ENZYMES
CAT# MALT-70-1235
EC# 3.2.1.20

ENZYMES

Maltase (α-D-Glucosidase)

ORIGIN Yeast

CAT# MALT-70-1235
EC# 3.2.1.20

SPECIFICATIONS

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

APPLICATION

Used as an auxillary enzyme in the determination of α-amylase.

UNIT DEFINITION

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

ASSAY PRINCIPLE

Maltase catalyses the following reaction:

Maltose ⟶ (**Maltase**) ⟶ Glucose + ATP

Glucose + ATP ⟶ (**Hexokinase**) ⟶ Glucose-6-Phosphate + ADP

Glucose-6-Phosphate + $NADH^+$ ⟶ (**G-6-PDH**) ⟶ Glucono-δ-lactone-6-phosphate + NADH + H^+

The generation of NADH can be measured spectrophotometrically at 340nm.

CHARACTERISTICS

Molecular Weight:	~52kDa
Optimum pH (Fig. 1):	6.5 to 6.5 (K-PO_4 buffer)
Optimum Temperature (Fig. 2):	35°C
pH Stability (Fig. 3):	6 to 8 (5°C for 1 week)
Thermal Stability (Fig. 4):	Stable at 30°C and below (pH 7.0 for 10 minutes)

SEKISUI DIAGNOSTICS
Because every result matters™

FIGURE 1: OPTIMUM pH

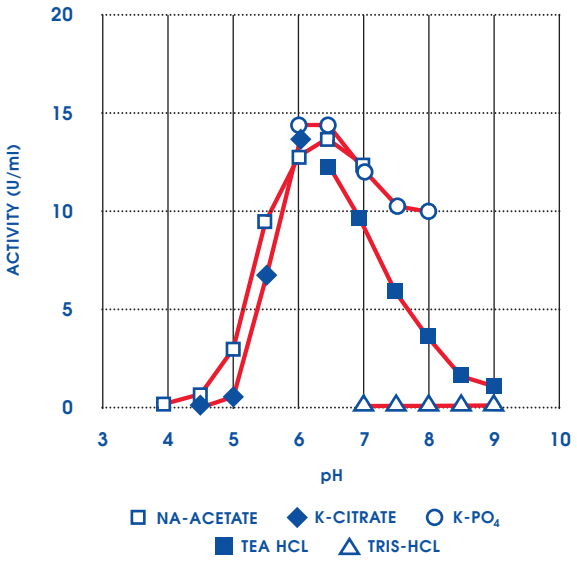

FIGURE 2: OPTIMUM TEMPERATURE

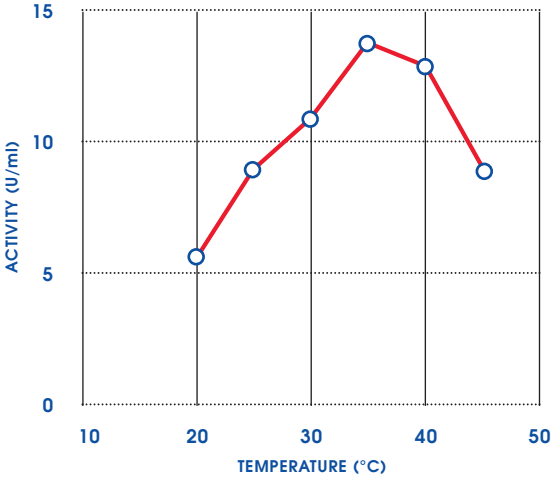

FIGURE 3: pH STABILITY (5°C FOR 1 WEEK IN 100mM BUFFER)

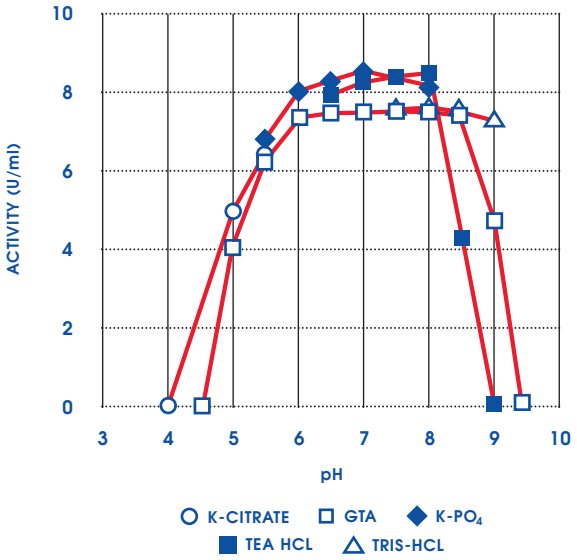

FIGURE 4: THERMAL STABILITY (pH 7.0 FOR 10 MINUTES)

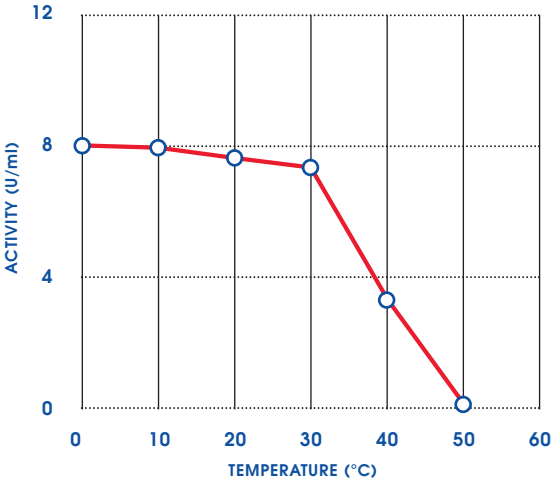

TABLE 1: K_m FOR VARIOUS SUBSTRATES (75mM KP-O4, pH6.5, 25°C)

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

THE AMERICAS
Sekisui Diagnostics, LLC
One Wall Street
Burlington, MA 01803
Phone: 800 332 1042
Fax: 800 762 6311

INTERNATIONAL
Sekisui Diagnostics (UK) Limited
Liphook Way, Allington
Maidstone, Kent, ME16 0LQ, UK
Phone: +44 1622 607800
Fax: +44 1622 607801

info@sekisui-dx.com
sekisuidiagnostics.com

SEKISUI DIAGNOSTICS
Because every result matters™