

β -Glucuronidase

Recombinant from overexpressing *Escherichia coli* BL21

β -D-Glucuronoside glucuronosohydrolase

EC 3.2.1.31

Cat. N° EBG-1ML

Cat. N° EBG-5ML

Product Overview

Form	clear liquid solution
Composition	50% glycerol
Storage Temperature	- 20 °C
pH range	6.0 to 7.0
Temperature Stability	37 °C (max. 50°C)

Product Description

β -glucuronidase from *E. coli* is used for the enzymatic hydrolysis of β -glucuronides in urine due to its high rate of hydrolytic activity.

E. coli β -glucuronidase is much more efficient than enzymes obtained from *Helix pomatia*, Limpet or bovine liver when completely hydrolysis of drugs and steroids is needed¹.

When β -glucuronidase from *E. coli* is added directly to immunological screening assays for benzodiazepines the overall sensitivity is greatly increased^{2,3,4}.

Particularly useful for deconjugation of human and animal steroids, because is 10 times less sensitive to concentration changes on the β -glucuronide conjugates than other enzymes, reactions can be ready in 15-30 minutes.

Unlike the β -glucuronidase enzyme preparations from mollusks that naturally contains β -glucuronidase and

sulfatase activities, the preparation of β -glucuronidase from *E. coli* is essentially free of sulfatase activity.

Definition of β -glucuronidase Activity units

β -glucuronidase activity can be measured either using Phenolphthalein- β -D-glucuronide (PPG) or 4-Nitrophenyl- β -D-glucuronide (4NPG) as a substrate.

Specific Activity

PPG Units: $\geq 35,000$ units/ml

Unit Definition: One unit will liberate 1.0 μ g of phenolphthalein from phenolphthalein glucuronide per hour at 37 °C and pH 6.8.

4NPG Units: ≥ 140 units/ml

Unit Definition: One unit will liberate 1.0 μ mole of 4-nitrophenol per minute from 4-Nitrophenyl- β -D-glucuronide at 37 °C and pH 6.8.

Storage/Stability

When stored at - 20 °C, the enzyme retains activity for at least 6 months. After this period we recommend re-checking the activity.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

References

1. Graef, V., Furuya, E., and Nishikaze, O. Clin. Chem., 23/3, 532-535 (1977).
2. Beck, O., et. al., J. Anal. Toxicol., 21, 554-557 (1997).
3. Meatherall, R., and Fraser, A. J. Anal. Toxicol., 22, 270-273 (1998).
4. Klette, K., et. al. J. Anal. Toxicol., 29, 193-200 (2005).

Contact and Support

To ask questions, solve problems, suggest enhancements or report new applications, please contact us at www.kurabiotec.com or email us at inquiries@kurabiotec.com.