CZ0887_UG_EN_V2302

Xylose isomerase A, *Bacteroides thetaiotaomicron*

*Bt*Xyl_isomerase ()

Catalogue number	Presentation
CZ08871	1 mg
CZ08872	3 x 1 mg

Description

Xylose isomerase A (*Bt*Xyl_isomerase), assigned the E.C. number 5.3.1.5, is a derivative of *Bacteroides thetaiotaomicron*. It is an enzyme that catalyzes the interconversion of D-xylose and D-xylulose. The recombinant *Bt*Xyl_isomerase, purified from *Escherichia coli*, is a single-domain Xylose isomerase family 0 () enzyme (see more details at 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 $CaCl_2$, 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 *Bt*Xyl_isomerase () were evaluated using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), followed by BlueSafe staining (MB15201) (Figure 1).

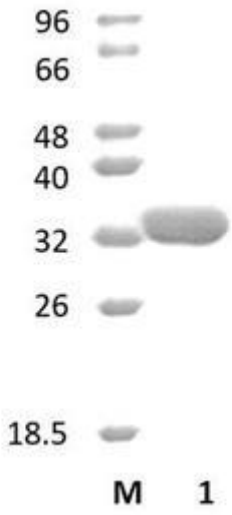

Figure 1. SDS-PAGE analysis of *Bt*Xyl_isomerase () was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 33,73 kDa. Lane M contains a Protein Marker for reference.

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

*Bt*Xyl_isomerase () hydrolyses D-xylose and D-xylulose.

Temperature and pH optima

The enzyme exhibits optimal activity within a pH range of 6.5-7.5 and at a temperature of 37°C. Maximal enzymatic activity is achieved at pH 7 and a consistent temperature of 37°C.

Enzyme activity

The substrate specificity and kinetic properties of *Bt*Xyl_isomerase () 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

Mahowald *et al.* (2009) Proc Natl Acad Sci U S A. 106(14):5859-64.

Ndeh *et al.* (2017) Nature. 544(7648):65-70.

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.

Quality control assay

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