



## $\beta$ -XYLOSIDASE from *S. ruminantium* (Lot 100301c)

### Recombinant

### E-BXSR-1KU

11/14

(EC 3.2.1.37) *exo*-1,4- $\beta$ -D-xylosidase; 1,4- $\beta$ -D-xylan xylohydrolase  
CAZy: GH Family 43

### PROPERTIES

#### 1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 61,900)
- Single major band on isoelectric focusing (pI ~ 5.4)

#### 2. SPECIFIC ACTIVITY:

**118 U/mg protein at pH 5.3 and 40°C on *p*-NP- $\beta$ -D-xyloside.**

~ 145 U/mg protein at pH 5.3 and 40°C on xylobiose

**One Unit** of  $\beta$ -xylosidase activity is defined as the amount of enzyme required to release one  $\mu$ mole of *p*-nitrophenol (*p*-NP) per minute from *p*-nitrophenyl- $\beta$ -D-xylopyranoside (5 mM) in sodium succinate buffer (50 mM), pH 5.3 at 40°C.

#### 3. OTHER ACTIVITIES (as a percentage of $\beta$ -xylosidase activity):

Enzyme Measured	Substrate	%
$\beta$ -D-Xylosidase	<i>p</i> -NP- $\beta$ -D-xyloside	100
$\alpha$ -L-Arabinofuranosidase	<i>p</i> -NP- $\alpha$ -L-arabinofuranoside	~ 7.0

Action on *p*-NP-substrates was determined at a final substrate concentration of 5 mM in sodium succinate buffer (50 mM), pH 5.3 at 40°C.

#### 4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	Relative Hydrolysis Rate
Xylobiose	100*
Xylotriose	82
Xylotetraose	65
Xylopentaose	46

Action on oligosaccharide and polysaccharide substrates was determined at a final substrate concentration of 5 mM and 10 mg/mL, respectively, in sodium succinate buffer (50 mM), pH 5.3 at 40°C.

\* Hydrolysis of xylobiose releases two xylose molecules. This is accounted for in the calculation of the Relative Hydrolysis Rate.

## 5. PHYSICOCHEMICAL PROPERTIES:

pH Optima: 5.3  
Temperature Optima: 40°C

## 6. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium succinate buffer (50 mM), pH 5.3 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

## 7. REFERENCES:

Jordan, D. B., Li, X-L., Dunlap, C. A., Whitehead, T. R. & Cotta, M. A. (2007).  $\beta$ -D-Xylosidase From *Selenomonas ruminantium* of Glycoside Hydrolase Family 43. *Appl. Biochem. Biotechnol.* **137-140**, 93–104.

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Jordan, D. B. (2008).  $\beta$ -D-Xylosidase from *Selenomonas ruminantium*: Catalyzed Reactions with Natural and Artificial Substrates. *Appl. Biochem. Biotechnol.* **146**, 137–149