



Product Information

Invertase from baker's yeast (*S. cerevisiae*)

Product Number **I 4504**
Storage Temperature 2-8 °C

Product Description

Enzyme Commission (EC) Number: 3.2.1.26
CAS Number: 9001-57-4
Molecular Weight: 270 kDa¹
Extinction coefficient: $E^{1\%} = 23.0$ (280 nm)¹
pI: 3.4-4.4²
Synonyms: Saccharase, β -Fructofuranosidase,
 β -D-Fructofuranoside fructohydrolase

Invertase from baker's yeast is a glycoprotein containing 50% mannan and 2-3% glucosamine. During purification, a small percentage of the enzyme may have part of the carbohydrate moiety removed leaving a heterogeneous enzyme with a lower or even negligible mannan content. This difference in carbohydrate content has led to the conclusion that two forms of the enzyme exist. An external invertase (predominant form), carbohydrate containing, located outside of the cell membrane and an internal invertase, which is located entirely within the cytoplasm and devoid of any carbohydrate.^{1,3}

Invertase catalyzes the following reaction:



Raffinose and methyl- β -D-fructofuranoside may also be utilized as substrates. Reported K_M values are 25 mM for sucrose and 150 mM for raffinose. At high substrate concentrations (1 M), invertase exhibits transferase activity by transferring the β -D-fructofuranosyl residue to primary alcohols including ethanol, methanol, and n-propanol. Invertase does not require any activators and is inhibited by iodine, Zn^{2+} , and Hg^{2+} .^{1,3}

Precautions and Disclaimer

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

Preparation Instructions

This enzyme is soluble in water (10 mg/ml), yielding a clear solution.

References

1. Lampen, J.O., The Enzymes, Boyer, P.D., ed., Academic Press (New York, NY:1971), pp. 291-303.
2. Righetti, P.G., and Caravaggio, T., Isoelectric points and molecular weights of proteins. J. Chromatogr., **127**, 1-28 (1976).
3. Goldstein, A., and Lampen, J.O., β -D-fructofuranoside fructohydrolase from yeast. Methods Enzymol., **42**, 504-511 (1975).

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