

## Native Environmental DNA Pustulanase ( $\beta$ -glucanase)

Cat. No. NATE-0645

Lot. No. (See product label)

### Introduction

**Description** A thermostable  $\beta$ -1,6-endoglucanase or pustulanase (E.C. 3.2.1.75) which catalyses the cleavage of  $\beta$ -1,6 bonds in pustulan and other beta-glucans containing 1,6 linked glucose units. The enzyme is now a component in a standard assay for beta-glucan from Baker's yeast as documented in US Pharmacopeia Food and Chemicals Index.

**Synonyms** EC 3.2.1.75; glycoside hydrolase; pustulanase; glucan endo-1,6- $\beta$ -glucosidase; 6- $\beta$ -D-glucan glucanohydrolase; endo-1,6- $\beta$ -glucanase;  $\beta$ -1 $\rightarrow$ 6)- $\beta$ -D-glucanase;  $\beta$ -1,6-glucanase-pustulanase;  $\beta$ -1,6-glucan hydrolase;  $\beta$ -1,6-glucan 6-glucanohydrolase; 1,6- $\beta$ -D-glucan glucanohydrolase

### Product Information

**Species** Environmental DNA

**Source** Proprietary metagenome environmental DNA

**EC Number** EC 3.2.1.75

**CAS No.** 37278-39-0

**Optimum pH** suitable pH range is about 5-8 with optimum around 5.5

**Optimum temperature** The enzyme is relatively active in a rather broad temperature range (65-90°C) with optimum around 80°C

**Specificity** Cel136 Beta-glucanase (Pustulanase) Cel136 hydrolyses  $\beta$ -glucan polysaccharides with  $\beta$ -(1,6) linkages such as Pustulan ( $\beta$ -(1,6)-D-glucan) and Gentioibiose ( $\beta$ -(1,6)-linked disaccharide) or  $\beta$ -glucans with mixed linkages, including  $\beta$ -(1,6) linkages, such as Laminarin ( $\beta$ -(1,3/1,6)-D-glucan) and Yeast  $\beta$ -glucan ( $\beta$ -(1,3/1,6)-D-glucan). Substrate specificity analysis (below) indicates that the enzyme does not cleave  $\beta$ -(1,3) or  $\beta$ -(1,4) linkages as it does not show activity on the  $\beta$ -glucans Lichenan ( $\beta$ -(1,3/1,4)-D-glucan) or CM-Cellulose ( $\beta$ -(1,4)-D-glucan).

**Unit Definition** One unit (U) of enzyme activity is the amount that leads to the release of 1  $\mu$ mol reducing sugars per minute.