

# Pefachrome® tPA

**Application:** Highly sensitive chromogenic peptide substrate for tissue-type plasminogen activator (tPA). Determination of tPA activity for research, in-process and quality control. Pefachrome® tPA shows different sensitivity to native single-chain tPA (sc-tPA) and its fully active two-chain form (tc-tPA). This allows a differential determination of each molecular form.

**Formula:** CH<sub>3</sub>SO<sub>2</sub>-D-CHA-Gly-Arg-pNA-AcOH

**Principle:** CH<sub>3</sub>SO<sub>2</sub>-D-CHA-Gly-Arg-pNA + E => CH<sub>3</sub>SO<sub>2</sub>-D-CHA-Gly-Arg-OH + pNA + E  
E = Enzyme (tc-tPA or sc-tPA)

**MW:** 658.9

**Kinetic data:**

|        | K <sub>M</sub> | V <sub>max</sub>     |
|--------|----------------|----------------------|
| sc-tPA | 0.286 mM       | 6.95 nmol/μg tPA/min |
| tc-tPA | 0.167 mM       | 33.9 nmol/μg tPA/min |

**Storage:** May be used by the expiry date given on the label when stored unopened, protected from moisture, in the dark, 2-8°C. Avoid contamination of the reagents by micro-organisms. Shipment of product does not require cooling during the time of transportation.

**Material required but not provided:**

Buffer, reference material

**Buffer:** 50 mM Tris-Imidazole buffer pH 8.4, 300 mM NaCl, 37 °C

**Assay:** Suggested protocol for the determination of native single-chain tPA (sc-tPA):

1.780 ml buffer  
0.020 ml Enzyme (approx. 75'000 IU /ml)  
0.200 ml Pefachrome®tPA (2 mM in water)  
=> Determination of ΔOD/min at 405 nm

Suggested protocol for the determination of two-chain tPA (tc-tPA):

1.750 ml buffer  
0.050 ml Enzyme (approx. 120'000 IU /ml)  
0.200 ml Pefachrome®tPA (4 mM in water)  
=> Determination of ΔOD/min at 405 nm

**Reference:** Kluft C, ed.  
Tissue type Plasminogen Activator (tPA): Physiological and Clinical Aspects.  
Boca Raton: CRC Press; 1988: Vol.I 123-144, Vol.II 211-224

**Package size:** Bulk [g]

**Code:** 091-01

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