

## Phospho- $\alpha$ -Glucosidase 4A, *Bacillus subtilis*

### BsPag4A (GH4)

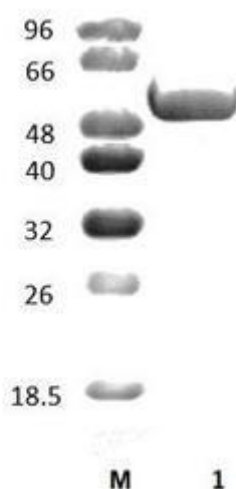
Catalogue number	Presentation
CZ01011	1 mg
CZ01012	3 x 1 mg

#### Description

Phospho- $\alpha$ -Glucosidase 4A (*BsPag4A*), assigned the E.C. number 3.2.1.122, is a derivative of *Bacillus subtilis*. It is a 6-phospho- $\alpha$ -glucosidase. The recombinant *BsPag4A*, purified from *Escherichia coli*, is a single-domain Glycoside Hydrolase family 4 (GH4) enzyme (see more details at [www.cazy.org](http://www.cazy.org)). The protein is supplied in a solution containing 35 mM NaHepes buffer (pH 7.5), 750 mM NaCl, 200 mM Imidazole, 3.5 mM CaCl<sub>2</sub>, and 25% (v/v) glycerol, at a concentration of 1 mg/mL. Bulk quantities of this product can be made available upon request. To place an order, simply visit our website. We offer fast and secure shipping worldwide.

#### Electrophoretic Purity

The molecular integrity and purity of *BsPag4A* (GH4) were evaluated using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), followed by BlueSafe staining (MB15201) (Figure 1).



**Figure 1.** SDS-PAGE analysis of *BsPag4A* (GH4) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 52,56 kDa. Lane M contains a Protein Marker for reference.

#### Storage temperature

The protein should be stored at -30°C to -15°C in a constant temperature freezer. The protein will remain stable till the expiry date if stored as specified.

#### Substrate specificity

*BsPag4A* (GH4) hydrolyses aryl-phospho- $\alpha$ -glucosides, including  $\alpha$ -maltose 6-phosphate.

#### Temperature and pH optima

The enzyme exhibits optimal activity within a pH range of 5.5-9.0 and at a temperature of 37°C. Maximal enzymatic activity is achieved at pH 7.5 and a consistent temperature of 37°C.

## Enzyme activity

The substrate specificity and kinetic properties of *BsPag4A* (GH4) are detailed in the referenced publication provided below. To perform enzyme assays and determine specific activity values, adhere to the methodology outlined in the cited paper(s).

## Reference

Yip *et al.* (2007) *Biochemistry*. 46(34):9840-9852.

Rajan *et al.* (2004) *Structure*. 12(9):1619-1629.

Varrot *et al.* (1999) *Acta Crystallogr D Biol Crystallogr*. 55(Pt 6):1212-1214.

## Customer Support

Our dedicated customer support team is always ready to assist you with any questions or technical issues you may have. Reach us via email at [info@nzytech.com](mailto:info@nzytech.com).

## Quality control assay

Protein purity is determined to be  $\geq 90\%$ , as assessed by SDS-PAGE and subsequent BlueSafe staining (MB15201).

For life science research only. Not for use in diagnostic procedures.