CUSTOMBIOTECH

α-Amylase

Test principle: Enzymatic colorimetric

5 Ethylidene-4-NP-G7 (EPS) + 5 H_2O $\xrightarrow{\alpha\text{-amylase}}$ ethylidene-G3 + pNP-G4 + 2 ethylidene-G4 + 2 pNP-G3 + 2 ethylidene-G5 + 2 pNP-G2

pNP-G4 + 2 pNP-G3 + 2 pNP-G2 + 14 H_2O $\xrightarrow{\alpha\text{-glucosidase}}$ 5 pNP + 14 G

This test is an enzymatic colorimetric assay according to IFCC. Defined oligosaccharides such as 4,6-ethylidene-(G7) p-nitrophenyl-(G1)-a, D-maltoheptaoside (ethylidene-G7PNP) are cleaved under the catalytic action of a-amylases. The G2PNP, G3PNP, and G4PNP fragments formed are completely hydrolyzed to p-nitrophenol and glucose by a-glucosidase.

The color intensity of the p-nitrophenol is directly proportional to the α-amylase activity. It is determined by measuring the increase in absorbance at 409 nm.

Proposed reagent composition

approximately 5+1 formulation

Reagent 1

Composition	Concentration	Catalog Number
Buffer (HEPES, pH 7.0)	52.4 mmol/l	10 172 944 103
NaCl	87 mmol/l	
$MgCl_2$	12.6 mmol/l	
$CaCl_2$	0.075 mmol/l	
α-Glucosidase	>4 kU/l	11 626 329 103
Detergent, preservative, such as Polidocanol MIT		 10 831 620 103 11 085 905 103

Reagent 2

Composition	Concentration	Catalog Number
Buffer (HEPES, pH 7.0)	52.4 mmol/l	10 172 944 103
Ethylidene-4-NP-G7 (EPS)	22 mmol/l	10 880 078 103
Detergent, preservative, such as Polidocanol MIT		 10 831 620 103 11 085 905 103

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Your Roche Custom Biotech Customer Service

Europe, Middle East, Africa, Latin America
Phone +49 621 759 8580
Fax +49 621 759 8610
mannheim.custombiotech@roche.com

Japan Phone +81 3 5443 5285
Fax +81 3 5443 7934
japan.custombiotech@roche.com

Asia Pacific Phone +65 6371 6638
Fax +65 6371 6601
apac.custombiotech@roche.com

United States
Phone +1 800 428 5433, ext. 14649 (toll-free)
Fax +1 317 521 4065
custombiotech.ussales@roche.com

Canada Phone +1 450 686 7050
Fax +1 450 686 7012
custombiotech.can@roche.com

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Roche Diagnostics GmbH
Sandhofer Straße 116
68305 Mannheim
Germany

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