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

스냅슛 (SNAPSHOOT)

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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 GK
(ADP-Glucokinase Format)

ASSAY PROCEDURE
FOR AUTO-ANALYSER
APPLICATIONS

K-ACETGK 04/20

(500 Assays per Kit)



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PRINCIPLE:

Acetic acid is phosphorylated to form acetyl-phosphate in the reaction catalysed by acetate kinase (AK) (1).

$$\text{(1)}\quad \text{Acetic acid} + \text{ATP} \xrightarrow{\text{(AK)}} \text{acetyl-phosphate} + \text{ADP}$$

The rapid conversion of the acetyl-phosphate product into acetyl-CoA and inorganic phosphate is catalysed by the action of phosphotransacetylase (PTA) in the presence of coenzyme A (CoA) (2).

$$\text{(2)}\quad \text{Acetyl-phosphate} + \text{CoA} \xrightarrow{\text{(PTA)}} \text{acetyl-CoA} + P_i$$

D-Glucose is phosphorylated by the enzyme ADP-glucokinase (ADP-GK) and adenosine-5'-diphosphate (ADP) to glucose-6-phosphate (G-6-P) with the simultaneous formation of adenosine-5'-monophosphate (AMP) (3).

$$\text{(3)}\quad \text{ADP} + \text{D-glucose} \xrightarrow{\text{(ADP-GK)}} \text{glucose-6-phosphate} + \text{AMP}$$

In the presence of the enzyme glucose-6-phosphate dehydrogenase (G6P-DH), G-6-P is oxidised by nicotinamide-adenine dinucleotide (NAD^+) to gluconate-6-phosphate with the formation of reduced nicotinamide-adenine dinucleotide (NADH) (4).

$$\text{(4)}\quad \text{Glucose-6-phosphate} + NAD^+ \xrightarrow{\text{(G6P-DH)}} \text{6-phosphogluconate} + \text{NADH} + H^+$$

KITS:

Kits suitable for performing 500 assays in auto-analyser format are available from Megazyme. The kits contain the full assay method plus:

Bottle 1: Buffer (11 mL, pH 7.4).
Stable for > 2 years at 4°C.

Bottle 2: NAD^+, ATP, D-glucose, CoA and PVP.
Freeze dried powder.
Stable for > 5 years below -10°C.

Bottle 3: Acetate kinase, phosphotransacetylase, ADP-glucokinase plus glucose-6-phosphate dehydrogenase suspension, 2.6 mL.
Stable for > 2 years at 4°C.

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

PREPARATION OF REAGENT SOLUTIONS/SUSPENSIONS:

1,3 & 4. Use the contents of bottles 1, 3 and 4 as supplied. Stable for > 2 years; store sealed at 4°C.

2. Dissolve the contents of bottle 2 in 11 mL of distilled water. **This is reagent R2 and is stable for > 1 week at 4°C or > 2 years below -10°C** (this reagent is stable when subjected to freeze/thaw cycles, however to avoid repetitive freeze/thaw cycles, divide into appropriately sized aliquots and store in polypropylene tubes).

REAGENT PREPARATION:

Preparation of R1:

Component	Volume
distilled water bottle 1 (buffer) suspension 3 (AK/PTA/ADP-GK/G6P-DH)	87.5 mL 10 mL 2.5 mL
Total volume	100 mL

Preparation of R2:

Component	Volume
bottle 2 (NAD^+/ATP/D-glucose/CoA/PVP)	11 mL (after adding 11 mL of distilled water)
Total volume	11 mL

EXAMPLE METHOD:

R1:	0.200 mL
Sample:	~ 0.003 mL
R2:	0.020 mL
Reaction time:	~ 8 min at 25°C or ~ 5 min at 37°C
Wavelength:	340 nm
Prepared reagent stability:	
R1:	> 30 days 4°C/> 2 years below -10°C
R2:	> 7 days 4°C/> 2 years below -10°C
Calculation:	endpoint
Reaction direction:	increase
Linearity:	up to 1.8 g/L of acetic acid

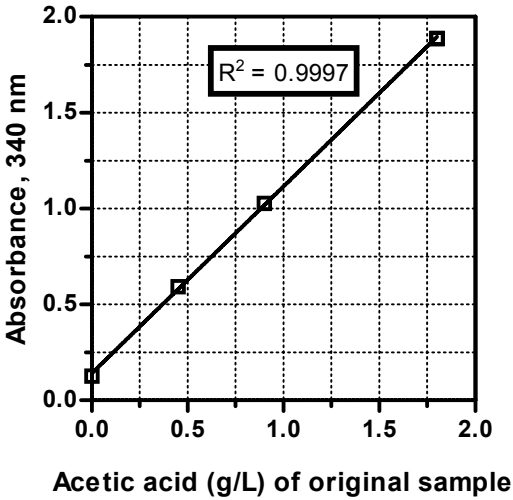


Figure 1. Calibration curve demonstrating the linearity of **K-ACETGK**. The reactions used to generate this calibration curve were performed at 37°C for 5 min using a Chemwell-T auto-analyser.

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