



PECTATE LYASE from *Cellvibrio japonicus* (Lot I30901a)

Recombinant

E-PLYCJ

10/13

Catalytic domain of Pel10A from *Cellvibrio japonicus*
(EC 4.2.2.2) (1→4)-alpha-D-galacturonan lyase
CAZy: PL Family 10

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 38,035)
- Broad diffuse band on isoelectric focusing (pI ~ 9.3)

2. SPECIFIC ACTIVITY AND LEVEL OF OTHER ACTIVITIES:

690 U/mg protein (on polygalacturonic acid) at pH 10.0 and 40°C.

One Unit of pectate lyase activity is defined as the amount of enzyme required to release one μ mole of 4,5-unsaturated product per minute from polygalacturonic acid (1.25 mg/mL) in the presence of calcium chloride (1 mM) in CAPS buffer (50 mM) pH 10.0 and 40°C, monitored at 235 nm.

3. OTHER ACTIVITIES (as a percentage of pectate lyase):

Enzyme Activity	Substrate	%
Pectate lyase	Polygalacturonic acid	100
<i>endo</i> -Polygalacturonanase	Polygalacturonic acid	< 0.00001
<i>endo</i> -Arabinanase	Arabinazyme Tablets	< 0.00001
<i>endo</i> -Galactanase	Galactazyme Tablets	< 0.00001

Action on polygalacturonic acid (Megazyme cat. no. **P-PGACT**) was determined at pH 10.0, 40°C and monitored at 235 nm. *endo*-Polygalacturonanase, *endo*-galactanase and *endo*-arabinanase were assayed at pH 4.5 and 40°C with the appropriate substrates.

4. PHYSICOCHEMICAL PROPERTIES:

- pH Optima: 10.0
 pH Stability: 6.5 - 10.5
 Temperature Optima: 62°C
 Temperature Stability: < 47°C (Stable at 47°C for > 20 min)

5. 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 CAPS buffer (50 mM), pH 10.0 containing calcium chloride (1 mM). **Swirl to mix the enzyme immediately prior to use.**

6. REFERENCES:

Coutinho, P.M. & Henrissat, B. (1999) in Recent Advances in Carbohydrate Engineering, eds Gilbert, H.J., Davies, G.J., Svensson, B. & Henrissat, B. (R. Soc. Chem., Cambridge, U.K.), pp. 3-12

Brown, I.E., Mallen, M.H., Charnock, S.J., Davies, G.J., & Black, G.W. (2001) Pectate lyase I0A from *Pseudomonas cellulosa* is a modular enzyme containing a family 2a carbohydrate-binding module. *Biochem. J.* **355**, 155-165

Charnock, S.J., Brown, I.E., Turkenburg, J.P., Black, G.W. & Davies, G.J. (2001) Characterization of a novel pectate lyase, Pel10A, from *Pseudomonas cellulosa*. *Acta Crystallogr. D* **57**, 1141-1143

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