

β-GALACTOSIDASE (*Aspergillus niger*) (Lot 170503A)

Non-recombinant

E-BGLAN

03/22

EC: 3.2.1.23

Synonyms: beta-galactosidase; beta-D-galactoside galactohydrolase

CAZy Family: GH35

CAS: 9013-11-2

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 125,000)
- Single band on isoelectric focusing.

2. SPECIFIC ACTIVITY:

240 U/mg protein (on *p*-nitrophenyl-β-D-galactoside) at pH 4.5 and 40°C

One Unit of β-galactosidase activity is defined as the amount of enzyme required to release one μmole of *p*-nitrophenol per minute from *p*-nitrophenyl-β-D-galactoside (10 mM) in sodium acetate buffer (100 mM), pH 4.5 at 40°C.

3. SPECIFICITY:

Hydrolysis of terminal non-reducing β-D-galactose residues in β-D-galactosides.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
<i>p</i> NP-β-galactoside	100
<i>p</i> NP-α-galactoside	0.0001
<i>p</i> NP-α-L-arabinofuranoside	0.2083
<i>p</i> NP-α-L-arabinopyranoside	0.0708
<i>p</i> NP-α-glucoside	0.0025
<i>p</i> NP-β-glucoside	0.001
<i>p</i> NP-β-xyloside	0.003
<i>p</i> NP-β-mannoside	0.001
Ceralpha (α-amylase)	0.002
Sucrose (invertase)	0.0025
Maltose (maltase)	0.0033

Action on *p*NP-substrates and polysaccharides or oligosaccharides was determined at a final substrate concentration of 5 mM and 10 mg/mL, respectively, in sodium acetate buffer (100 mM), pH 4.5 at 40°C.

5. **PHYSICOCHEMICAL PROPERTIES:**

pH Optima: 5.0
pH Stability: 4.0-9.0
Temperature Optima: 60°C
Temperature Stability: < 70°C

6. **STORAGE CONDITIONS:**

The enzyme is supplied as an ammonium sulphate suspension containing 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium acetate buffer (100 mM), pH 4.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

7. **EXPERIMENTAL DATA:**

