

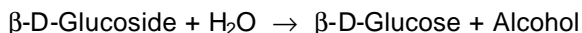
β -Glucosidase from almonds

Product Number **G0395**
Storage Temperature 2-8 °C

Product Description

Enzyme Commission (EC) Number: 3.2.1.21
CAS Number: 9001-22-3
Synonyms: B-D-Glucoside glucohydrolase
Molecular Weight: 135 kDa
Extinction Coefficient: $E^{1\%} = 7.06$ (280 nm)¹
pI: 7.3¹

β -Glucosidase from almonds is a homodimer consisting of 2 equal subunits of 65 kDa and is a glycoprotein.¹ The enzyme catalyzes the following reaction:



In addition to β -D-glucoside, both β -D-galactosides and β -fucosides can also be hydrolyzed. Reported K_M values are 6.0 mM for o-nitrophenyl β -D-glucoside and 1.8 mM for p-nitrophenyl β -D-fucoside.² The enzyme does not require an activator, but is inhibited by gluconolactone, fuconolactone, castanospermine, 1-deoxynojirimycin, 1-azafagomine and its analogues, erythritol, and polyols.^{3,4,5}

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

The enzyme is soluble in water (1 mg/ml).

References

1. Grover, A. K., et al., Studies on almond emulsin beta-D-glucosidase. I. Isolation and characterization of a bifunctional isozyme. *Biochim. Biophys. Acta*, **482(1)**, 98-108 (1977).
2. Enzyme Handbook, vol. II, Barman, T. E., Springer-Verlag (New York, NY: 1969), EC 3.2.1.21, pp. 578-579.
3. Lohse, A., et al., Investigation of the slow inhibition of almond beta-glucosidase and yeast isomaltase by 1-azasugar inhibitors: evidence for the 'direct binding' model. *Biochem. J.*, **349(pt. 1)**, 211-215 (2000).
4. Saul, R., et al., Castanospermine, a tetrahydroxylated alkaloid that inhibits beta-glucosidase and beta-glucocerebrosidase. *Arch. Biochem. Biophys.*, **221(2)**, 593-597 (1983).
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