

DATA SHEET

S-2302 is a chromogenic substrate for plasma kallikrein

COMPOSITION

Each vial contains chromogenic substrate S-2302 25 mg and mannitol 60 mg as a bulking agent.

CHEMISTRY

Chemical Name: H-D-Prolyl-L-phenylalanyl-L-arginine-p-nitroaniline dihydrochloride.

Formula: H-D-Pro-Phe-Arg-pNA . 2HCl

Mol. wt: 611.6

□316 nm: 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: 4 mmol/l in H₂O is stable for more than 6 months at 2-8°C. Contamination by microorganisms may cause hydrolysis.

Suitable stock solution: 4 mmol/l in H₂O.

PRINCIPLE

Enzyme

H-D-Pro-Phe-Arg-pNA----->H-D-Pro-Phe-Arg OH+pNA(yellow)

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

Human plasma kallikrein: Km= 2 . 10⁻⁴ mol/l, V = 6.8 . 10⁻⁶ mol/min . PEU.

Determined at 37°C in 2.5 ml of 0.05 mol/l Tris buffer pH 7.8 I 0.05. PEU (Plasma Equivalent Units). PEU refers to the activity generated from 1 ml of normal human plasma using Cephotest® same Km was obtained for a highly purified human plasma kallikrein.

APPLICATIONS

The substrate has been used for the determination of:

1. Prekallikrein in plasma (1,2,3)
2. Kallikrein inhibitors in plasma (2,4)
3. F XII in plasma (5)
4. Kallikrein-like activity in plasma (2,6)
5. Prekallikrein activator in albumin and immuno- globulin preparations (7,8)

For In-Vitro Diagnostic Use. Not For Human Or Animal Consumption.