of 40 units of α1-3,4 Fucosidase 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> <p><b>Protein Purity Assay (SDS-PAGE)</b><br/>α1-3,4 Fucosidase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p> | <p><b>Pass</b></p> |

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

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Maxwell Elkus  
Production Scientist  
30 Nov 2023



Josh Hersey  
Packaging Quality Control Inspector  
03 Dec 2023