

## $\beta$ -Galactosidase 42A, *Alicyclobacillus acidocaldarius*

### *AaLac42A* (GH42)

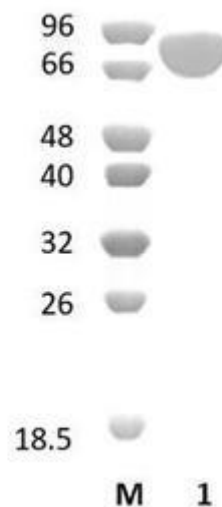
Catalogue number	Presentation
CZ09741	1 mg
CZ09742	3 x 1 mg

#### Description

$\beta$ -Galactosidase 42A (*AaLac42A*), assigned the E.C. number 3.2.1.23, is a derivative of *Alicyclobacillus acidocaldarius*. It is a  $\beta$ -galactosidase. The recombinant *AaLac42A*, purified from *Escherichia coli*, is a single-domain Glycoside Hydrolase family 42 (GH42) 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 *AaLac42A* (GH42) were evaluated using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), followed by BlueSafe staining (MB15201) (Figure 1).



**Figure 1.** SDS-PAGE analysis of *AaLac42A* (GH42) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 79,88 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

*AaLac42A* (GH42) hydrolyses galactosides and the artificial substrates 2-nitrophenyl- $\beta$ -D-galactoside (2NP- $\beta$ -d-Gal), 2-nitrophenyl- $\beta$ -D-fucoside (2NP- $\beta$ -d-Fuc), and 4-nitrophenyl- $\alpha$ -L-arabinoside (4NP- $\alpha$ -l-Ara).

#### Temperature and pH optima

The pH optimum for enzymatic activity is 4 while temperature optimum is 65 °C.

## Enzyme activity

The substrate specificity and kinetic properties of A $\alpha$ Lac42A (GH42) 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

Lauro *et al.* (2008) *Biochim Biophys Acta*. 1784(2):292-301.

## 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.

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**NZYtech Lda.** Estrada do Paço do Lumiar, Campus do Lumiar - Edifício E, R/C, 1649-038 Lisboa, Portugal Tel.:+351.213643514 Fax:  
+351.217151168 [www.nzytech.com](http://www.nzytech.com)