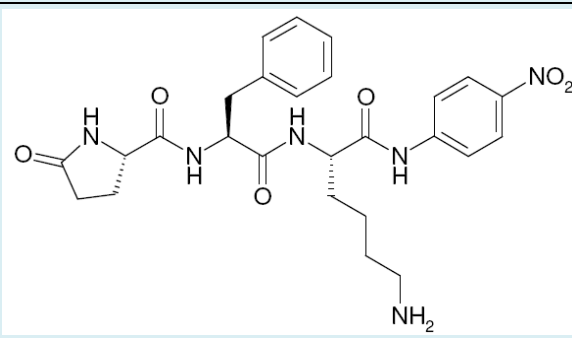
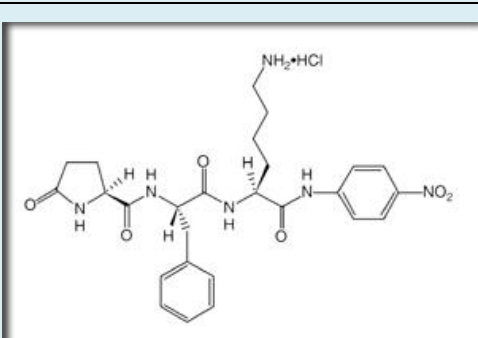


COMPARISON OF CHARACTERISTICS AND PERFORMANCES OF PLASMIN/PLASMINOGEN-SK CHROMOGENIC SUBSTRATE (HYPHEN BioMed CS-41(03))

	HYPHEN BioMed	Chromogenix										
Product name	BIOPHEN CS-41(03)	S2403										
Product reference	A229041	82 22 54										
Specificity	Recommended substrate for Plasmin and Plasminogen - SK.(SPm-41)	Chromogenic substrate for plasmin and streptokinase-activated plasminogen										
Peptide sequence	PyroGlu--Phe-Lys-pNa-HCl	pyroGlu-Phe-Lys-pNA-HCl										
Developed name	L-Pyroglutamyl-L-phenylalanyl-L-lysine-para-nitroaniline , hydrochloride	L-Pyroglutamyl-L-Phenylalanyl- L-Lysine-p-Nitroaniline hydrochloride.										
Chemical structure	 <chem>C26H32N6O6, HCl</chem>											
Proposed presentation	25 mg	25 mg										
Molarity	~ 48 µmol / vial	-										
Bulking agents	Mannitol	Mannitol (60 mg/vial)										
Purity grade	> 95%	-										
Solubility	≥ 5 mg/mL in H ₂ O	>40 mmol/L in H ₂ O										
Molecular weight	524.6 Da (basic structure)	561 Da* (*HCl included)										
Free pNA content	< 0.25%	NA										
E316 nm:	NA	1.27 .10 ⁴ mol ⁻¹ . L . cm ⁻¹										
Respective reactivities	<table border="1"> <thead> <tr> <th>Plasmin</th> <th>Thrombin</th> <th>FXa</th> <th>Kallicrein</th> <th>aPC</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>0</td> <td>1</td> <td>/</td> <td>0</td> </tr> </tbody> </table> <p>Assay conditions must be established for making the substrate totally specific for Plasmin and Plasminogen-SK.</p>	Plasmin	Thrombin	FXa	Kallicrein	aPC	100	0	1	/	0	insensitive to plasma-kallicrein, thrombin and FXa.
Plasmin	Thrombin	FXa	Kallicrein	aPC								
100	0	1	/	0								
Stability of the lyophilized product	Until the expiration date printed on the vial. (30 months at 2-8 °C from the manufacturing date)	Stable until expiry date if stored at 2-8°C. Avoid exposure to light. The substance is hygroscopic and should be stored dry.										
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. 	7.5 mmol/L in H ₂ O is stable for at least 6 months at 2 to 8°C.										



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Suitable stock solution	According to the research protocol used, the BIOPHEN CS-41(03) chromogenic substrate can be restored with variable volumes of distilled water; for example 5 mL can be used for a substrate concentration of 5 mg/mL, or 20 mL for a substrate concentration of 1.25 mg/mL.	3-8 mmol/L in H ₂ O.																
Kinetic data	Same characteristics	Plasmin (human): Km=2.9 . 10 ⁻⁴ mol/L, kcat=92 s ⁻¹ . Plasminogen. SK: Km=3.0 . 10 ⁻⁴ mol/L, kcat=43 s ⁻¹ . Determined at 37°C in Tris buffer pH 7.4, I 0.15.																
Applications	<p>For in vitro use only. All research studies and protocols where a source of chromogenic substrate for Plasmin and Plasminogen-SK is required.</p> <p>Suggested protocol:</p> <table border="1"> <tr> <td>Reagent</td> <td>Water bath</td> </tr> <tr> <td>Human or Bovine Plasminogen from 10µg/ml (=C), or serial dilutions,, in Tris 0.05M, NaCl0.15M, pH7.40 buffer, or plasma sample</td> <td>200 µL</td> </tr> <tr> <td>Streptokinase (at 10, 000 UI/ml) or Urokinase (at 1000 U/ml)</td> <td>200 µL</td> </tr> <tr> <td colspan="2">Mix and incubate for 3 min at 37 °C</td> </tr> <tr> <td>Substrate (reconstituted at 2.5mg/ml in distilled water)</td> <td>200µl</td> </tr> <tr> <td colspan="2">Mix and incubate for 3 min at 37 °C</td> </tr> <tr> <td>Citric acid 2%</td> <td>300µl</td> </tr> <tr> <td colspan="2">Read A405nm against the sample blank.</td> </tr> </table>	Reagent	Water bath	Human or Bovine Plasminogen from 10µg/ml (=C), or serial dilutions,, in Tris 0.05M, NaCl0.15M, pH7.40 buffer, or plasma sample	200 µL	Streptokinase (at 10, 000 UI/ml) or Urokinase (at 1000 U/ml)	200 µL	Mix and incubate for 3 min at 37 °C		Substrate (reconstituted at 2.5mg/ml in distilled water)	200µl	Mix and incubate for 3 min at 37 °C		Citric acid 2%	300µl	Read A405nm against the sample blank.		
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Literature reference:	Longstaff C, Whitton C, Thelwell C, Belgrave D, on behalf of the Fibrinolysis Subcommittee of the SSC of the ISTH. “ An international collaborative study to investigate a proposed reference method for the determination of potency measurements of fibrinolytics in absolute units ”. <i>J Thromb Haemost</i> 2007; 5: 412–4.																	