SPECTROZYME® PCa

**Description**
A chromogenic substrate for the measurement of Activated Protein C.

- **Formula:** H-D-Lys (γ-Cbo)-Pro-Arg-pNA.2AcOH
- **Molecular Weight:** 773.8
- **Chemical Name:** H-D-(γ-carbobenzoxyl)-lysyl-prolyl-arginine-paranitroanilide diacetate salt
- **Composition:** Enzymatically digestible substrate cryoprecipitated with glycine excipient

- **Extinction Coefficient:** \( \varepsilon_{405 \text{ nm}} = 9650 \text{ M}^{-1} \cdot \text{cm}^{-1} \)
- **Purity:** < 0.5% free para-nitroaniline
- **Solubility:** > 10 mM in distilled/deionized water

**Assay Conditions/Substrate Kinetics**
Enzyme activity is determined by measuring the increase in absorbance of the free chromophore (pNA) generated per unit time at \( \lambda_{405 \text{ nm}} \). At excess substrate concentrations, the rate at which the absorbance increases due to the amount of chromophore released is linearly related to enzyme concentration. Measurement can be made either through acid quenching of the reaction (end-point method), or through use of a kinetic recording spectrophotometer (initial rate method).

Under the following reaction conditions, the following substrate kinetics were found.

- **Buffer:** 50 mM Tris-Imidazole, 150 mM NaCl, pH 8.4
- **Temperature:** 37°C
- **Substrate:** 4.0 mM REF 336
- **Enzyme:** Activated Protein C

- **Kinetics:**
  - \( K_m \): 0.303 mM
  - \( V_{max} \): 25.0 µmoles/min/mL enzyme

**Suggested Assay Procedure**
1. Add 50 µL of citrated plasma + 100 µL of Protac® (REF 245) at 0.5 units/mL.
2. Incubate for 5 minutes at 37°C.
3. Add 1.65 mL of buffer + 200 µL of SPECTROZYME PCa.
4. Measure the ΔOD/min using a spectrophotometer set at a wavelength of 405 nm.

**Presentation**
Amber glass vial containing 10 µmoles (7.74 mg) of lyophilized substrate.

**Reconstitution**
Reconstitute with 1 – 2 mL of filtered distilled/deionized water (not buffer) to create a stock solution with a concentration of 5.0 – 10.0 mM. The typical working range concentration is 4.0 mM.

**Storage and Stability**
Lyophilized substrate may be stored in the dark at 2° – 8°C up to the expiration date stated on the vial.
Reconstituted substrate may be stored for 1 week at room temperature, 2 months at 2° – 8°C, or for up to 6 months frozen at -20°C. Aliquot and freeze, protected from light. Do not submit to multiple freeze-thaw cycles.

**Warnings and Precautions**
For Reseach Use Only.

** bluffing:**
- **Hazard Statements:**
  - H315 Causes skin irritation.
  - H319 Causes serious eye irritation
  - H335 May cause respiratory irritation

- **Precautionary Statements:**
  - P261 Avoid breathing dust.
  - P264 Wash thoroughly after handling.
  - P280 Wear protective gloves/eye protection
  - P337 + P313 If eye irritation persists: Get medical advice/attention
  - P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

**Related Products**
REF 245, Protac®, Direct Protein C Plasma Activator
References


Protac is a registered trademark of DSM Nutritional Products Ltd, Basel/Switzerland

Definition of Symbols

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<tr>
<th>Symbol</th>
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<tbody>
<tr>
<td>📜</td>
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