ALGINATE LYASE from *Sphingomonas sp.* (Lot 180501a)

Recombinant

E-ALGLS **06/18**

(EC 4.2.2.3) poly(beta-D-mannuronate) lyase; poly[(1,4)-beta-D-mannuronide] lyase
CAZy Family: PL7
CAS: 86922-62-5; 9024-15-1

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 39,600)
- Single major band on isoelectric focusing (pI ~ 5.6)

2. SPECIFIC ACTIVITY:

80 U/mg protein (on sodium alginate) at pH 7.2 and 40°C.

One Unit of alginate lyase activity is defined as the amount of enzyme required to produce an increase in absorbance of 1.0 per minute at 235 nm and 40°C in the following reaction conditions:

Tris.HCl buffer (100 mM) pH 7.2	0.8 mL
Sodium Alginate (10 mg/mL)	0.2 mL
Alginate Lyase	0.1 mL

3. SPECIFICITY:

endo-Acting β-elimination cleavage of the polysaccharide alginate.

4. PHYSICOCHEMICAL PROPERTIES:

pH Optima:	7.2
pH Stability:	4.0 - 9.0 (> 75% control activity after 24 hours at 4°C)
Temperature Optima:	40°C (10 min. reaction)
Temperature Stability:	up to 40°C (> 90% control activity after 15 min.)

5. 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 TRIS.HCl buffer (100 mM), pH 7.2 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

6. REFERENCES:

Miyake, O., Hashimoto, W., & Murata, K. (2003). An exotype alginate lyase in *Sphingomonas* sp. A1: overexpression in *Escherichia coli*, purification, and characterization of alginate lyase IV (A1-IV). *Protein Expr Purif.* **29**, 33-41.

Miyake, O., Ochiai, A., Hashimoto, W., & Murata, K. (2004). Origin and diversity of alginate lyases of families PL-5 and -7 in *Sphingomonas* sp. strain A1. *J. Bacteriol.* **186**, 2891-2896.

7. EXPERIMENTAL DATA: