

ANALYSIS CERTIFICATE

BIOPHEN HEPARIN Anti Xa (2 Stage) - #221010

Lot : F1700791

QC Release : 01/08/2017

Expiration date : 2019-08-19

Components	Qty	Exp. (months)	LOT #	EXP.Date
R1 : Human Antithrombin	2 vials	30	F171100232	2019-08-19
R2 : Bovine FXa	2 vials	30	F171100232	2019-08-26
R3 : Substrate	2 vials	30	F171100232	2019-08-24
R4 : Reaction buffer	4 vials	30	F171200766	2019-12-27

Geo.

ANALYSIS CERTIFICATE

BIOPHEN HEPARIN Anti Xa (2 Stage) - #221010

Lot : F1700791

QC Release : 01/08/2017

Expiration date : 2019-08-19

Analytical data	Specifications
<p>1. <u>AT</u></p> <p>a. Reproducibility (A405 for 0 IU/ml heparin)</p> <p style="margin-left: 40px;">N : 25 Mean (A405) : 2,000 CV : 1,3 %</p> <p>b. AT content per vial (anti-Xa activity chromogenic assay)</p> <p style="margin-left: 40px;">6,95 IU</p> <p>c. Indicative AT content per vial (A280/Lowry on raw material)</p> <p style="margin-left: 40px;">695 µg</p> <p>d. SDS PAGE (on raw material)</p> <p style="margin-left: 40px;">1 major band of about 58 000 Da</p> <p>e. Absence of heparin (on raw material)</p> <p style="margin-left: 40px;">Absence</p>	<p style="text-align: center;">≤ 5 %</p> <p style="text-align: center;">≥ 4.75 IU</p> <p style="text-align: center;">1 major band of about 58,000 Da</p> <p style="text-align: center;">Absence</p>
<p>2. <u>Substrate</u></p> <p>a. Blank value</p> <p style="margin-left: 40px;">Mean (A405) : 0,077</p> <p>b. Reproducibility (A405 for 0 IU/ml heparin)</p> <p style="margin-left: 40px;">N : 25 Mean (A405) : 1,996 CV : 1,1 %</p> <p>c. Indicative content per vial (raw material)</p> <p style="margin-left: 40px;">5 mg (about 7,83 µmol)</p> <p>d. HPLC analysis purity grade (raw material)</p> <p style="margin-left: 40px;">98 %</p> <p>e. Experimental molecular weight (raw material)</p> <p style="margin-left: 40px;">641,5 Da</p>	<p style="text-align: center;">N ≥ 5 A405 ≤ 0.30</p> <p style="text-align: center;">≤ 5 %</p> <p style="text-align: center;">≥ 95%</p> <p style="text-align: center;">641.7 ± 5 Da</p>
<p>3. <u>FXa</u></p> <p>a. Reproducibility (A405 for 0 IU/ml heparin)</p> <p style="margin-left: 40px;">N : 20 Mean (A405) : 1,999 CV : 1,0 %</p> <p>b. SDS PAGE (4-12% acrylamide) (FX zymogen for raw material)</p> <p style="margin-left: 40px;">1 major band of about 55 000 Da</p> <p>c. Indicative FXa content per vial (Lowry, from zymogen raw material)</p> <p style="margin-left: 40px;">58 µg/vial</p> <p>d. Chromogenic activity on Xa substrate (10µg/ml) (raw material)</p> <p style="margin-left: 40px;">A405 with RVV : 1,145 A405 without RVV : 1,135</p> <p>e. Indicative chromogenic activity on Xa substrate (CS-11(22)) (raw material)</p> <p style="margin-left: 40px;">162,4 nkats / vial</p>	<p style="text-align: center;">≤ 5 %</p> <p style="text-align: center;">1 major band of about 55,000 Da</p> <p style="text-align: center;">ΔA405 <10%</p>
<p>4. <u>Reaction buffer (N ≥ 3)</u></p> <p style="margin-left: 40px;">Volume : >25 ml</p> <p style="margin-left: 40px;">pH : 8,47</p> <p style="margin-left: 40px;">Aspect: <input checked="" type="checkbox"/> Clear <input checked="" type="checkbox"/> Transparent</p>	<p style="text-align: center;">≥ 25 ml</p> <p style="text-align: center;">8.40 ± 0.20</p> <p style="text-align: center;">Clear - Transparent</p>

ANALYSIS CERTIFICATE

BIOPHEN HEPARIN Anti Xa (2 Stage) - #221010

Lot : F1700791

QC Release : 01/08/2017

Expiration date : 2019-08-19

Analytical data								Specifications
5. Assay reactivity STAR method (concentration in the tested dilution)								$R^2 \geq 0.98$
A405	UI/ml	0.0	0.025	0.050	0.075	0.100	R ²	
Plasma	UFH	2,555	2,104	1,716	1,358	1,038	0,996	
	LMWH	2,555	2,304	1,947	1,725	1,425	0,996	
Purified milieu	UFH	2,661	2,112	1,655	1,282	0,966	0,998	
	LMWH	2,664	2,350	2,027	1,719	1,474	0,998	

6. Detection threshold (concentration in the tested dilution) In Plasma <0,01 IU/ml In Purified solution <0,01 IU/ml	≤ 0.01 IU/ml
---	-------------------

7. Stability of reconstituted reagents Reagents tested after 7 days at 2-8°C, or 7 days at RT (18-25°C) or Frozen/thawed at $\approx -20^\circ\text{C}$ A405 values for UFH	$R^2 \geq 0.98$ $\Delta A405(0\text{UI/ml})$ between trials $\leq 10\%$																																			
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">IU/ml</th> <th style="text-align: center;">0.0</th> <th style="text-align: center;">0.025</th> <th style="text-align: center;">0.050</th> <th style="text-align: center;">0.075</th> <th style="text-align: center;">0.100</th> <th style="text-align: center;">R²</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Freshly restored</td> <td style="text-align: center;">2,087</td> <td style="text-align: center;">1,653</td> <td style="text-align: center;">1,064</td> <td style="text-align: center;">0,606</td> <td style="text-align: center;">0,367</td> <td style="text-align: center;">0,983</td> </tr> <tr> <td style="text-align: center;">7 days at 2-8°C</td> <td style="text-align: center;">2,098</td> <td style="text-align: center;">1,675</td> <td style="text-align: center;">1,054</td> <td style="text-align: center;">0,623</td> <td style="text-align: center;">0,363</td> <td style="text-align: center;">0,983</td> </tr> <tr> <td style="text-align: center;">7 days at RT (18-25°C)</td> <td style="text-align: center;">2,097</td> <td style="text-align: center;">1,627</td> <td style="text-align: center;">1,035</td> <td style="text-align: center;">0,588</td> <td style="text-align: center;">0,341</td> <td style="text-align: center;">0,983</td> </tr> <tr> <td style="text-align: center;">Frozen & Thawed $\approx -20^\circ\text{C}$</td> <td style="text-align: center;">2,115</td> <td style="text-align: center;">1,668</td> <td style="text-align: center;">1,060</td> <td style="text-align: center;">0,597</td> <td style="text-align: center;">0,355</td> <td style="text-align: center;">0,983</td> </tr> </tbody> </table>	IU/ml	0.0	0.025	0.050	0.075	0.100	R ²	Freshly restored	2,087	1,653	1,064	0,606	0,367	0,983	7 days at 2-8°C	2,098	1,675	1,054	0,623	0,363	0,983	7 days at RT (18-25°C)	2,097	1,627	1,035	0,588	0,341	0,983	Frozen & Thawed $\approx -20^\circ\text{C}$	2,115	1,668	1,060	0,597	0,355	0,983	
IU/ml	0.0	0.025	0.050	0.075	0.100	R ²																														
Freshly restored	2,087	1,653	1,064	0,606	0,367	0,983																														
7 days at 2-8°C	2,098	1,675	1,054	0,623	0,363	0,983																														
7 days at RT (18-25°C)	2,097	1,627	1,035	0,588	0,341	0,983																														
Frozen & Thawed $\approx -20^\circ\text{C}$	2,115	1,668	1,060	0,597	0,355	0,983																														

Comments :	<input checked="" type="checkbox"/> PASSED IN COMPLIANCE
-------------------	---

Date 01/08/2017

QC Manager : *B. Lecourt* S. LECOURT