



Yatalase™

from *Corynebacterium* sp. OZ-21

Cat#OZK-OZ-10EX

Package Size : 2 g

Yatalase is used to lyse cell walls of filamentous fungi. The product is prepared from culture supernatants of *Corynebacterium* sp. OZ-21, and consists mainly of chitinase, chitobiase and β -1,3-glucanase.

Feature

- Has excellent thermostability and can be stored at room temperature.
- Efficiently digests native chitin.
- Has the revitalization of Chitinase, Chitobiase, Chitosanase, and β -1,3-Glucanase
- Can be used alone to prepare protoplasts from filamentous fungi.

Source

Corynebacterium sp. OZ-21 Form : Lyophilized powder(containing lactose)

Storage

Lyophilized preparation is stable for at least 1 year at 4°C.
Maintain at -20°C for long term storage. Avoid freeze/thaw cycles.

Specific activities

- Chitinase activity : Approximately 50 units/g powder
- Chitobiase activity : Approximately 500 units/g powder
- Lytic activity against cell walls : Approximately 10,000 units/g powder

Properties

- Optimum pH : pH 5~8
- Optimum temperature for enzyme activity : 30~50

UNIT DEFINITION

Chitinase activity:

One unit of chitinase activity is determined as the amount required to release 1 μ mol of *N*-acetylglucosamine from chitin in 1 minute.

Chitobiase activity:

One unit of chitobiase activity is defined as the amount of enzyme required to release 1 μ mol of *p*-nitrophenol from *p*-nitrophenyl-*N*-acetyl- β -D-glucosaminide in 1 minute.

Lytic activity:

One unit of enzyme activity is defined as the amount required to cause a 1% decrease in absorbance in 1 hour.

Table 1 Enzyme activities found in Yatalase

Enzyme activity	Activity (units/g powder)
Chitinase	50
Chitobiase	500
Chitosanase	19
-1,3-glucanase	300
Protease	31
Cell-wall lysing activity	10,000

Table 2 Yields of protoplasts

Species	Yield of protoplasts ($\times 10^6$ g-wet cells)
<i>Aspergillus oryzae</i>	70
<i>Aspergillus kawachii</i>	2
<i>Aspergillus terreus</i>	21
<i>Penicillium citrinum</i>	20
<i>Penicillium lanosum</i>	50
<i>Trichoderma koningii</i>	100
<i>Monascus</i> sp.	14
<i>Mucor hiemalis</i>	8
	21
<i>Rhizopus nigricans</i>	11
<i>Pleurotus ostreatus</i>	20
<i>Coprinus cinereus</i>	2
<i>Lentinus edodes</i>	



PROTOCOLS

Conditions for protoplast preparation

Strains	Culture media	Culture conditions	Conditions for preparing protoplasts
* <i>Aspergillus oryzae</i>	Czapek-Dox + 0.5% casamino acid (pH5.6)	30°C, 20 hours aeration (Rotary, 140 rpm)	2% Yatalase™ solution 0.6 M (NH ₄) ₂ SO ₄ 50 mM maleate buffer (pH5.5) 30°C, Reciprocal shaking (at 60-70 rpm), 2-3 hours
* <i>Aspergillus kawachii</i>	Czapek-Dox + 0.5% casamino acid (pH5.6)	30°C, 20 hours Stationary culture	2% Yatalase™ solution 0.6 M (NH ₄) ₂ SO ₄ 50 mM maleate buffer (pH5.5) 30°C, Reciprocal shaking (at 60-70 rpm), 2-3 hours
* <i>Aspergillus terreus</i> * <i>Penicillium citrinum</i> * <i>Penicillium lanosum</i> * <i>Trichoderma koningii</i>	Dextrin-peptone (pH5.5)	30°C, 20 hours aeration (Rotary, 140 rpm)	2% Yatalase™ solution 0.6 M (NH ₄) ₂ SO ₄ 50 mM maleate buffer (pH5.5) 30°C, Reciprocal shaking (at 60-70 rpm), 2-3 hours
* <i>Mucor hiemalis</i> * <i>Rhizopus nigricans</i>	2% Malt extract	30°C, 12 hours Stationary culture (Sporangiospores in germ)	2% Yatalase™ solution 0.5 M MgSO ₄ 50 mM maleate buffer (pH5.5) 30°C, Reciprocal shaking (at 60-70 rpm), 4 hours
* <i>Pleurotus ostreatus</i> * <i>Corpinus cinereus</i> * <i>Lentinus edodes</i>	OSG or MYG medium (pH5.5)	25-30°C, 3-4 days Stationary culture	2% Yatalase™ solution 0.6 M MgSO ₄ 50 mM maleate buffer (pH5.5) 30°C, Reciprocal shaking (at 60-70 rpm), 2-3 hours
* <i>Monascus sp.</i>	Dextrin-peptone (pH5.5)	25°C, 20 hours aeration (Rotary at 140 rpm)	2% Yatalase™ solution 0.6 M (NH ₄) ₂ SO ₄ 50 mM maleate buffer (pH5.5) 30°C, Reciprocal shaking (at 60-70 rpm), 2-3 hours



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