

## Product Information

### β-Glucuronidase, Type H-3 from *Helix pomatia*

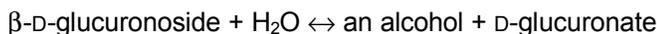
Catalog Number **G8885**  
Storage Temperature 2–8 °C

CAS RN 9001-45-0  
EC 3.2.1.31  
Synonyms: β-D-Glucuronide glucuronosohydrolase

#### Product Description

Glucuronidation, 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.<sup>1</sup> UGT activity results in the conjugation of glucuronic acid to substrates containing sulfhydryl, hydroxyl, aromatic amino, or carboxylic acid moieties. The glucuronides formed are more polar (water soluble) than the parent organic substrate and are generally excreted through the kidney.

β-glucuronidase catalyzes the reaction:



β-Glucuronidase Type H-3 has been used for the enzymatic hydrolysis of these metabolites from urine prior to analysis.<sup>2,4</sup> The exact amount needed will depend on the specific conditions used and must be determined empirically.

β-Glucuronidase Type H-3 from *Helix pomatia* is a crude solution derived from the gut of the Roman snail. Many β-glucuronidases derived from mollusks also contain sulfatase activity. For this reason, sulfatase activity of this preparation is also determined.

Optimal pH:  
glucuronidase activity 4.5 to 5.0  
sulfatase activity ~6.2

Inhibitors:  
D-glucuronic acid G5269  
D-galacturonic acid 73960  
D-glucaro-1,4-lactone

#### Substrates:

5-Bromo-6-chloro-3-indolyl β-D-glucuronide	B4532
6-Bromo-2-naphthyl β-D-glucuronide	B6519
5-Bromo-4-chloro-3-indolyl β-D-glucuronide sodium salt tablet	B8174
8-Hydroxyquinoline glucuronide	H1254
4-Methylumbelliferyl β-D-glucuronide	M9130
4-Nitrophenyl β-D-glucuronide	73677

Glucuronidase Activity: ≥90,000 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 min assay).

Sulfatase Activity: ≤1,000 units/ml

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

#### 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.

#### Storage/Stability

The product ships on wet ice and storage at 2–8 °C is recommended.

#### References

1. Tephly, T.R., *et al.*, *Adv. Pharmacol.*, **42**, 343-346 (1998).
2. Lesaffer, G., *et al.*, *Nephrol. Dial. Transplant*, **18**, 1299-1306 (2003).
3. Lesaffer, G., *et al.*, *Kidney International*, **64**, 1365-1373 (2003).
4. He, N., *et al.*, *Eur. J. Clin. Pharm.*, **55**, 457-459 (1999).

CS,AC,MAM 10/09-1

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.