ENGLISH

S-2251™

For Laboratory Use Only

For General Laboratory Use

S-2251™

S-2251 is a chromogenic substrate for plasmin and streptokinase-activated plasminogen.

COMPOSITION

Each vial contains chromogenic substrate S-2251 25 mg and mannitol 60 mg as a bulking agent.

CHEMISTRY

Chemical name:	H-D-Valyl-L-leucyl-L-lysine-p-Nitroaniline dihydrochloride
Formula:	H-D-Val-Leu-Lys-pNA · 2HCl
Mol. wt:	551.6
$\varepsilon_{316\ nm}$:	$1.27 \cdot 10^4\ mol^{-1} \cdot L \cdot cm^{-1}$
Solubility:	> 40 mmol/L in H_2O
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: 3 mmol/L in H_2O is stable for at least 6 months at 2-8°C. Contamination by microorganisms may cause hydrolysis.
Suitable stock solution:	3-4 mmol/L in H_2O.

PRINCIPLE

$$\text{H-D-Val-Leu-Lys-pNA} \xrightarrow{\text{Enzyme}} \text{H-D-Val-Leu-Lys-OH+pNA}$$

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

Plasmin (human):	$K_m = 3 \cdot 10^{-4}$ mol/L, $V = 0.5 \cdot 10^{-6}$ mol/min · CU
Plasminogen · SK:	$K_m = 2 \cdot 10^{-4}$ mol/L, $V = 1 \cdot 10^{-6}$ mol/min · mL plasma. Determined at 37°C in 2.5 mL 0.05 mol/L Tris buffer pH 7.4, I 0.5.

CHROMOGENIX

Instrumentation Laboratory Company - Bedford, MA 01730-2443 (USA)

Instrumentation Laboratory SpA-V.le Monza 338-20128 Milano (Italy)

301933R2

STANDARDIZATION

An activity of ΔA/min=0.05 (37°C) is obtained by using a substrate concentration of 2 · k_m and:

1. 0.010 CU/mL of human plasmin from Chromogenix AB.
2. 0.0011 U/mL of the plasmin standard from NIBSC, Potters Bar, London.
3. 0.0078 CU/mL of SK-activated human plasminogen from Chromogenix AB.

The substrate is insensitive to kallikrein (glandular and plasma) and urokinase.

APPLICATIONS

The substrate has been used for the determination of:

1. Antiplasmin in plasma (1,2,3,5)
2. Plasminogen in plasma (4,5,6,7)

1. EDY J et al.: Inhibition of plasmin by normal and antiplasmindepleted human plasma. Thromb Res 8, 513-518 (1976)
2. TEGER-NILSSON A-C et al.: Determination of a new rapid plasmin inhibitor in human blood by means of a plasmin specific tripeptide substrate. Scand J Clin Lab Invest 37, 403-409, (1977).
3. Chromogenix AB. Determination of antiplasmin in plasma with S-2251. Laboratory Instruction.
4. SORIA J et al.: Dosage du plasminogène a l'aide d'un substrat chromogène tripeptidique. Pathologie Biologie 24, 725-729 (1976).
5. FRIBERGER P.: Methods for the determination of plasmin, antiplasmin and plasminogen by means of the substrate S-2251. Haemostasis 7, 138-145, (1975)
6. PHILO R D and GAFFNEY P J.: Some observation on the assay of plasminogen using streptokinase and S-2251. Haemostasis 11 suppl. 1, 66 (1982).
7. Chromogenix AB. Determination of plasminogen in plasma with S-2251. Laboratory Instruction.

CHROMOGENIX

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LANGUAGES

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TECHNICAL SPEC'S

PAPER:	White paper, 50-60 g/m^2 weight.
SIZE:	4.1 x 5.9" (104 x 150 mm.).
PRINT:	Front/Back.
PRINT COLOR:	All type in black.