

## Native Rhizopus sp. Glucoamylase

Cat. No. DIA-190

Lot. No. (See product label)

### Introduction

#### Description

Glucan 1,4- $\alpha$ -glucosidase is an enzyme located on the brush border of the small intestine with system name 4- $\alpha$ -D-glucan glucohydrolase. This enzyme catalyses the following chemical reaction: Hydrolysis of terminal (1- $\rightarrow$ 4)-linked  $\alpha$ -D-glucose residues successively from non-reducing ends of the chains with release of  $\beta$ -D-glucose. Most forms of the enzyme can rapidly hydrolyse 1,6- $\alpha$ -D-glucosidic bonds when the next bond in the sequence is 1,4.

#### Applications

This enzyme is useful for structural investigation of carbohydrates and for enzymatic determination of  $\alpha$ -amylase when coupled with the related enzymes in clinical analysis.

#### Synonyms

EC 3.2.1.3; glucoamylase; amyloglucosidase; gamma-amylase; lysosomal  $\alpha$ -glucosidase; acid maltase; exo-1,4- $\alpha$ -glucosidase; glucose amylase; gamma-1,4-glucan glucohydrolase; acid maltase; 1,4- $\alpha$ -D-glucan glucohydrolase

### Product Information

#### Source

Rhizopus sp.

#### Appearance

White amorphous powder (salt-free), lyophilized

#### Form

Freeze dried powder

#### EC Number

EC 3.2.1.3

#### CAS No.

9032-08-0

#### Molecular Weight

approx. 70 kDa

#### Activity

Gradel 30U/mg-solid or more

#### pH Stability

pH 4.0-8.5 (25°C, 20hr)

#### Optimum pH

4.5-5.0

#### Thermal stability

below 45°C (pH 5.5, 10min)

#### Optimum temperature

60°C

#### Michaelis Constant

$11 \pm 1.1 \times 10^{-4}$ M (Maltose),  $3.6 \pm 0.51 \times 10^{-4}$ M (Maltotriose),  $2.5 \pm 0.33 \times 10^{-4}$ M (Maltotetraose),  $1.6 \pm 0.02 \times 10^{-4}$ M (Maltopentaose)

#### Specificity

This enzyme completely hydrolyzes soluble starch, amylopectin, glycogen,  $\alpha$ - or  $\beta$ -limit dextrin, amylose, maltooligosaccharides and panose.

### Storage and Shipping Information

#### Stability

Stable at -20°C for at least 6 months