

Product Information

Zymolyase[®] from *Arthrobacter luteus*, min. 20 U/mg

Cat. no. 33759

Zymolyase[®] from *Arthrobacter luteus*, min. 100 U/mg

Cat. no. 33760

General information

Zymolyase[®], produced by a submerged culture of *Arthrobacter luteus* ⁽¹⁾, has strong lytic activity against living yeast cell walls ^{(2), (3)} to produce protoplast or spheroplast of various strains of yeast cells.

Essential enzyme lytic activity of Zymolyase[®] is β -1, 3-glucan laminaripentaohydrolase, which hydrolyses glucose polymers linked by β -1, 3- bonds and produces laminari-pentaose ^{(4), (5), (10), (11)}.

Zymolyase[®] is reported to be a complex enzyme of Zymolyase A, β -1, 3-glucan laminaripentaohydrolase and Zymolyase B, alkaline protease, which may change the structure of the yeast cell wall to facilitate penetration of Zymolyase A which alone was unable to lyse yeast cell walls.

Lytic activity varies depending on yeast strain, growth stage of yeast, or cultural conditions ⁽⁶⁻⁸⁾. Further information related to Zymolyase[®] can be obtained in the reference section below ⁽¹²⁻¹⁶⁾.

Form:	Lyophilized powder
Purification ⁽⁹⁾ :	cat. no. 33759 - Ammonium sulfate precipitation cat. no. 33760 – Affinity chromatography ⁽⁹⁾
Activity:	cat. no. 33759 - min. 20 U/mg cat. no. 33760 – min. 100 U/mg
Essential enzyme:	β -1,3-glucan laminaripentaohydrolase
pH & temperature optimum:	pH 7.5, 35°C (for lysis of viable yeast cells) pH 6.5, 45°C (for hydrolysis of yeast glucan)
Stable pH:	5~10
Heat stability:	Lytic activity is lost on incubation at 60°C for 5 min

Instructions for use:

- Zymolyase[®] may not completely be dissolved in buffers and is therefore used as a suspension.
- A 2 % to 10 % stock solution in 10 mM sodium phosphate buffer (pH 7.4) or 50 mM Tris-Cl (pH 7.5), respectively, containing 5 % glucose and 50 % glycerol each may be prepared.
- The suspension may be stored in aliquots at -20 °C.
The working concentration is 2 - 5 mg/ml and the suspension can be optionally sterilized by filtration (0.2 μ m, no nitrocellulose filter).
- Zymolyase[®] may as well be solubilized in freshly prepared working buffer, e.g. 50 mM Tris-Cl, pH 7.5, 10 mM EDTA, 0.3 % 2-Mercaptoethanol in the required working concentration directly prior to use.

Lytic Spectrum

- (1) **Susceptible strains in low concentration (0.2 units/ml)**
Ashbya, Endomyces, Kloeckera, Kluyveromyces, Pullularia, Saccharomyces
- (2) **Susceptible strains in high concentration (2.0 units/ml)**
Candida, Debaryomyces, Eremothecium, Hansenula, Hanseniaspora, Lipomyces, Metschikowia, Saccharomycopsis, Saccharomyces, Schizosaccharomyces, Selenozyma, Trigonopsis, Wickerhamia
- (3) **Susceptibility depending on strains**
Bretanomyces, Cryptococcus, Nadsonia, Pichia, Rodosporidium, Schwanniomyces, Stephanoascus, Torulopsis
- (4) **No susceptible strains**
Bullera, Pityrosporum, Rhosotorula, Sporidiobolus, Sporobolomyces, Stigmatomyces, Trichosporon

Reference

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