

Pectolyase Y-23 & Cellulase YC

Product Description

Maceration enzyme for protoplast preparation from higher plants

Catalog #: [D18251](#), 10g
Name: **Pectolyase Y-23**
 Powered fungal pectinase preparation
 CAS: 9033-35-6
 Activity: approx. 100x10³ maceration units* per gram
 pH: effective in the range of 4.5-6.5 (optimum activity pH is 5.5)
 Stable in the range of pH 4.0-7.0

*the maceration activity is determined by measuring the volume of single cells released from potato tuber slices under the conditions as specified by Ishii (7).

Storage: +4°C (1), dry

Catalog #: [AM7241](#), 10g [AM72422](#), 100g
Name: **Cellulase Y-C**
 Powered fungal cellulase preparation
 CAS: 9032-75-1
 IUB number: 3.2.1.4 (β-1,4-glucan-4-glucanohydrase)

Storage: +4°C (1), dry

Applications:

For Research Use Only

- Protoplast preparation

Introduction

Pectolyase Y-23 is a highly purified maceration enzyme from *Aspergillus japonicus*. It contains two types of pectinases such as endo-polygalacturonase (EC:3.2.1.15)(1) and endo-pectin lyase (EC:4.2.2.3)(2) in high activity. In an additional component is included a maceration stimulating factor which remarkably stimulates tissue maceration by both pectinases (3.4).

Thus, pectolyase Y-23 can isolate biologically active protoplasts from widest spectrum of higher plants and tissues in a combination with Cellulase Y-C #AM7241 in a brief incubation (5.6).

Cellulase Y-C is a cellulase from *Trichoderma viride* from the preparation of protoplast from plant tissues.

Optimum pH: 3.0-5.0

Optimum temperature: 40-50°C

pH stability: 3.0-6.0 (37°C, 30min)

Temperature stability: below 50°C (pH 4.0, 30min)

Activity: above 25 000 u/g filter paper decomposing activity (determined by modified Toyama's assay method)

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Directions for use

Guidelines for use – Examples for protoplast preparation

Composition of incubation mixture:	from leaf mesophyll (5).	from cultured cells (6).	from oat (<i>Avena sativa</i>)s
Pectolyase Y-23	0.1%	0.05%	1%
Cellulase preparation	2.0%	2.0%	2.0%
Mannitol	0.7M	0.4M	0.5M
pH	5.5	5.5	5.5
Temperature:	30°C	30°C	25-27°C
Incubation time:	30-60min	50-60min	2-3Hr

References

- (1) Ishii S. and T.Yokotsuka: Purification and properties of endo-polygalacturonase from *Aspergillus japonicus*; *Agric.Biol.Chem.*, 36, 1835 (1972).
- (2) Ishii S. and T.Yokotsuka: Purification and properties of pectin lyase from *Aspergillus japonicus*; *Agric.Biol.Chem.*, 39, 313 (1975).
- (3) Ishii S. and K.Kiho: Evidence of a factor that stimulates tissue maceration by pectolytic enzymes. *Phytopathology*, 66, 1077 (1976).
- (4) Ishii S.: Purification and characterization of a factor that stimulates tissues maceration by pectolytic enzymes. *Phytopathology*, 67, 994 (1977).
- (5) Nagata T. and S.Ishii: A rapid method for isolation of mesophyll protoplasts; *can.J.Biol.*, 57, 1829 (1979).
- (6) Hasezawa S., T.Nagata and K.Syono: Transformation of *Vinca* protoplasts mediated by *Agrobacterium* spheroplasts. *Mol.Gen.Genet.*, 182, 206 (1981).
- (7) Ishii S.: Enzymatic maceration of plant tissues by endo-pectin lyase and endo-polygalacturonase from *Aspergillus japonicus*. *Phytopathology*, 66, 281 (1976).

Related / associated products and documents

See [BioSciences Innovations catalogue](#) and [e-search tool](#).

Other Information

For in vitro R&D use only

Please contact InterBioTech – Interchim for any other information

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