D-Val-Phe-Lys p-Nitroanilide dihydrochloride

Product Number V 6884
Store at Room Temperature

Product Description
Molecular Formula: C_{26}H_{36}N_{6}O_{5} • 2HCl
Molecular Weight: 585.5
CAS number: 74551-31-8
Synonym: S2390

Plasminogen activator and urokinase can be used as biological markers of cell differentiation. Most methods, however, do not differentiate between tissue-type plasminogen activator and urokinase. D-Val-Phe-Lys-p-nitroanilide can be used as a substrate to quantify and distinguish urokinase and tissue-type plasminogen activity. Not only does this substrate have a lower \( K_m \) value than the standard D-Val-Leu-Lys-p-nitroanilide, but it also has a much higher \( V_{max}/K_m \) than most other substrates of this type, which makes it a much better substrate. When low concentrations of sodium dodecyl sulfate are present in the assay, the activity of tissue-type plasminogen activator is preferentially accelerated.

This product can also be used as a thrombin substrate at concentrations ranging from 110-289 \( \mu M \) and with a \( K_{cat}/K_m \) value of \( 1.84 \times 10^3 \).

Initial velocity determinations for the enzymatic activities are determined by monitoring the hydrolysis of the tripeptidyl-p-nitroanilide at 405 nm. The rate is measured using the molar extinction coefficient of 9920 \( M^{-1} \cdot cm^{-1} \) for p-nitroaniline.

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in water (1 mg/ml), yielding a clear, colorless solution.

Storage/Stability
Stock solutions of this product dissolved in water that had been adjusted to pH 4 with hydrochloric acid and stored at \(-20^\circ C\), showed no hydrolysis after periods longer than 1 year.

References

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