genzyme
Diagnostics

Maltase (α-D-Glucosidase)
Catalogue No. MALT-70-1235, 70-1235-01

Origin: Yeast

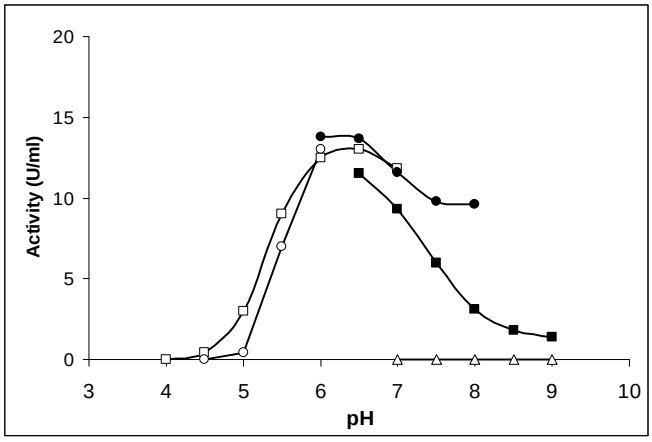
Specifications:

Specific Activity: > 50 U/mg protein @ 25°C
Contaminants: (as α-Glucosidase activity = 100%)
α- Galactosidase (< 0.01%)
β- Galactosidase (< 0.01%)
β- Glucosidase (< 0.01%)

Characteristics:

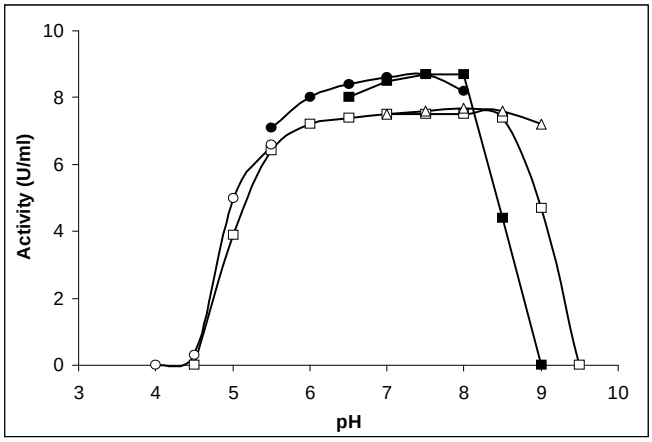
Molecular Weight:	~52kDa	
Optimum pH:	6-6.5 (K-PO_4 buffer)	See Fig. 1
Optimum temp.:	35℃	See Fig. 3
pH stability:	6-8 (1 week, 5℃)	See Fig. 2
Thermal stability:	Below 30℃ (pH7, 10 min)	See Fig . 4
Lyophilised stability:	2 years at -20℃	

Fig. 1 pH Optimum



● K-PO_4 ■ K-citrate □ TEA-HCL
○ Na- acetate Δ Tris-HCL

Fig. 2 pH Stability



5℃, 1 week in 100mM buffer
● K-PO_4 ○ K-citrate ■ TEA-HCL
□ GTA Δ Tris-HCL

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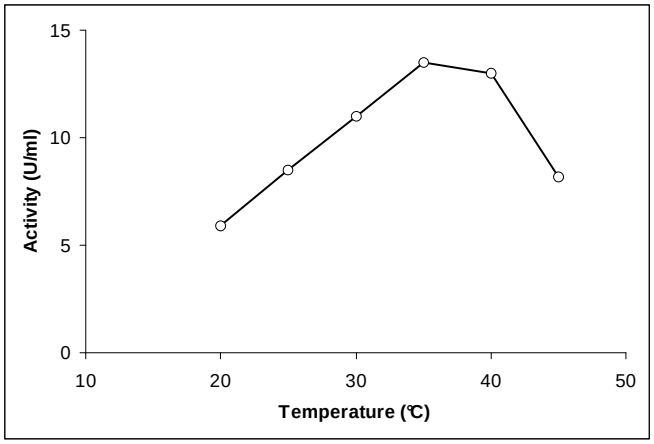
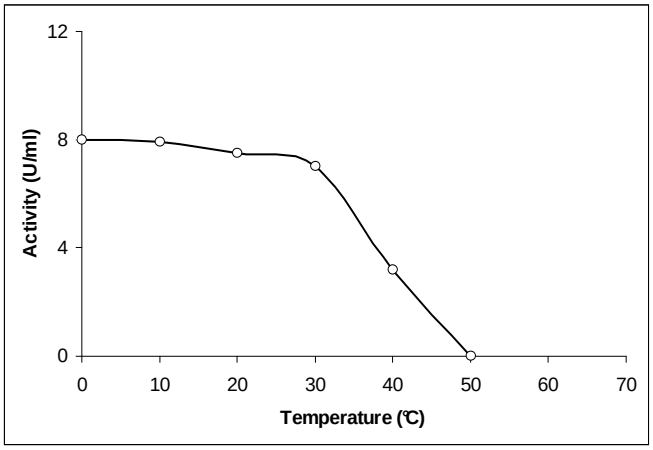
Fig. 3 Temperature Optimum



75mM K-PO_4, pH 6.5, 138mM maltose, 5min

Fig. 4. Thermal Stability



10min, 0.1M K-PO_4, pH 7.0

K_m for Various Substrates:

Substrate	K_m Value
Maltose (G2)	2.9×10^{-2}M
Maltotriose (G3)	9.3×10^{-3}M
Maltotetraose (G4)	9.5×10^{-2}M
Maltopentaose (G5)	1.9×10^{-1}M

75 mM K-PO_4, pH 6.5, 25℃

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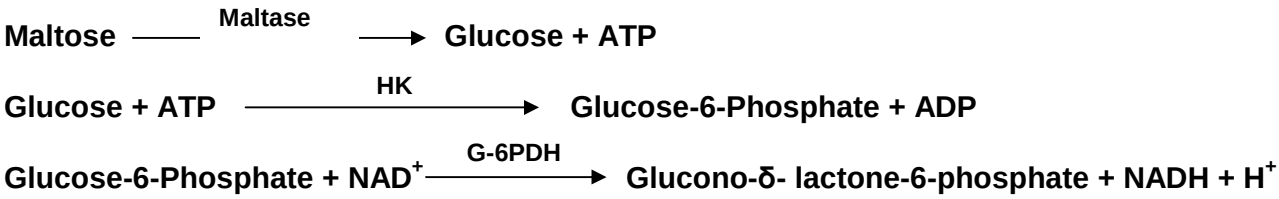
Assay Principle:

Maltase catalyses the following reaction:



The generation of NADH can be measured spectrophotometrically at 340nm

Unit Definition:

One unit of activity is defined as the amount of enzyme which will catalyse the transformation of 1µmol of the substrate per minute under standard assay conditions.

(See Analytical Method for full details)

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