Rev. 2025-03-25

α1.3 Mannosidase contents

| Catalog # | Description | Size | M. W. | Purity | рН | Storage |
|-----------|-----------------------|--------------------|---------|--------|-------------|----------------------|
| GE1001 | α1,3 Mannosidase | 1,000 units | 105,488 | > 95% | 7.0 optimal | 4°C, up to 12 months |
| BA0601 | 10X Reaction Buffer 2 | 1 mL | | | 7.0 | 4 to 25°C |
| BA0602 | 50X ZnSO ₄ | 0.25 mL (10 mM) | | | | 4°C |
| BA0603 | 50X BSA | 0.25 mL (50 mg/mL) | | | | -20°C |

This product is for research use only and not for resale or for any use in the manufacture of a therapeutic or for any diagnostic purpose

Product description: This product is a recombinant $\alpha 1,3$ mannosidase (glycosyl hydrolase family GH38, EC #3.2.1.24) cloned from *Streptococcus pyogenes* and expressed in *Escherichia coli* with an *N*-terminal 8xHis tag. The 8xHis tag may be removed by digestion with FasTEVTM (Cat #GE0501), a TEV protease with enhanced stability and catalytic activity.

This product catalyzes the hydrolysis of terminal α 1,3-linked mannose (Man) from oligosaccharides and glycoprotein substrates.



This product does not contain any detectable activities of proteases or other glycosidases.

Unit definition: One unit is defined as the amount of $\alpha 1,3$ Mannosidase required to catalyze the release of 1 nmole 4-methylumbelliferone (4MU) from 4-methylumbelliferyl α -D-mannopyranoside (4MU-Man) in 30 min at 37°C in 50 μ L 1X Reaction Buffer 2 (50 mM Bis-Tris, 100mM NaCl, pH 7.0), plus 0.2 mM ZnSO₄ and 1 mg/mL BSA.

Form and Storage: The product is supplied as a 10,000 units/mL (Cat #GE1001) solution in enzyme storage buffer (20 mM Tris-HCl, 100 mM NaCl, pH 7.5). It is stable at 4°C for up to 12 months. DO NOT FREEZE THIS ENZYME.

Activity assay: Prepare a 50 μ L reaction mix containing 1X Reaction Buffer 2, 1X ZnSO₄, 1X BSA, and 3 mM 4MU-Man. Add 0.1-1 μ L (1-10 units) of α 1,3 Mannosidase to the reaction mix and incubate at 37°C for 30 min, protected from light. Stop the reaction by adding 150 μ L 0.2 M Na₂CO₃. Fluorescence intensity at ex/em = 360/460 nm is measured on a plate reader and converted to nanomole of 4MU via a standard curve.

Reference: Suits MD, et al. PLoS One. 2010 Feb 3;5(2):e9006. PMID: 20140249.