

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: $\lambda_{\text{Abs.}}$: 342 nm

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

Pefluor FXa

Application: Highly sensitive fluorogenic peptide substrate for factor Xa.

Formula: $\text{CH}_3\text{SO}_2\text{-D-CHA-Gly-Arg-AMC}\cdot\text{AcOH}$ **MW:** 679.8

k_{cat} : 162.0 s^{-1} **K_{M} :** 0.22 mM

Solubility: Up to 10 mM in dest. H_2O

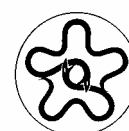
Storage: May be used by the expiry date given on the label when stored unopened, protected from moisture, in the dark, $2\text{-}8^\circ\text{C}$. Avoid contamination of the reagents by micro-organisms.
Shipment of product does not require cooling during the time of transportation.

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 Pefluor FXa (1.5 mM in water)
=> Determination of fluorescence emission at 440 nm at 25°C

Package size: Vial containing 10 μmol
Bulk [g]

Code: 085-21
085-12

FOR RESEARCH USE ONLY. NOT FOR HUMAN USE OR DRUG USE.

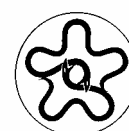


Pefalfluor TH

- 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_M:** 1.93 μM **k_{cat}:** 53.9 s⁻¹
- 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:** CH₃SO₂-D-Phe-Gly-Arg-AMC·AcOH **MW:** 673
- k_{cat}:** 11.0 s⁻¹ **K_M:** 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- β -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 μmol
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 s^{-1}

K_M : 0.56 mM

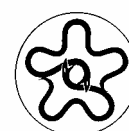
Storage: May be used by the expiry date given on the label when stored unopened, protected from moisture, in the dark, 2-8°C. Avoid contamination of the reagents by micro-organisms.
Shipment of product does not require cooling during the time of transportation.

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_{cat}: 17.0 s⁻¹

K_M: 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
Bulk [g]

Code: 089-10

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Pefafluor LAL

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

Formula: CH₃SO₂-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
Bulk [g]

Code: 086-05

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Pefalfluor FIXa10148

Application: Fluorogenic peptide substrate for factor IXa with improved sensitivity. Determination of factor IXa activity for in-process and quality control of factor IX preparations.

formula: Mes-(D)-CHG-Gly-Arg-AMC·AcOH **MW:** 665.7

V_{max}: 28.1 µmol/min **K_M:** 0.23 mM
(determined in the presence of 33% ethylene glycol)

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 an assay in microplates:
Buffer: 50 mM Tris pH 7.4, 100 mM NaCl, 5 mM CaCl₂, 40% ethylene glycol

0.200 ml Buffer
0.025 ml Pefalfluor FIXa10148 (10 mM in water)
0.020 ml FIXa: human factor IXaβ, Enzyme Research, final conc. 19.4 µg/ml

Note: The sensitivity of Pefalfluor FIXa10148 is significantly increased in the presence of 33% ethylene glycol.

Package size: Bulk [g] **Code:** 095-03

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Pefalfluor FIXa3688

Application: Highly sensitive fluorogenic peptide substrate for factor IXa.

Formula: H-(D)-Leu-PHG-Arg-AMC·2AcOH **MW:** 696.8

V_{max}: 1.12 µmol/min **K_M:** 0.028 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 factor IXa activity:
0.025 ml Pefalfluor FIXa3688 (10 mM in water)
0.200 ml Buffer (50 mM Tris-HCl pH 7.4, 100 mM NaCl, 5 mM CaCl₂, 0.5% HSA)
0.020 ml FIXa: human factor IXaβ, Enzyme Research, final conc. 19.4 µg/ml

Package size: Bulk [g] **Code:** 095-04

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