

Westase

(Digestive enzyme of cell walls of yeast)

Code No. 9005

Size : 1 g

Shipping at – 20°C
Store at 4°C

Lot No.

Expiration Date :

Quality :

β -1,6 glucanase activity : U/g powder
Lytic activity : U/g powder

Origin : *Streptomyces rochei* DB-34

Form : Lyophilized powder (containing celite as the excipient)

Storage : 4°C , dry condition.

Description :

This product was prepared from liquid culture supernatant of *Streptomyces rochei* DB-34. This product has complex lytic activities of yeast cell mainly consisting of β -1,6 glucanase and β -1,3 glucanase activity.

Unit definition :

β -1,6 glucanase activity : One unit is defined as the amount of enzyme required to release 1 μ mol reducing sugar from 10 mg/ml Pustulan solution in 1 min. at 37°C , pH6.0.

Lytic activity : One unit is defined as the amount of enzyme required to cause a 1% decrease in absorbance at 660 nm in 1 min. at 30°C, pH6.0 when using cell wall fraction of *Cryptococcus albidus* IFO 0612 as a substrate.

Specifications :

β -1,6 glucanase activity : \geq 400 units/g
Lytic activity : \geq 35,000 units/g
DNase activity : ND (McIlvain Buffer, pH6.0)

Preparation of the enzyme solution :

- (1) Dissolve in McIlvain Buffer*.
*: McIlvain Buffer is prepared by mixing 0.1M Citric acid solution and 0.2 M Disodium hydrogenphosphate at the ratio of around 36.8 : 63.2 (v/v), and adjust to pH6.0.
- (2) Filter the solution with cellulose acetate filter.

Note:

- (1) Na-tartrate (0.3 - 0.5 M) must be used as an osmotic stabilizer to form protoplast by Westase. The use of sorbitol as a stabilizer remarkably reduces the efficiency of forming protoplast.
- (2) For preparation of protoplasts by Westase, the yeast cells in exponential phase are suitable. In most yeast strains, the cells of stationary phase are not appropriate since they can result in lower efficiency.
- (3) To regenerate the cell wall of protoplasts, use 1.0 - 1.5 M sorbitol as an osmotic stabilizer.

Example of protoplast preparation :

- (1) *Saccharomyces cerevisiae*, *Trigonopsis variabilis*
Medium YPG medium
Culture 25°C , 1day, Shake culture (reciprocate at 120 rpm)
Conditions 0.5% Westase solution
0.5 M Na-tartrate
McIlvain Buffer (pH6.0)
30°C Reciprocal shaking, 1 - 2 hr.
- (2) *Lipomyces starkeyi*, *Candida utilis*
Medium Same as in (1)
Culture Same as in (1)
Conditions 0.5% Westase solution
0.4 M Na-tartrate
McIlvain Buffer (pH6.0)
30°C Reciprocal shaking, 1 - 2 hr.
- (3) *Shizosaccharomyces pombe*, *Hansenula mrakii*, *Kluyveromyces lactis*, *Pichia anomala*, *Filobasidium floriforme*, *Candida colliculosa*
Medium Same as in (1)
Culture Same as in (1)
Conditions 0.5% Westase solution
0.4 M Na-tartrate
McIlvain Buffer (pH6.0)
30°C Reciprocal shaking, 3 - 4 hr.
- (4) *Kloeckera apiculata*, *Cryptococcus albidus*
Medium Same as in (1)
Culture Same as in (1)
Conditions 0.5% Westase solution
0.3 M Na-tartrate
McIlvain Buffer (pH6.0)
30°C Reciprocal shaking, 1 - 2 hr.
- (5) *Ustilago maydis*, *Graphiophora phoenicis*, *Brettanomyces bruxellensis*, *Phaffia rhodozyma*
Medium Same as in (1)
Culture 25°C , 2days, Shake culture (reciprocate at 120 rpm)
Conditions Same as in (1)
- (6) *Tremella mesenterica*
Medium Same as in (1)
Culture Same as in (5)
Conditions Same as in (2)

Manufactured by Ozeki corporation.

Note

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Westase

(酵母細胞壁溶解酵素)

Code No. 9005

Size : 1 g

Shipping at - 20°C
Store at 4°C

Lot No. (英文面をご覧ください。)

品質保証期限 (英文面をご覧ください。)

Quality:

β-1,6 グルカナーゼ活性: (英文面をご覧ください。)

細胞壁溶解活性: (英文面をご覧ください。)

●由来 *Streptomyces rochei* DB-34

●形状 凍結乾燥粉末 [賦形剤として珪藻土 (セライト) を含む]

●保存 4°C、乾燥状態で保存

●製品説明

本製品は、*Streptomyces rochei* DB-34 の液体培養上清より調製された、β-1,6 グルカナーゼ、β-1,3 グルカナーゼ活性を主体とする酵母細胞壁溶解用複合酵素剤である。

●活性の定義

β-1,6 グルカナーゼ活性: 37°C、pH6.0 において 10 mg/ml の Pustulan 溶液から 1 分間に 1 μmol の還元糖を遊離する酵素量を 1 U とする。

細胞壁溶解活性: *Cryptococcus albidus* IFO 0612 の細胞壁画分を基質にし、30°C、pH6.0 において、1 分間に 660 nm における吸光度が 1% 減少するときの活性を 1 U とする。

●品質規格

β-1,6 グルカナーゼ活性: 400 U/g 以上

細胞壁溶解活性: 35,000 U/g 以上

DNase 活性: 検出限界以下
(Mcllvain Buffer, pH6.0)

●使用方法

Mcllvain Buffer (0.1 M クエン酸溶液と、0.2 M リン酸水素二ナトリウム溶液を約 36.8 : 63.2 で混合し、pH6.0 に調製する) に適量溶解し、セルロースアセテートフィルターでろ過してから使用する。

●使用上の注意

- (1) Westase を用いるプロトプラスト化の浸透圧調整剤には、必ず酒石酸ナトリウムをご使用ください。ソルビトールなどでは十分なプロトプラスト形成が起こりません。
- (2) プロトプラスト化には対数増殖期の酵母をご使用ください。定常期では著しくプロトプラスト化の効率が落ちることがあります。
- (3) プロトプラストの再生には、1.0 ~ 1.5 M ソルビトールをご使用ください。

●プロトプラスト調製条件例

- (1) *Saccharomyces cerevisiae*, *Trigonopsis variabilis*
培地 YPG medium
培養条件 25°C、1day、Shake culture (reciprocate at 120 rpm)
調製条件 0.5% Westase solution
0.5 M Na-tartrate
Mcllvain Buffer (pH6.0)
30°C Reciprocal shaking、1 - 2 hr.
- (2) *Lipomyces starkeyi*, *Candida utilis*
培地 Same as in (1)
培養条件 Same as in (1)
調製条件 0.5% Westase solution
0.4 M Na-tartrate
Mcllvain Buffer (pH6.0)
30°C Reciprocal shaking、1 - 2 hr.
- (3) *Shizosaccharomyces pombe*, *Hansenula mrakii*, *Kluyveromyces lactis*, *Pichia anomala*, *Filobasidium floriforme*, *Candida colliculosa*
培地 Same as in (1)
培養条件 Same as in (1)
調製条件 0.5% Westase solution
0.4 M Na-tartrate
Mcllvain Buffer (pH6.0)
30°C Reciprocal shaking、3 - 4 hr.
- (4) *Kloeckera apiculata*, *Cryptococcus albidus*
培地 Same as in (1)
培養条件 Same as in (1)
調製条件 0.5% Westase solution
0.3 M Na-tartrate
Mcllvain Buffer (pH6.0)
30°C Reciprocal shaking、1 - 2 hr.
- (5) *Ustilago maydis*, *Graphioli phoenicis*, *Brettanomyces bruxellensis*, *Phaffia rhodozyma*
培地 Same as in (1)
培養条件 25°C、2days、Shake culture (reciprocate at 120 rpm)
調製条件 Same as in (1)
- (6) *Tremella mesenterica*
培地 Same as in (1)
培養条件 Same as in (5)
調製条件 Same as in (2)

●製造元 大関株式会社

●注意

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