

## Native *Thermotoga neopolitana* $\beta$ -Glucosidase

Cat. No. NATE-0771

Lot. No. (See product label)

### Introduction

#### Description

$\beta$ -glucosidase is a glucosidase enzyme located in on the brush border of the small intestine that acts upon  $\beta$ 1->4 bonds linking two glucose or glucose-substituted molecules (i.e., the disaccharide cellobiose). It is one of the cellulases, enzymes involved in the decomposition of cellulose and related polysaccharides; more specifically, an exocellulase with specificity for a variety of beta-D-glycoside substrates. It catalyzes the hydrolysis of terminal non-reducing residues in beta-D-glucosides with release of glucose.

#### Applications

The enzyme may be used for hydrolysis of various glycosides such as polyphenol glycosides including naturally occurring antioxidants such as quercetin-glycosides found in various vegetables. For complete hydrolysis of 1  $\mu$ mol of quercetin-4-glycoside in 5 minutes at 80°C and pH 5.5, about 28 pmol (~25  $\mu$ g) enzyme was needed (Turner et al 2006)

#### Synonyms

$\beta$ -glucosidase; glycoside hydrolase;  $\beta$ -D-glucoside glucohydrolase; EC 3.2.1.6; gentiobiase; cellobiase; emulsin; elaterase; aryl- $\beta$ -glucosidase;  $\beta$ -D-glucosidase; arbutinase; amygdalinase; p-nitrophenyl  $\beta$ -glucosidase; primeverosidase; amygdalase; linamarase; salicilinas;  $\beta$ -1,6-glucosidase

### Product Information

#### Source

*Thermotoga neopolitana*

#### EC Number

EC 3.2.1.6

#### CAS No.

62213-14-3

#### Optimum temperature

the enzyme has optimum activity around 90°C

#### Structure

The crystal structure of  $\beta$ -glucosidase from *Thermotoga neopolitana* has been determined to 2.05 Å resolution (Pozzo et al. 2010). – PDB entry 2X41

#### Unit Definition

One unit (U) of enzyme activity is the amount that leads to the release of 1  $\mu$ mol of p-nitrophenyl from p-nitrophenyl- $\beta$ -D-glucanopyranoside (pNPG) per minute.