SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

현장을 이해하고, 필요한 솔루션을 연결합니다.

산업안전 · 추락방지 시스템
산업용 소재 · 건축자재
제품 제안부터 공급·시공·설치·교육까지



COMPANY INFORMATION

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TECHNICAL DOCUMENTS

인증서 · 데이터시트 · 기술자료

제품의 규격과 성능, 인증 및 적용 조건을 확인하기 위한 자료입니다.

ABOUT SNAPSHOOT

제품 공급을 넘어, 현장에 맞는 해결책으로

스냅슛은 산업현장의 작업 환경과 요구 조건을 바탕으로
적합한 제품과 시스템을 제안합니다. 현장 실사를 통해 설치 조건을 확인하고,
공급부터 시공·설치 및 사용 교육까지 필요한 과정을 함께합니다.

추락방지 시스템

안전대부착설비 · 수평·수직 라이프라인
레일 시스템 · 리지드 포스트

밀폐공간 진입·구조 솔루션

데빗암 · 삼각대 · 구조용 윈치
윈치 안전블록 · 구조장비

산업안전 보호구

전신형 안전대 · 랜야드 · 안전블록
작업 환경에 맞춘 개인보호구

산업용 소재·건축자재

산업용 테이프 · 접착제 · 기능성 소재
구조용 스크류 · 목조건축 자재

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홈페이지 바로가기 →
문서 라이브러리 바로가기 →
시공사례 바로가기 →
문의하기 →

본 페이지는 스냅슛의 자료 제공 안내용 표지입니다. 첨부된 인증서 및 기술자료의 발행 주체, 인증 대상과 적용 범위는 해당 원문을 기준으로 확인해 주세요.

Megazyme

www.megazyme.com

ACETIC ACID (Acetyl-CoA Synthetase Format)

ASSAY PROCEDURE FOR AUTO-ANALYSER APPLICATIONS

K-ACETAF 04/20

[141.6 mL of reagent (R1 + R2) per kit; equivalent to 456 reactions of 0.31 mL]



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INTRODUCTION:

The most widely used method for enzymatic quantification of acetic acid is that based on the use of acetyl-coenzyme A synthetase (ACS), according to equations 1-3 below. For auto-analyser applications it becomes necessary to prepare a "master mix" reagent (R1), containing all components of the assay except the reaction initiation enzyme, ACS. However, reagent R1 when prepared from some kits has very limited on-machine stability, owing to a rapidly increasing absorbance value. To overcome this issue, Megazyme developed this kit (**K-ACETAF**), that doesn't exhibit this instability phenomenon. Additionally, the anti-inhibitory compound polyvinylpyrollidone (PVP) has also been incorporated into the assay to prevent inhibition caused by certain tannins found in grape juice and wine.

PRINCIPLE:

(1) Acetic acid + ATP + CoA $\xrightarrow{\text{(acetyl-coenzyme A synthetase; ACS)}}$ acetyl-CoA + AMP + pyrophosphate

(2) Acetyl-CoA + oxaloacetate + H_2O $\xrightarrow{\text{(citrate synthase; CS)}}$ citrate + CoA

(3) L-Malate + NAD^+ $\xrightarrow{\text{(L-malate dehydrogenase; L-MDH)}}$ oxalacetate + NADH + H^+

KITS:

Kits suitable for the preparation of 141.6 mL of reagent (equivalent to 456 reactions of 0.31 mL) are available from Megazyme.

The kits contain the full assay method plus:

Bottle 1: Buffer (30 mL, pH 8.4) plus L-malic acid, PVP and sodium azide (0.02% w/v) as a preservative.
Stable for > 2 years at 4°C.

Bottle 2: (x2) NAD^+ plus ATP and CoA.
Freeze dried powder.
Stable for > 5 years below -10°C.

Bottle 3: L-Malate dehydrogenase plus citrate synthase suspension, 2.2 mL.
Stable for > 2 years at 4°C.

Bottle 4: Acetyl-coenzyme A synthetase suspension (1.1 mL).
Stable for > 2 years at 4°C.

Bottle 5: Acetic Acid Standard (2 mL)
(1.8 g/L). Ready to use.
Stable for > 2 years; store sealed at 4°C.

REAGENT PREPARATION:

Preparation of R1:

Component	Volume
bottle 1 (buffer)	5.50 mL
bottle 2 (NAD^+/ATP/CoA)	2.20 mL (after adding 5.50 mL of H_2O to bottle 2)
bottle 3 (L-MDH/CS)	0.44 mL (swirl to mix before use)
H_2O	18.35 mL
Total volume	26.49 mL

Preparation of R2:

Component	Volume
bottle 4 (ACS)	0.22 mL (swirl to mix before use)
H_2O	1.60 mL
Total volume	1.82 mL

EXAMPLE METHOD:

R1:	0.290 mL
Sample:	~ 0.005 mL
R2:	0.020 mL
Reaction time:	15 min at either 20-25°C or 37°C
Wavelength:	340 nm
Prepared reagent stability:	> 3 days when refrigerated
Calculation:	endpoint
Reaction direction:	increase
Linearity:	up to 30 µg/mL of acetic acid in final reaction solution

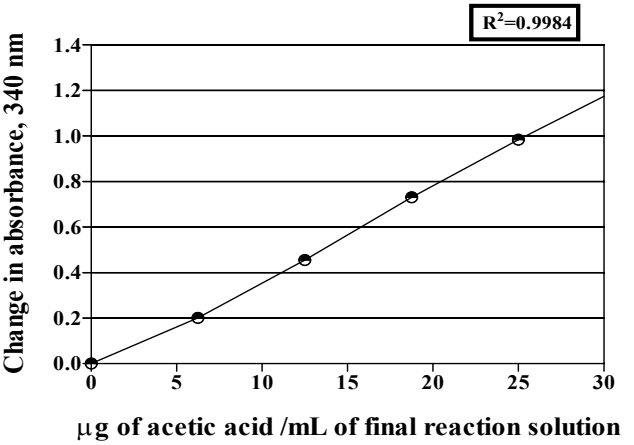


Figure 1. Calibration curve demonstrating the linearity of **K-ACETAF**. The reactions used to generate this calibration curve were performed at 25°C for 15 min, using a 4.6 mm path-length cuvette.

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