

Product Information

β -Glucuronidase from *Helix pomatia*

Type H-2, aqueous solution, $\geq 85,000$ units/mL**G0876**

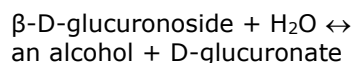
Product Description

CAS Registry Number: 9001-45-0

Enzyme Commission (EC) Number: 3.2.1.31

Synonyms: β -D-Glucuronide glucuronosohydrolase

Glucuronidation, or conjugation with glucuronic acid, by the human UDP-glucuronosyltransferase (UGT) family of enzymes plays an important role in the metabolic fate of many drugs and other xenobiotics. This biosynthetic reaction also has a role in the conjugation and excretion of endogenous substrates, such as steroids, bilirubin, and bile acids.¹ UGT activity results in the conjugation of glucuronic acid to substrates that contain sulfhydryl, hydroxyl, aromatic amino, or carboxylic acid moieties. The resulting glucuronides are more polar (water-soluble) than the parent organic substrate and are generally excreted through the kidney.

 β -glucuronidase catalyzes the general reaction:

β -Glucuronidase Type H-2 has been used for the enzymatic hydrolysis of glucuronides from urine,^{2,3} plasma,^{4,5} and other fluids⁶ prior to analysis by enzyme immunoassay, mass spectrometry, high performance liquid chromatography, or other methods. Typically, between 1-20 units of glucuronidase is used per μL of plasma, urine, or bile for the enzymatic hydrolysis of glucuronides present in these samples.²⁻⁶ The exact amount needed will depend on the specific conditions used and must be determined empirically.

β -Glucuronidase Type H-2 from *Helix pomatia* is a crude solution of enzymes derived from the Roman snail. Many β -glucuronidases derived from mollusks also contain sulfatase activity. For this reason, sulfatase activity of this preparation is also determined.

Several theses⁷⁻⁹ and dissertations¹⁰⁻¹⁷ have cited use of product G0876 in their protocols.

Optimal pH

- Glucuronidase activity: 4.5 to 5.0
- Sulfatase activity: ~ 6.2

Inhibitors

- D-glucuronic acid (Cat. No. G5269)
- D-galacturonic acid (Cat. No. 48280)
- D-glucaro-1,4-lactone

Substrates

- 5-Bromo-6-chloro-3-indolyl β -D-glucuronide (Cat. No. B4532)
- 6-Bromo-2-naphthyl β -D-glucuronide (Cat. No. B7877)
- 5-Bromo-4-chloro-3-indolyl β -D-glucuronide sodium salt tablet (Cat. No. B8174)
- 8-Hydroxyquinoline glucuronide sodium salt (Cat. No. 38153)
- 4-Methylumbelliferyl β -D-glucuronide (Cat. No. M9130)
- 4-Nitrophenyl β -D-glucuronide (Cat. Nos. N1627, 73677)

Glucuronidase Activity: $\geq 85,000$ units/mL

Unit Definition: One Sigma or modified Fishman unit will liberate 1.0 μg of phenolphthalein from phenolphthalein glucuronide per hour at 37 °C at pH 5.0 (30-minute assay).

Sulfatase Activity: $\leq 7,500$ units/mL

Unit Definition: One unit of sulfatase will hydrolyze 1.0 μmole of *p*-nitrocatechol sulfate per hour at pH 5.0 at 37 °C.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store the product at 2-8 °C. When stored at 2-8 °C, the enzyme retains activity for at least one year.

References

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