

# Fluorogenic Substrates

Pentapharm Ltd. offers a broad spectrum of fluorogenic peptide substrates for research, in-process and quality control, employing the fluorogenic group AMC (7-Amino-4-methylcoumarin).

## Optical characteristics of AMC:

Absorption maximum wavelength:  $\lambda_{Abs.}$ : 342 nm

Emission maximum wavelength:  $\lambda_{Em.}$ : 440 nm

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### Pefalfluor FXa

**Application:** Highly sensitive fluorogenic peptide substrate for factor Xa.

**Formula:**  $CH_3SO_2-D-CHA-Gly-Arg-AMC \cdot AcOH$  **MW:** 679.8

**$k_{cat}$ :**  $162.0 s^{-1}$   **$K_M$ :** 0.22 mM

**Solubility:** Up to 10 mM in dest. H<sub>2</sub>O

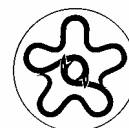
**Storage:** May be used by the expiry date given on the label when stored unopened, protected from moisture, in the dark, 2-8°C. Avoid contamination of the reagents by micro-organisms.  
Shipment of product does not require cooling during the time of transportation.

**Assay:** Suggested protocol for the determination of factor Xa activity:  
0.900 ml 50 mM Tris-HCl pH 7.4, 100 mM NaCl, 0.5% HSA  
0.100 ml Factor Xa (KORDIA, 11.8 nM in NaCl)  
0.100 ml Pefalfluor FXa (1.5 mM in water)  
=> Determination of fluorescence emission at 440 nm at 25°C

**Package size:** Vial containing 10  $\mu$ mol  
Bulk [g]

**Code:** 085-21  
085-12

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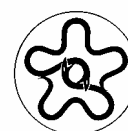


### Pefalfluor TH

- Application:** Sensitive fluorogenic peptide substrate for thrombin.  
Determination of thrombin activity for research, in-process and quality control.
- Formula:** H-D-CHA-Ala-Arg-AMC·2AcOH **MW:** 675.8
- K<sub>M</sub>:** 1.93 μM **k<sub>cat</sub>:** 53.9 s<sup>-1</sup>
- 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.
- Assay:** Suggested protocol for the determination of thrombin in microplates:  
Stock solutions: Thrombin (3 NIH U/ml in 300 mM NaCl)  
Assay:  
0.070 ml bovine thrombin solution  
0.830 ml 0.05 M Tris/HCl, 300 mM NaCl, 0.5% HSA, pH 8.4  
0.100 ml Pefalfluor TH (2 mM)  
=> determination of fluorescence emission at 460 nm  
Excitation wavelength 360 nm / Emission wavelength 460 nm
- Package size:** Vial containing 25 mg **Code:** 081-19  
Bulk [g]  
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### Pefalfluor tPA

- Application:** Highly sensitive fluorogenic peptide substrate for tissue-type plasminogen activator (tPA).
- Formula:** CH<sub>3</sub>SO<sub>2</sub>-D-Phe-Gly-Arg-AMC·AcOH **MW:** 673
- k<sub>cat</sub>:** 11.0 s<sup>-1</sup> **K<sub>M</sub>:** 0.14 mM
- 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.
- Assay:** Suggested protocol for the determination of sc-tPA activity:  
0.975 ml 100 mM HEPES pH 8.0, 154 mM NaCl, 0.1% HSA  
0.025 ml sc-tPA (0.5 μM)  
0.100 ml Pefalfluor tPA (1.0 mM in water)  
=> Determination of fluorescence emission at 440 nm at 25°C
- Package size:** Vial containing 25 mg **Code:** 091-06  
Bulk [g]  
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### Pefalfluor uPA

**Application:** Highly sensitive fluorogenic peptide substrate for urokinase (uPA).

**Formula:** Bz- $\beta$ -Ala-Gly-Arg-AMC·AcOH

**MW:** 623.7

**$v_{max}$ :** 0.048  $\mu\text{mol} \cdot \text{l}^{-1} \cdot \text{s}^{-1}$

**$K_M$ :** 0.050 mM

**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.

**Assay:** Suggested protocol for the determination of urokinase:  
0.200 ml 50 mM Tris-HCl pH 8.0, 100 mM NaCl  
0.025 ml uPA (Ribosepharm, 850 IU/mg)  
0.025 ml Pefalfluor uPA (0.5 mM in water)  
=> Determination of fluorescence emission at 440 nm at 25°C

**Package size:** Vial containing 10  $\mu\text{mol}$   
Bulk [g]

**Code:** 082-21  
082-03

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### Pefalfluor PCa

**Application:** Sensitive fluorogenic peptide substrate for activated protein C.

**Formula:** Pyr-Pro-Arg-AMC·AcOH

**MW:** 599.6

**$k_{cat}$ :** 62.0  $\text{s}^{-1}$

**$K_M$ :** 0.56 mM

**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.

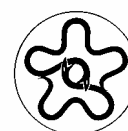
**Assay:** Suggested protocol for the determination of activated protein C:  
0.850 ml 50 mM Tris-HCl pH 8.0, 100 mM NaCl, 0.5% HSA  
0.050 ml activated protein C (KORDIA, 46 nM)  
0.100 ml Pefalfluor PCa (10 mM in water)  
=> Determination of fluorescence emission at 440 nm at 25°C

**Package size:** Vial containing 25 mg  
Bulk [g]

**Code:** 089-05

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### Pefafluor PCa3342

**Application:** Sensitive chromogenic peptide substrate with significantly improved selectivity for activated protein C.

**Formula:** Pyr-CHG-Arg-AMC·AcOH **MW:** 641.7

**k<sub>cat</sub>:** 17.0 s<sup>-1</sup> **K<sub>M</sub>:** 1.60 mM

**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.

**Assay:** Suggested protocol for the determination of activated protein C:  
0.850 ml 50 mM Tris-HCl pH 8.0, 100 mM NaCl, 0.5% HSA  
0.050 ml Activated protein C (KORDIA, 46 nM)  
0.100 ml Pefafluor PCa3342 (1.5 mM in water)  
=> Determination of fluorescence emission at 440 nm at 25°C

**Package size:** Vial containing 25 mg **Code:** 089-10  
Bulk [g]

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### Pefafluor LAL

**Application:** Highly sensitive fluorogenic peptide substrate for the determination of bacterial endotoxins.

**Formula:** CH<sub>3</sub>SO<sub>2</sub>-D-HHT-Gly-Arg-AMC·AcOH **MW:** 695.8

**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.

**Package size:** Vial containing 25 mg **Code:** 086-05  
Bulk [g]

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