



## $\alpha$ -GALACTOSIDASE from *Penicillium simplicissimum* (Lot 140501a)

### Recombinant

### E-AGALPS

01/15

(EC 3.2.1.22) alpha-D-galactoside galactohydrolase

CAZy: GH Family 27

CAS: 37288-54-3

### PROPERTIES

#### 1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 47,000)
- One major band on isoelectric focusing (pI ~ 5.6)

#### 2. SPECIFIC ACTIVITY:

**160 U/mg protein (on *p*-NP- $\alpha$ -D-galactopyranoside) at pH 3.5 and 40°C.**

**One Unit** of  $\alpha$ -galactosidase activity is defined as the amount of enzyme required to release one  $\mu$ mole of *p*-nitrophenol (*p*-NP) per minute from *p*-nitrophenyl- $\alpha$ -D-galactopyranoside (5 mM) in glycine buffer (100 mM), pH 3.5 at 40°C.

#### 3. SPECIFICITY:

Hydrolysis of terminal, non-reducing  $\alpha$ -D-galactose residues in  $\alpha$ -D-galactosides, including galactose oligosaccharides and galactomannans.

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

Substrate	%
<i>p</i> -NP- $\alpha$ -D-Galactopyranoside	100
<i>p</i> -NP- $\beta$ -D-Galactopyranoside	< 0.001
<i>p</i> -NP- $\alpha$ -L-Arabinofuranoside	< 0.001
<i>p</i> -NP- $\alpha$ -D-Glucopyranoside	~ 0.01
<i>p</i> -NP- $\beta$ -D-Glucopyranoside	< 0.001
<i>p</i> -NP- $\alpha$ -D-Mannopyranoside	< 0.001
<i>p</i> -NP- $\beta$ -D-Mannopyranoside	< 0.001
<i>p</i> -NP- $\alpha$ -D-Xylopyranoside	< 0.001
<i>p</i> -NP- $\beta$ -D-Xylopyranoside	< 0.001
Carob Galactomannan (low viscosity)	~ 34

Action on polysaccharide and *p*-nitrophenyl substrates was determined at final concentrations of 10 mg/mL and 5 mM, respectively, in sodium acetate buffer (100 mM), pH 5.0 at 40°C.

#### 5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 2.0 - 4.0 and up to 40°C

pH Optima: 2.0 - 4.0

pH Stability: 3.0 - 9.0 (> 75% control activity after 24 hours at 4°C)

Temperature Optima: 40 - 50°C (10 min. reaction)

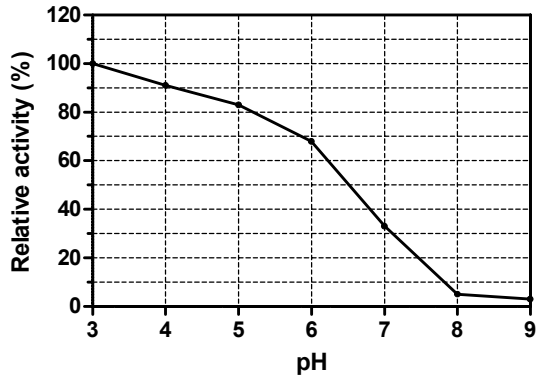
Temperature Stability: up to 40°C

#### 6. STORAGE CONDITIONS

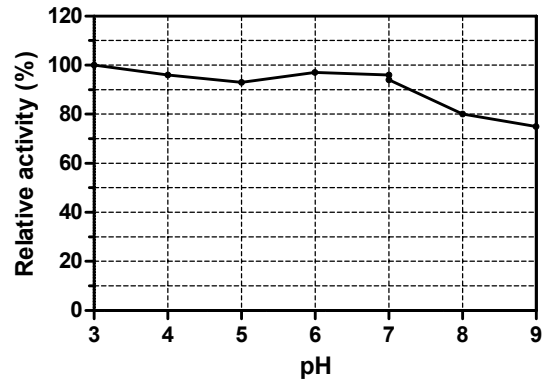
The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in glycine buffer (100 mM), pH 3.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

## 7. EXPERIMENTAL DATA:

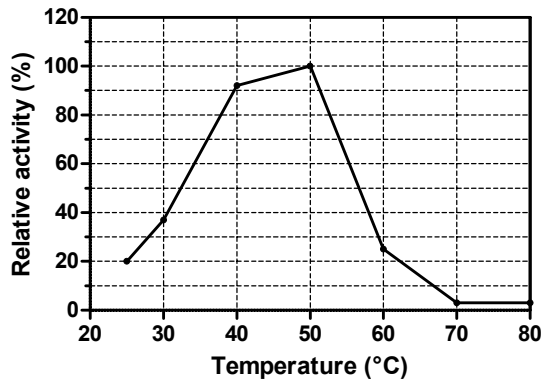
### pH Optima



### pH Stability



### Thermal Optima



### Thermal Stability

