

**ENGLISH****S-2444™**

For Laboratory Use Only

S-2444™

S-2444 is a chromogenic substrate for urokinase.

COMPOSITION

Each vial contains chromogenic substrate S-2444 25 mg and mannitol 40 mg added as a bulking agent.

CHEMISTRY

Chemical name: L-Pyroglutamyl-glycyl-L-arginine-p-Nitroaniline hydrochloride.

Formula: <Glu-Gly-Arg-pNA · HCl

Mol. wt.: 498.9

$\epsilon_{316\text{ nm}^1}$ 1.27 · 10⁴ mol⁻¹ · L · cm⁻¹

Solubility: > 10 mmol/L in H₂O

Stability: Substance: Stable until expiry date if stored at 2-8°C. Avoid exposure to light. The substance is hygroscopic and should be stored dry. Solution: 2 mmol/L in H₂O is stable for at least 6 months at 2-8°C. Contamination by micro-organisms may cause hydrolysis.

Suitable stock solution:

2-3 mmol/L in H₂O.**PRINCIPLE**

<Glu-Gly-Arg-pNA $\xrightarrow{\text{Enzyme}}$ <Glu-Gly-Arg-OH+pNA

The method for the determination of activity is based on the difference in absorbance (optical density) between the pNA formed and the original substrate. The rate of pNA formation, i.e. the increase in absorbance per second at 405 nm, is proportional to the enzymatic activity and is conveniently determined with a photometer.

KINETIC DATA

Urokinase: Ploug U

$K_m = 9 \cdot 10^{-5}$ mol/L,
 $V = 3.1 \cdot 10^{-10}$ mol/min

CTA U

$K_m = 6 \cdot 10^{-5}$ mol/L,
 $V = 1.3 \cdot 10^{-10}$ mol/min

Determined at 37°C in 2.5 mL of 0.05 mol/L Tris buffer pH 8.8, I 0.05.

STANDARDIZATION

An activity of $\Delta A/\text{min} = 0.05$ (37°C) is obtained by using 0.3 mmol/L substrate and:

1. 25 Ploug U/mL of urokinase (Leo, Copenhagen, Denmark)
2. 40 CTA U/mL of urokinase (Abbott, Chicago, USA)

APPLICATIONS

The substrate has been used for the determination of:

1. Urokinase in purified preparations (1,2)
2. Urokinase inhibitors in plasma (3)
3. Urokinase activity in urine (4)

**DEUTSCH****S-2444™**

Nur für Laborzwecke

S-2444 ist ein chromogenes Substrat für Urokinase.

ZUSAMMENSETZUNG

Jedes Fläschchen enthält 25 mg chromogenes Substrat S-2444 und 40 mg Mannitol als Füllstoff.

CHEMIE

Chemischer Name: L-Pyroglutamyl-glycyl-L-arginin-p-Nitroanilin hydrochlorid

Formel: <Glu-Gly-Arg-pNA · HCl

Molekulargewicht: 498,9

$\epsilon_{316\text{ nm}^1}$ 1,27·10⁴ mol⁻¹ · L · cm⁻¹


Löslichkeit: >10 mmol/l in H₂O

Stabilität:

Substanz: Bis zum, Verfalldatum haltbar. Die Substanz ist bei 2-8°C bis zum angegebenen Verfall datum stabil. Sie darf keinem Licht ausgesetzt werden. Sie ist hygroskopisch und sollte trocken und dunkel gelagert werden. Lösung: 2 mmol/l in H₂O sind bei 2-8°C mindestens 6 Monate haltbar. Kontamination durch Mikroorganismen kann zur Hydrolyse führen.

Geeignete

Ausgangslösung: 2-3 mmol/l in H₂O

CHROMOGENIX™

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301983R0



REFERENCES

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2. Chromogenix AB: Standardization of urokinase with S-2444. Laboratory Instruction.
3. GALLIMORE M & FAREID E: Studies on human inhibitors of plasmin, plasma kallikrein, trypsin, thrombin and urokinase using chromogenic substrate assays. In *Chromogenic Peptide Substrates*. Ed. M F Scully and V V Kakkar. Churchill Livingstone 248-261 (1979).
4. PAAR D and MARUHN D: Spectrometric determination of urokinase in urine after gel filtration, using the chromogenic substrate S-2444. *J Clin Chem Clin Biochem* 18, 557-562 (1980).

CHROMOGENIX