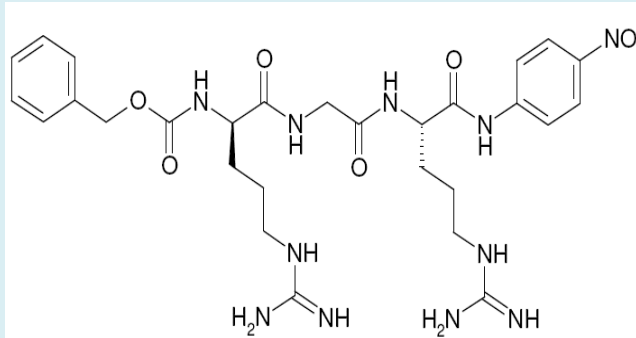
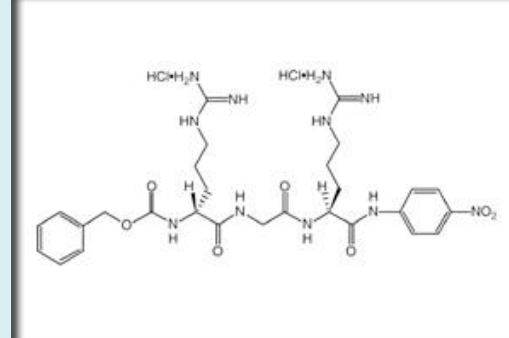


COMPARISON OF CHARACTERISTICS AND PERFORMANCES OF FX α CHROMOGENIC SUBSTRATE (HYPHEN BioMed CS-11(65))

	HYPHEN BioMed	Chromogenix										
Product name	BIOPHEN CS-11(65)	S2765										
Product reference	A229014 / A229114	82 14 13										
Specificity	Recommended substrate for Factor Xa.	Chromogenic substrate for FXa.										
Peptide sequence	Z-D-Arg-Gly-Arg-pNA, 2HCl	Z-D-Arg-Gly-Arg-pNA · 2HCl										
Developed name	Benzyloxycarbonyl-D-arginyl-glycyl-L-arginine-para-nitroaniline, -dihydrochloride	N- α -Benzyloxycarbonyl-D-arginyl-L-glycyl-L-arginine-pnitroaniline-dihydrochloride										
Chemical structure	 <p><chem>C28H39N11O7</chem>, 2HCl</p>	 <p><chem>C28H39N11O7</chem>, 2HCl</p>										
Proposed presentation	<ul style="list-style-type: none"> • 25 mg (#A229014) • 100 mg (#A229114) 	25 mg										
Molarity	A229014: ~39 μ mol / vial A229114: ~156 μ mol / vial	-										
Bulking agents	Mannitol	Mannitol (60mg/vial)										
Purity grade	> 95%	-										
Solubility	\geq 5 mg/mL in H ₂ O or Tris buffer	> 40 mmol/L in H ₂ O > 10 mmol/L in Tris buffer (pH 8.3, I 0.25)										
Molecular weight	641.7 Da (basic structure)	714.6 Da* (*2HCl included)										
Free pNA content	< 0.05%	NA										
E316 nm:	NA	$1.27 \cdot 10^4 \text{ mol}^{-1} \cdot \text{L} \cdot \text{cm}^{-1}$										
Respective reactivities	<table border="1"> <thead> <tr> <th>FXa</th> <th>Thrombin</th> <th>Plasmin</th> <th>Kallicrein</th> <th>aPC</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>1</td> <td>1</td> <td>15</td> <td>2</td> </tr> </tbody> </table> <p>Assay conditions must be duly established for rendering the assay conditions totally specific for Factor Xa, when this substrate is used.</p>	FXa	Thrombin	Plasmin	Kallicrein	aPC	100	1	1	15	2	very sensitive to trypsin
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CHROMOGENIC SUBSTRATE (HYPHEN BioMed CS-11(65))**

Stability of the lyophilized product	Until the expiration date printed on the vial. (30 months at 2-8°C from the manufacturing date)	2-8°C until the expiration date. The substance is hygroscopic and should be stored in a dry place.																
Stability of the reconstituted product	<ul style="list-style-type: none"> - 7 days at room temperature (18-25°C) - 3 months at 2-8 °C - Do not freeze. 	2 mmol/L in H ₂ O is stable for six months at 2 to 8°C																
Suitable stock solution	<p>A229014: According to the research protocol used, the BIOPHEN CS -11(65) chromogenic substrate can be restored with variable volumes of distilled water ; for example 10 mL can be used for a substrate concentration of 2.5 mg/mL (3.9 µM), or 20 mL for a substrate concentration of 1.25 mg/mL (1.95 µM). Shake thoroughly until complete dissolution (vortex). Let to stabilize for 30 min. at room temperature.</p> <p>A229114: According to the research protocol used, the BIOPHEN CS -11(65) chromogenic substrate can be restored with variable volumes of distilled water ; for example 40 mL can be used for a substrate concentration of 2.5 mg/mL (3.9 µM), or 80 mL for a substrate concentration of 1.25 mg/mL (1.95 µM). Shake thoroughly until complete dissolution (vortex). Let to stabilize for 30 min. at room temperature.</p>	1-2 mmol/L in H ₂ O.																
Kinetic data	Same characteristics.	Factor Xa (bovine): km=1. 10 ⁻⁴ mol/L, kcat=290 sec ⁻¹ in Tris buffer pH 8.3, I 0.25 at 37°C. Factor Xa: (human plasma activated with Russel's Viper Venom): km=3 . 10 ⁻⁴ mol/L in Tris buffer pH 7.8, I 0.4 at 37°C.																
Applications	<p>For in vitro use only. All research studies and protocols where a source of chromogenic substrate for Factor Xa is required.</p> <p>Suggested protocol:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Reagent</td> <td style="width: 50%;">Water bath</td> </tr> <tr> <td>Tris 0.05M, NaCl 0.30M, pH 8.40 buffer</td> <td>400 µL</td> </tr> <tr> <td>Human or Bovine FXa from 2.50 µg/ml (=C), or serial dilutions, or plasma sample</td> <td>100 µL</td> </tr> <tr> <td colspan="2">Mix and incubate for 1 min at 37 °C</td> </tr> <tr> <td>Substrate (reconstituted at 2.5mg/ml in distilled water)</td> <td>100 µl</td> </tr> <tr> <td colspan="2">Mix and incubate for 3 min at 37 °C</td> </tr> <tr> <td>Citric acid 2%</td> <td>300 µl</td> </tr> <tr> <td colspan="2">Read A405nm against the sample blank.</td> </tr> </table>	Reagent	Water bath	Tris 0.05M, NaCl 0.30M, pH 8.40 buffer	400 µL	Human or Bovine FXa from 2.50 µg/ml (=C), or serial dilutions, or plasma sample	100 µL	Mix and incubate for 1 min at 37 °C		Substrate (reconstituted at 2.5mg/ml in distilled water)	100 µl	Mix and incubate for 3 min at 37 °C		Citric acid 2%	300 µl	Read A405nm against the sample blank.		
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