β-GALACTOSIDASE from *E. coli* (Lot 160801a)

Recombinant

E-ECBGAL **07/18**

(EC 3.2.1.23) beta-D-galactoside galactohydrolase
CAZy Family: GH2
CAS: 9031-11-2

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 116,000)
- One major band on isoelectric focusing (pI ~ 5.3)

2. SPECIFIC ACTIVITY:

35 U/mg protein (on *p*-nitrophenyl-β-D-galactoside) at pH 6.5 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 phosphate buffer (100 mM), pH 6.5 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	%
*p*NP-β-galactoside	100
β-1,6 lactose (Allolactose)	~ 27
β-1,4 lactose	~ 18
*p*NP-β-glucoside	< 0.01
*p*NP-α-glucoside	< 0.0009
*p*NP-α-galactoside	< 0.0003

Action on *p*NP-substrates and oligosaccharides was determined at a final substrate concentration of 5 mM and 2.5 mg/mL, respectively, in sodium phosphate buffer (100 mM), pH 6.5 at 40°C.

5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 6.5-7.0 and up to 50°C

pH Optima:	6.5
pH Stability:	6.0-9.0 (> 75% control activity after 24 h at 4°C)
Temperature Optima:	40°C (10 min reaction)
Temperature Stability:	up to 50°C (> 75% control activity after 15 min incubation at temperature)

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 phosphate buffer (100 mM), pH 6.5 containing 10mM $MgCl_2$ and 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

7. EXPERIMENTAL DATA: