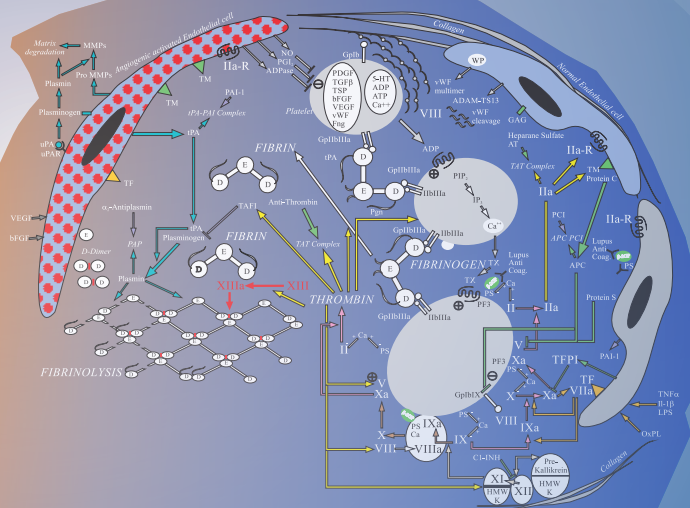


*TC is your partner in coagulation!*



## PRODUCT CATALOGUE

**D I A G N O S T I C S**

Global Tests | Calibrators & Controls | Factor Assays | Anticoagulant Treatments | Thrombophilia  
Thrombosis | Fibrinolysis | Thrombin Generation | Instruments | Research Products

## ***Customer Service***

For further product information, technical advice, prices or to place an order contact

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## Contents

### GLOBAL TESTS

Prothrombin Time (PT)	3
Activated Partial Thromboplastin Time (aPTT)	4
Fibrinogen	5
Thrombin Time (TT)	5

### CALIBRATORS & CONTROLS

Reference Plasma & Special PT Calibration Set	6
Normal Plasma	7
Abnormal Plasma Level 1 and 2	7
Special PT Control Sets	7

### FACTOR ASSAYS

Deficient Plasma Extrinsic and Common Pathway tested with PT (FII, FV, FVII and FX)	8
Deficient Plasma Intrinsic Pathway tested with aPTT (FVIII, FIX, FXI and FXII)	9
Fitzgerald (HMW Kininogen) and Fletcher (Prekallikrein) Trait Plasma	9
Additional FVIII Assays: Chromogenic FVIII	10
Factor VIII Inhibitor	11
Factor XIII	12
von Willebrand Factor (vWF)	13
ADAMTS-13	14

### ANTICOAGULANT TREATMENTS

Overview	17
anti-Xa Assay Apixaban, Arixtra, Edoxaban, LMWH, Orgaran, Rivaroxaban and UFH Calibration and Control Plasmas	18
Direct Thrombin Inhibitor (DTI) Assay Argatroban, Dabigatran Calibration and Control Plasmas	19

### THROMBOPHILIA

Antithrombin (AT)	20
APC	21
Protein C (PC)	22
Protein S (PS)	23
C1-Inhibitor	23
Lupus Anticoagulant (LA)	24

## Contents

### THROMBOSIS

D-Dimer	25
---------	----

### Fibrinolysis

Tissue Plasminogen Activator (t-PA)	27
Urokinase-type plasminogen activator (u-PA)	28
Plasminogen Activator Inhibitor-Type-1 (PAI-1)	29
t-PA-PAI-1 Complex	30
Glu-Plasminogen	30
Plasmin-Alpha-2-Antiplasmin (PAP) Complex	31

### Thrombin Generation

Thrombin Generation for Fluorescence Microplate Readers (for research use only)	32
Thrombin Generation for Ceveron <sup>®</sup> alpha TGA (CE marked)	33

### Instruments

Ceveron <sup>®</sup> alpha	34
Ceveron <sup>®</sup> one, four, ten	35
Ceveron <sup>®</sup> MFU	36

### Auxiliary Reagents

Auxiliary Reagents	37
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### Research Products

Fibronectin; Vitronectin	38
Tissue-type Plasminogen Activator (t-PA)	39
Plasminogen Activator Inhibitor-Type1 (PAI-1)	41
Urokinase-type Plasminogen Activator (u-PA)	42
Single Chain Urokinase Plasminogen Activator (scu-PA); CNBr Fibrinogen fragments	43
Plasminogen	44
Alpha-2-Antiplasmin	45
Protein C Inhibitor, ADAMTS-13	46
Coagulation Cascade	47
Index	48



## GLOBAL TESTS

### Prothrombin Time (PT)

The **TECHNOPLASTIN®** and **TECHNOCLLOT® PT Series** are thromboplastin reagents derived from rabbit. Thromboplastins are a mixture of tissue factor, phospholipid, and calcium.

The Prothrombin Time (PT) is used to:

- Screen for congenital or acquired deficiencies in the extrinsic and common pathways
- Monitor warfarin therapy
- Aid in the diagnosis of DIC
- Aid in the diagnosis of inhibitors to Factors II, V, and X

For warfarin monitoring the most common reporting method is the INR; in certain countries an alternative normalization method known as the Prothrombin percent activity, is used.

INR is based on the following formula:

$$INR = \left( \frac{PT_{patient\ plasma\ (sec)}}{PT_{normal\ plasma\ (sec)}} \right)^{ISI}$$

The **TECHNOCLLOT® PT Owren** is a thromboplastin reagent modified according to Owren. The reagent is enriched with bovine plasma from which the prothrombin complex factors II, VII and X have been removed by adsorption. The bovine plasma remains a source of fibrinogen and factor V, therefore abnormalities in these proteins cannot be detected by the test.

The reagent is available in two formats, one for the **manual** method and one for **automated** use on coagulation analyzer.

Demonstration video available on TECHNOZOOM Youtube Channel (QR-Code)

For Calibration & Control Plasmas see page 6 and 7.



Product	Description	REF	Package
<b>TECHNOPLASTIN® HIS</b> ISI < 1.2	Lyophilized rabbit brain thromboplastin	5003009	12 x 2 ml
		5003030	2 x 10 ml
		5003026	6 x 10 ml
		5003021	20 x 10 ml
<b>TECHNOPLASTIN® HIS</b> for Ceveron® alpha ISI < 1.2	Lyophilized rabbit brain thromboplastin	5003010	12 x 4 ml
		5003028	6 x 20 ml
		5003022	20 x 20 ml
<b>TECHNOCLOT® PT Plus</b> ISI < 1.2	Lyophilized rabbit brain thromboplastin (includes solvent)	5003220	5 x 4 ml
		5003222	10 x 10 ml
<b>TECHNOCLOT® PT Owren</b> manual ISI < 1.2	Lyophilized thromboplastin. For the determination of the combined factors II-VII-X.	5005032	10 x 4 ml
		5005037	10 x 10 ml
<b>TECHNOCLOT® PT Owren</b> automated ISI < 1.2	Lyophilized thromboplastin. For the determination of the combined factors II-VII-X.	5005044*	10 x 4 ml
		5005046*	10 x 10 ml
*Auxiliary reagent required and not supplied with the kit			
<b>CaCl<sub>2</sub> 25 mM</b>	Reaction buffer for TECHNOCLOT® PT Owren automated	5277017	25 ml
		5277020	9 x 25 ml
<b>Imidazole Buffer</b>	Sample dilution buffer for TECHNOCLOT® PT Owren automated	5410008	25 ml
		5410007	9 x 25 ml

## GLOBAL TESTS

### Activated Partial Thromboplastin Time (aPTT)

Technoclone **aPTT reagents** are mixtures of different ratios of activators and phospholipids in order to provide reagents with different sensitivities to heparin, lupus and factors.

The aPTT Test is used to:

- Screen for congenital or acquired deficiencies in the intrinsic and contact pathways
- Monitor heparin therapy
- Aid in the diagnosis of Lupus Anticoagulants
- Aid in the diagnosis of inhibitors to Factors VIII, IX and XI

aPTT measurement is the time taken for a fibrin clot to form, results are reported in seconds. For monitoring anticoagulant drugs the results are often expressed as a multiple of the mean normal time.

aPTT Reagents:	<b>DAPTTIN® TC</b>	<b>SIRON LS</b> (Lupus Sensitive)	<b>SIRON LIS</b> (Lupus Insensitive)
Factor Sensitivity	++	+++	+++
Lupus Sensitivity	++	+++	+
Heparin Sensitivity	++	++	++

For Control Plasmas see page 7.

Product	Description	REF	Package
DAPTIN® TC	Lyophilized double activated aPTT reagent with sulfatides and silica as surface activators.	5035060	5 x 2 ml
		5035090	6 x 10 ml
		5035100	20 x 10 ml
SIRON LS (Lupus Sensitive)	Liquid lupus sensitive aPTT reagent containing a soluble activator prepared from ellagic acid.	5035105	2 x 4 ml
		5035107	10 x 4 ml
		5035109	10 x 10 ml
SIRON LIS (Lupus Insensitive)	Liquid low lupus sensitive aPTT reagent containing a soluble activator prepared from ellagic acid.	5035118	2 x 4 ml
		5035119	10 x 4 ml
		5035121	10 x 10 ml
Auxiliary reagent required and not supplied with the kit			
CaCl <sub>2</sub> 25 mM		5277017	25 ml
		5277020	9 x 25 ml

## GLOBAL TESTS

### Fibrinogen

The **Fibrinogen reagent** of Technoclone is a modified Clauss Reagent with a high thrombin concentration to make the test virtually insensitive to heparin and to enhance clot detection.

The Fibrinogen is used :

- in the diagnosis of DIC
- in the diagnosis of liver failures
- to detect qualitatively abnormalities of fibrinogen
- to determine quantitatively deficiency of fibrinogen

A calibration curve of clotting time versus concentration in g/dL is first determined with a plasma having a known concentration of fibrinogen, such as Coagulation Reference. The fibrinogen concentration of patient samples are read off the calibration curve.

For Calibration & Control Plasmas see page 6 and 7.

Product	Description	REF	Package
<b>Fibrinogen Reagent Kit</b>	The Fibrinogen Reagent kit contains: 5 x 2 ml Fibrinogen Reagent 1 x 1 ml Coagulation Reference	5138005	~ 45 tests
<b>Fibrinogen Reagent</b>	Lyophilized fibrinogen reagent ~ 80 I.U. ml	5138080 5138085	5 x 5 ml 5 x 2 ml
Auxiliary reagent required and not supplied with the kit			
<b>Imidazole Buffer</b>		5410008 5410007	25 ml 9 x 25 ml

### Thrombin Time

The **Thrombin Reagent** is a standardized thrombin time reagent produced from bovine thrombin for the normal and therapeutic (heparin and fibrinolytic) ranges.

The Thrombin Time is used :

- to detect qualitatively abnormalities of fibrinogen
- to assess the effectiveness of fibrinolytic therapy

The Thrombin Time measurement is the time taken for a fibrin clot to form after the addition of the reagent, results are reported in seconds. If a sample's clotting time is prolonged beyond the reference range, the fibrinogen level or activity is low or thrombin inhibitors may be present.

For Control Plasmas see page 7.

Product	Description	REF	Package
<b>Thrombin Reagent</b>	Lyophilized thrombin time reagent	5100005	6 x 6 ml

## CALIBRATORS & CONTROLS

Technoclone has two Calibrator and Control Series.

The **Coagulation Series** includes values for screening test, factor assays and inhibitors, not only for Technoclone reagents but also for screening tests reagents/analyzer combination of other coagulation companies. The values are therefore established internally and externally,

The **TECHNOCLOT® Series** includes values from a limited number of screening tests. All values are established internally with Technoclone reagents.

	Coagulation Series	TECHNOCLOT® Series
PT	✓	✓
aPTT	✓	✓
Fibrinogen	✓	✓
Fibrinogen cleavage	✓	
Thrombin Time	✓	✓
FII	✓	
FV	✓	
FVII	✓	
FVIII	✓	
FIX	✓	
FX	✓	
FXI	✓	
FXII	✓	
FXII	✓	
HMW-Kininogen	✓	
Prekallikrein	✓	
vWF	✓	
ATIII	✓	✓
C1-INH	✓	
Protein C	✓	
Protein S	✓	

### Reference Plasma

Reference Plasma can be used as a calibration plasma for the functional assays mentioned above.

Product	Description	REF	Package
Coagulation Reference	Lyophilized calibration plasma for screening tests, single factors and inhibitors	5220110	5 x 1 ml
		5220120	50 x 1 ml

### Special PT Calibration Set

**AK-Calibrant** is a calibration set containing 4 calibration plasmas for PT standardization. One normal plasma and 3 native warfarin plasmas (PIVKA) of different levels for INR calibration.

- For generation of INR reference curves and direct INR determination.
- Determination of the laboratory specific ISI-values and MNPT.
- Generation of reference curves in percentage of norm.

Product	Description	REF	Package
AK-Calibrant	Calibrator Set of 4 calibrators (~ 1- 4 INR)	5010004	4 x 1 ml

## CALIBRATORS & CONTROLS

### Normal Control Plasma

Normal Control Plasma can be used to determine and monitor the accuracy and precision of the functional assays mentioned.

Product	Description	REF	Package
Coagulation Control N	Lyophilized normal control plasma for screening tests, single factors and inhibitors	5020040	5 x 1 ml
		5020050	50 x 1 ml
TECHNOCLOT® Control N	Lyophilized normal control plasma for screening tests (PT/aPTT/Fibrinogen/TT/AT)	5020070	10 x 1 ml
		5020075	50 x 1 ml

### Abnormal Control Plasma

Abnormal Control Plasma can be used to determine and monitor the accuracy and precision of the functional assays mentioned.

Product	Description	REF	Package
Coagulation Control A	Lyophilized abnormal control plasma for screening tests, single factors and inhibitors	5021055	5 x 1 ml
		5021060	50 x 1 ml
TECHNOCLOT® Control A	Lyophilized abnormal control plasma for screening tests (PT/aPTT/Fibrinogen/TT/AT)	5021070	10 x 1 ml
		5021075	50 x 1 ml

### Abnormal Control Plasma Level 2

Abnormal Control Plasma Level 2 can be used to determine and monitor the accuracy and precision of the screening tests. In the Level 2 Abnormal Control the thrombin time is significantly decreased compared to the Abnormal Control Plasma.

Product	Description	REF	Package
TECHNOCLOT® Control A2	Lyophilized abnormal control plasma for screening tests (PT/aPTT/Fibrinogen/TT/AT)	5021062	10 x 1 ml
		5021064	50 x 1 ml

### Special PT Control Sets

The **AK-Verification Kit** is a tri-level quality control set for the verification of International Normalized Ratio (INR) reporting.

**Coagulation Control AK** is a Control plasma for use as an accuracy control for oral anticoagulant therapy monitoring. The plasma is prepared from donors who had been on long-term anticoagulant therapy.

Product	Description	REF	Package
AK-Verification Kit <b>NEW</b>	Control Set of 3 controls (~ 2-4 INR)	5010024	3 x 1 ml
Coagulation Control AK	Control Plasma (~ 2.5 INR)	5011050	5 x 1 ml
		5011060	50 x 1 ml

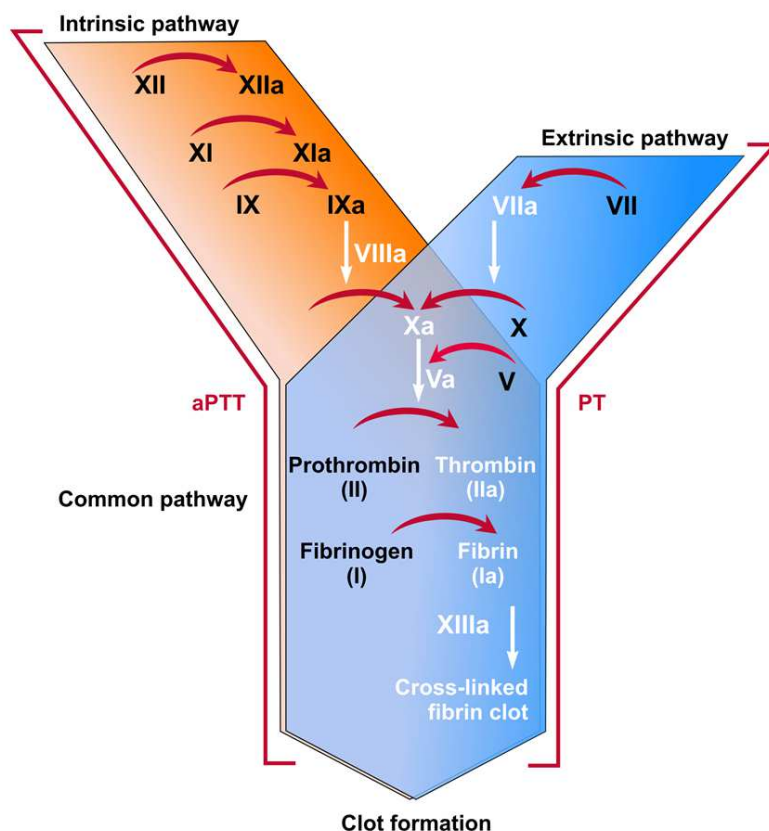
## FACTOR ASSAYS

Factor deficiencies are both congenital and acquired. Factor assays provide a quantitative determination of activity. A dilution of the patient sample is added to deficiency plasma of the factor of interest and run in a PT (for the extrinsic and common pathway factors) or in an aPTT (for the intrinsic factors).

Factor activity assays are calibrated with a plasma of known concentration of the factor of interest like the Coagulation Reference with defined factor activities.

Factor activity assays are reported in % Activity.

For Calibration & Control Plasmas see page 6 and 7.



### Deficient Plasma Extrinsic and Common Pathway (PT)

Factors of the extrinsic and Common Pathway are tested with Prothrombin Time (PT) reagents using plasma deficient of Factor II, V, VII and X.

Product	Description	REF	Package
<b>Factor II deficient plasma</b>	Lyophilized Factor II deficient plasma, immunodepleted	5114008	5 x 1 ml
<b>Factor V deficient plasma</b>	Lyophilized Factor V deficient plasma, immunodepleted	5134004	5 x 1 ml
<b>Factor VII deficient plasma</b>	Lyophilized Factor VII deficient plasma, immunodepleted	5144015	5 x 1 ml
<b>Factor X deficient plasma</b>	Lyophilized Factor X deficient plasma, immunodepleted	5174006	5 x 1 ml
	Lyophilized Factor X deficient plasma, native	5174004	5 x 1 ml
Auxiliary reagents required and not supplied with the kit			
<b>Citrate Sodium Chloride Buffer</b>	Dilution buffer for determination of coagulation factors II, V, VII and X with PT reagents	5400045	60 ml
		5400047	25 ml

## FACTOR ASSAYS

### Deficient Plasma Intrinsic Pathway (aPTT)

Factors of the intrinsic Pathway are tested with activated Partial Thromboplastin Time (aPTT) reagents using plasma deficient of Factor VIII, IX, XI and XII as well as Fitzgerald and Fletcher Trait Plasma.

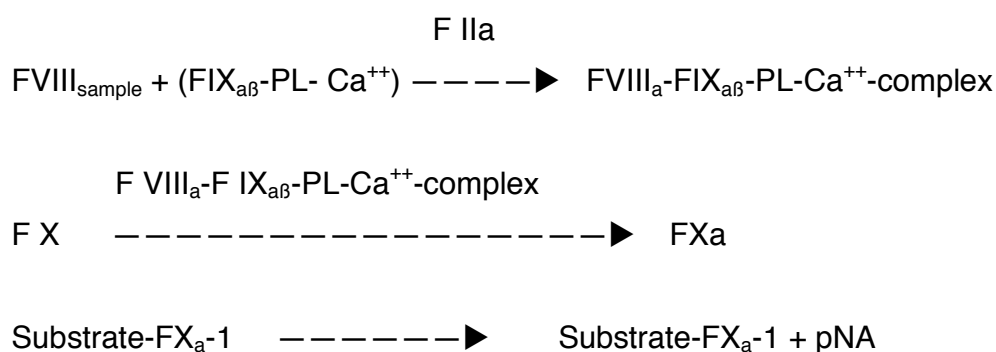
Product	Description	REF	Package
<b>Factor VIII deficient plasma</b>	Lyophilized Factor VIII deficient plasma, immunodepleted	5154002	5 x 1 ml
		5154004	50 x 1 ml
	Lyophilized Factor VIII deficient plasma, native	5154007	5 x 1 ml
		5154016	50 x 1 ml
<b>Factor IX deficient plasma</b>	Lyophilized Factor IX deficient plasma, immunodepleted	5164003	5 x 1 ml
		5164004	50 x 1 ml
	Lyophilized Factor IX deficient plasma, native	5164008	5 x 1 ml
		5164016	50 x 1 ml
<b>Factor XI deficient plasma</b>	Lyophilized Factor XI deficient plasma, native	5184004	5 x 1 ml
	NEW Lyophilized Factor XI deficient plasma, immunodepleted	5184006	5 x 1 ml
<b>Factor XII deficient plasma</b>	Lyophilized Factor XII deficient plasma, native	5194008	5 x 1 ml
	NEW Lyophilized Factor XII deficient plasma, immunodepleted	5194007	5 x 1 ml
<b>Fitzgerald Trait Plasma</b>	Lyophilized high molecular weight kininogen deficient plasma, immunodepleted	5204006	2 x 1 ml
<b>Fletcher Trait Plasma</b>	Lyophilized prekallikrein deficient plasma, native	5205006	2 x 1 ml
Auxiliary reagent required and not supplied with the kit			
<b>Imidazole Buffer</b>	Dilution buffer for use in factors VIII, IX, XI, XII and factor VIII Inhibitor, Protein C and Fibrinogen.	5410008	25 ml
		5410007	9 x 25 ml
<b>CaCl<sub>2</sub> 50 mM</b>	Dilution buffer for determination of Fitzgerald and Fletcher Trait Plasma in clotting method.	5279027	25 ml

## FACTOR ASSAYS

## Chromogenic FVIII

The **TECHNOCHROM® FVIII:C** is a kit for the determination of coagulation factor VIII activity in plasma and factor VIII concentrates by measuring factor Xa generation with a chromogenic substrate. The kit shows an excellent correlation with one and two stage Factor VIII assays and a linear calibration curve between 0 and 130%. It contains all components and is insensitive to heparin up to 10 IU/mL.

Test Principle:



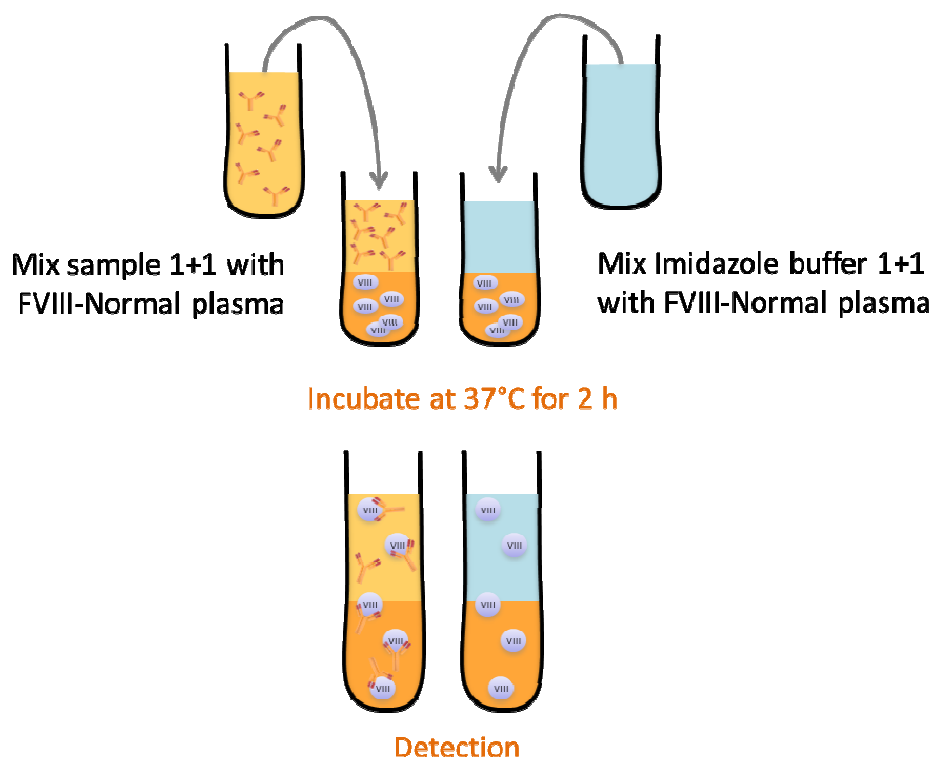
Product	Description	REF	Package
<b>TECHNOCHROM® FVIII:C</b>	2 x 2 ml Substrate	5344101	~ 160 tests
	2 x 2 ml Reagent A		
	2 x 2 ml Reagent B		
	4 x 1 ml Reference Standards FVIII (1-4)		
	3 x 30 ml FVIII Dilution Buffer		
	2 x 8 ml FVIII Reaction Buffer		
<b>TECHNOCHROM® FVIII:C</b> for Ceveron® alpha	2 x 2 ml Substrate	5344103	~ 80 tests
	2 x 2 ml Reagent A		
	2 x 2 ml Reagent B		
	4 x 1 ml Reference Standards FVIII (1-4)		
	2 x 20 ml FVIII Dilution Buffer		
	2 x 8 ml FVIII Reaction Buffer		



## FACTOR ASSAYS

### Factor VIII Inhibitor Assay (Bethesda Units)

The **Factor VIII Inhibitor Kit** is a kit for the determination of Factor VIII Inhibitor according to Bethesda with improved specificity in the lower range of antibody detection due to dilution with buffered normal FVIII plasma (1 I.U.FVIII/ml). The kit contains a Factor VIII Inhibitor Plasma as positive control and a Factor VIII Inhibitor free plasma as negative control. Results can be calculated directly with the free excel based calculation software available on the website [www.technoclone.com](http://www.technoclone.com)



Demonstration video available on TECHNOZOOM Youtube Channel (QR-Code)

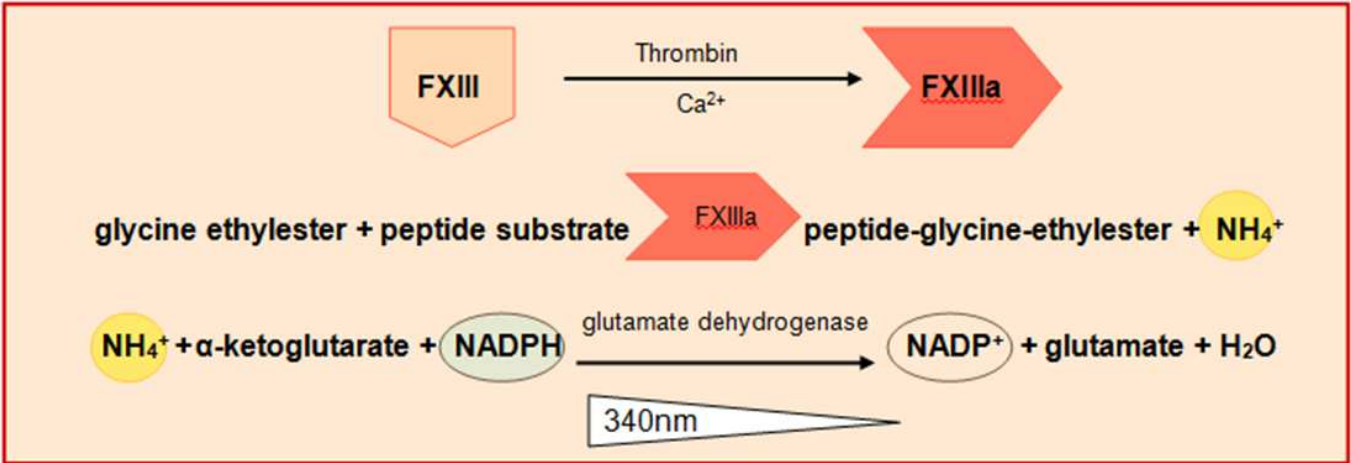


Product	Description	REF	Package
<b>FVIII Inhibitor Kit</b>	2 x ~ 3 ml Factor VIII Normal Plasma 1 x 1 ml F VIII Inhibitor Plasma 1 x 1 ml Inhibitor Free Plasma 1 x 17 ml Imidazole Buffer	5152005	~ 2-4 tests
<b>FVIII Inhibitor Kit HCV neg.</b>	2 x ~ 3 ml Factor VIII Normal Plasma 1 x 1 ml F VIII Inhibitor Plasma HCV neg. 1 x 1 ml Inhibitor Free Plasma 1 x 17 ml Imidazole Buffer	5152009	~ 2-4 tests
<b>Controls</b>			
<b>FVIII Inhibitor Plasma</b>	Native Factor VIII Inhibitor plasma for control of FVIII Inhibitor determination	5159008	5 x 1 ml
<b>FVIII Inhibitor Plasma HCV neg.</b>	Factor VIII Inhibitor plasma for control of FVIII Inhibitor determination	5159010	5 x 1 ml

FACTOR ASSAYS

Factor XIII

**Factor XIII** or **fibrin stabilizing factor** is an enzyme of the blood coagulation system that crosslinks fibrin. Factor XIII is a transglutaminase that circulates in the plasma as a heterotetramer of two catalytic A subunits and two carrier B subunits.



TECHNOCHROM® FXIII

Enzymatic reagent kit for the determination of FXIII activity to detect inherited or acquired FXIII deficiencies, abnormal FXIII with decreased activity and elevated FXIII level.

Product	Description	REF	Package
Factor XIII deficient plasma	Lyophilized Factor XIII deficient plasma, immunodepleted	5194104	5 x 1 ml
TECHNOCHROM® FXIII	3 x 3 ml FXIII Activator Reagent 3 x 3 ml FXIII Detection Reagent 3 x 3 ml FXIII NADH 3 x 1 ml FXIII Inhibitor Reagent 1 x 6 ml Stabilizer Solution	5360010	3 x 3 ml

## FACTOR ASSAYS

### von Willebrand Factor (vWF)

There are 3 main types of von Willebrand Disease (vWD)

- partially reduced levels of vWF (type 1)
- almost completely reduced levels of vWF (type 3)
- defects in the vWF molecule (type 2)

For Diagnosis of von Willebrand disease a combination of two types of methods (vWF:Antigen and vWF: Function) is used:

#### vWF: Antigen

ELISA

Latex Assay

#### vWF: Function

Ristocetin Cofactor Test

Collagen Binding ELISA (CBA)

Latex Assay

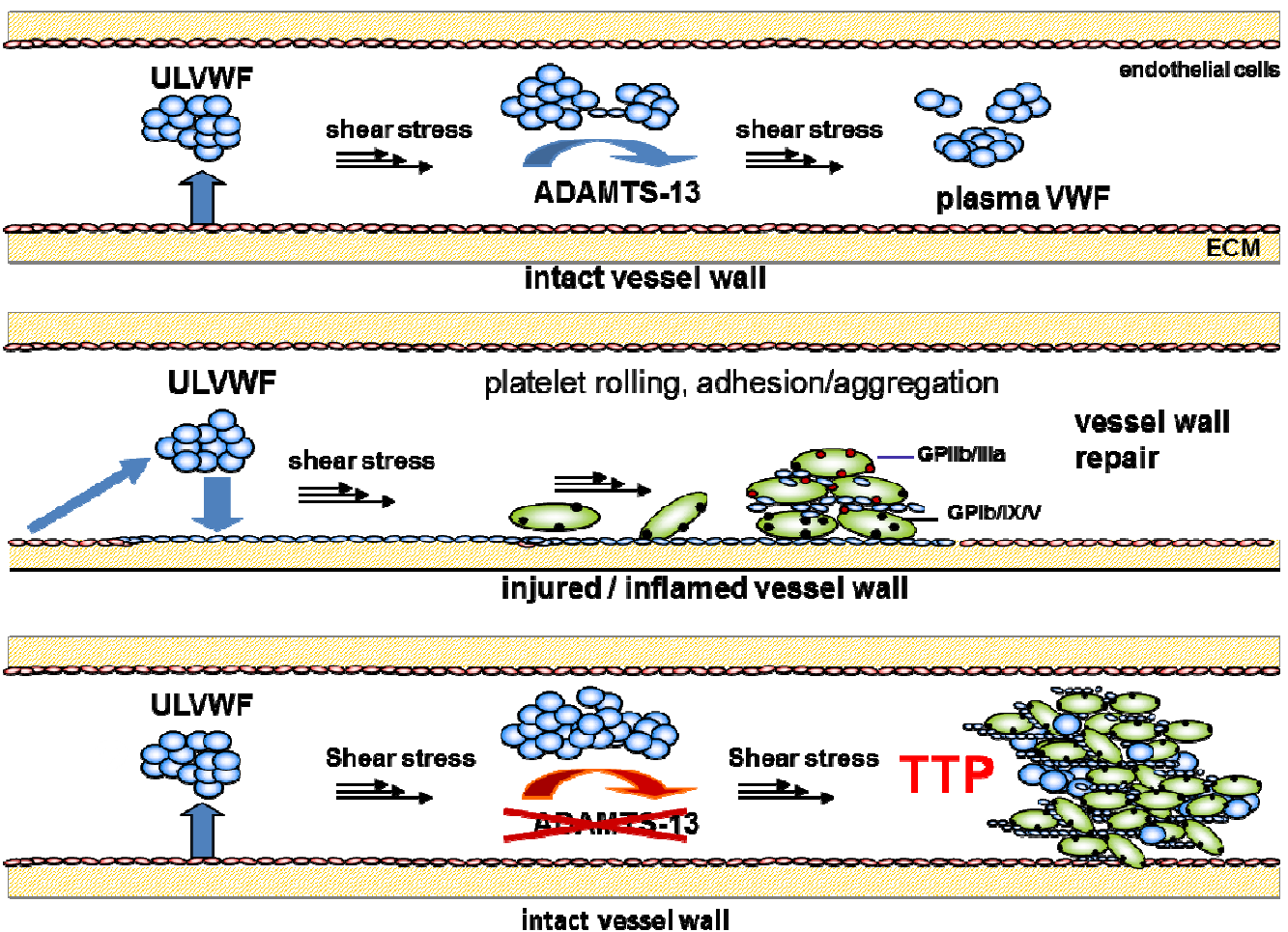
Product	Description	REF	Package
<b>TECHNOZYM® vWF:Ag ELISA Kit</b>	12 x 8 anti-vWF strips 1 x 0.3 ml anti-vWF Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 7 x 0.5 ml Calibrators and Controls	5450201	96 tests
<b>TECHNOZYM® vWF:CBA ELISA Kit</b>	12 x 8 Collagen TypeIII strips 1 x 0.3 ml anti-vWF Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 7 x 0.5 ml Calibrators and Controls	5450301	96 tests
<b>TECHNOZYM® vWF:CBA ELISA Kit</b> Collagen Type I	12 x 8 Collagen Type I strips 1 x 0.3 ml anti-vWF Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 7 x 0.5 ml Calibrators and Controls	5450311	96 tests
<b>TECHNOZYM® vWF:CBA ELISA Kit</b> Collagen Type VI RUO	12 x 8 Collagen Type VI strips 1 x 0.3 ml anti-vWF Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 7 x 0.5 ml Calibrators and Controls	5450321	96 tests
<b>Additional Calibrators &amp; Controls</b>			
<b>TECHNOZYM® vWF:Ag Calibrator Set</b>	Additional calibrator set for TECHNOZYM® vWF:Ag	5450210	5 x 0.5 ml
<b>TECHNOZYM® vWF:Ag Control Set</b>	Additional high and low control for TECHNOZYM® vWF:Ag	5450212	2 x 0.5 ml
<b>TECHNOZYM® vWF:CBA Calibrator Set</b>	Additional calibrator set for TECHNOZYM® vWF:CBA	5450310	5 x 0.5 ml
<b>TECHNOZYM® vWF:CBA Control Set</b>	Additional high and low control for TECHNOZYM® vWF:CBA	5450312	2 x 0.5 ml

## FACTOR ASSAYS

### ADAMTS-13

ADAMTS-13 (a disintegrin and metalloprotease with thrombosspondin type 1 motif 13) is an enzyme (vWF-cleaving protease or vWF-CP) that specifically cleaves unusually large von Willebrand factor (vWF) multimers, which induce platelet thrombus formation under high shear stress conditions. If the activity of ADAMTS13 is lowered for some reason, unusually large vWF multimers may accumulate within blood causing thrombosis due to platelet aggregation, which in turn may lead to TTP (thrombotic thrombocytopenic purpura).

ADAMTS-13 Function:



**Thrombotic microangiopathy**, abbreviated as **TMA**, is a pathologic state which results in thrombosis in capillaries and arterioles, due to an endothelial injury. It may be seen in association with thrombocytopenia, anemia, purpura and renal failure.

The classic TMAs are acquired hemolytic uremic syndrome (aHUS) and thrombotic thrombocytopenic purpura (TTP).

≤ 5 % ADAMTS-Activity  
TTP

≥ 5 % ADAMTS-Activity  
aHUS

## FACTOR ASSAYS

### ADAMTS-13 Chromogenic ELISAs

**TECHNOZYM® ADAMTS-13 Activity ELISA Kit** is a chromogenic ELISA for the determination of ADAMTS-13 activity in human plasma.

**TECHNOZYM® ADAMTS-13 Antigen ELISA Kit** is a chromogenic ELISA for the determination of ADAMTS-13 antigen in human plasma.

**TECHNOZYM® ADAMTS-13 INH ELISA Kit** is a chromogenic ELISA for the determination of ADAMTS-13 auto-antibodies for the diagnosis of TTP. Antibodies against ADAMTS-13, the enzyme that cleaves von Willebrand Factor, are an important cause of TTP.



Demonstration video available on TECHNOZOOM Youtube Channel (QR-Code)

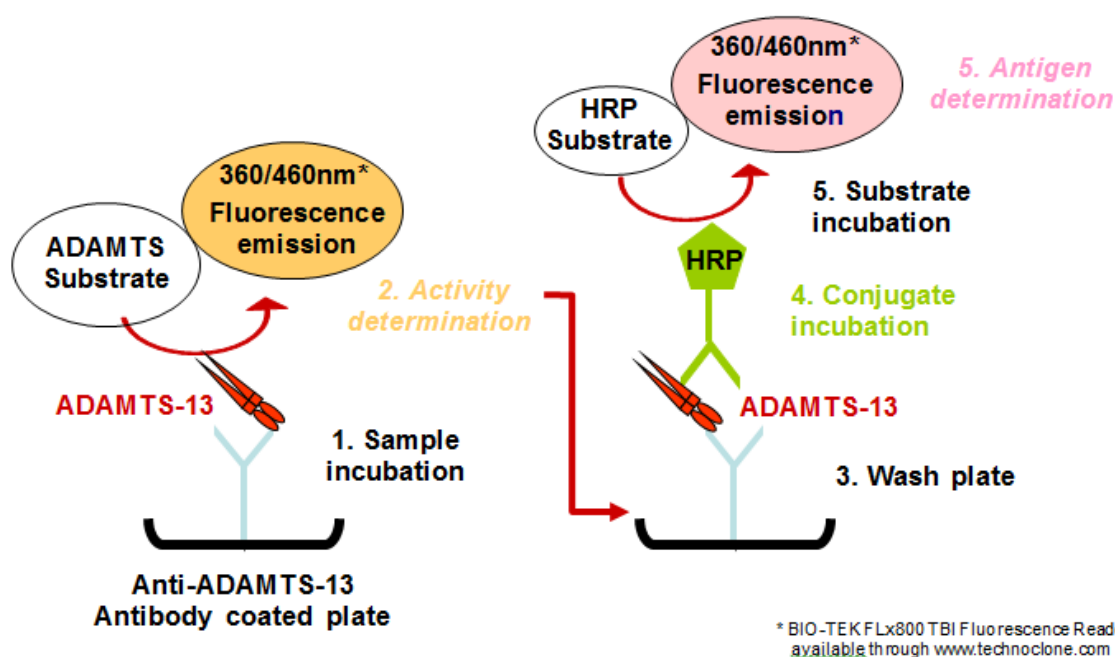
Product	Description	REF	Package
<b>TECHNOZYM® ADAMTS-13 Activity ELISA</b>	12 x 8 anti GST strips 1 x 12 ml HRP Conjugate 1 x 30 ml Reaction Buffer 1 x 53 ml Wash Buffer Concentrate 1 x 12 ml TMB Substrate 2 x 6 ml GST-vWF73 Substrate 1 x 12 ml Stop Solution 8 x 0.5 ml Calibrators and Controls	5450701	96 tests
<b>TECHNOZYM® ADAMTS-13 Antigen ELISA</b>	12 x 8 anti ADAMTS-13 strips 1 x 0.3 ml anti-ADAMTS-13 Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 7 x 0.5 ml Calibrators and Controls	5450601	96 tests
<b>TECHNOZYM® ADAMTS-13 INH ELISA</b>	12 x 8 rec. ADAMTS-13 strips 1 x 0.3 ml anti-IgG Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 7 x 0.5 ml Calibrators and Controls	5450401 5450451	96 tests 48 tests
<b>Additional Calibrators &amp; Controls</b>			
<b>TECHNOZYM® ADAMTS-13 Activity CAL Set</b>	Additional calibrator set for TECHNOZYM® ADAMTS-13 Activity	5450761	6 x 0.5 ml
<b>TECHNOZYM® ADAMTS-13 Activity CONT Set</b>	Additional high and low control for TECHNOZYM® ADAMTS-13 Activity	5450763	2 x 0.5 ml
<b>TECHNOZYM® ADAMTS-13 Antigen CAL Set</b>	Additional calibrator set for TECHNOZYM® ADAMTS-13 Antigen	5450661	5 x 0.5 ml
<b>TECHNOZYM® ADAMTS-13 Antigen CONT Set</b>	Additional high and low control for TECHNOZYM® ADAMTS-13 Antigen	5450663	2 x 0.5 ml
<b>TECHNOZYM® ADAMTS-13 INH CAL Set</b>	Additional calibrator set for TECHNOZYM® ADAMTS-13 INH	5450461	5 x 0.5 ml
<b>TECHNOZYM® ADAMTS-13 INH CONT Set</b>	Additional high and low control for TECHNOZYM® ADAMTS-13 INH	5450463	2 x 0.5 ml

## FACTOR ASSAYS

### ADAMTS-13 fluorogenic ELISA

**TECHNOZYM® ADAMTS-13 Activity/Antigen ELISA Kit** is a fluorogenic ELISA for the determination of ADAMTS-13 activity and antigen in plasma. ADAMTS-13 is the enzyme that cleaves vWF under shear stress condition. A failure of function of this enzyme leads to unusually large vWF multimers and increased platelet aggregation.

Test Principle:



Applications and an evaluation software can be downloaded from the website [www.technoclone.com](http://www.technoclone.com).

Product	Description	REF	Package
<b>TECHNOZYM ADAMTS-13 Activity/Antigen ELISA Kit</b>	12/6 x 8 anti-ADAMTS-13 strips		
	1 x 0.3 ml anti-ADAMTS-13 Conjugate		
	1 x 80 ml Wash Buffer Concentrate		
	1 x 90 ml Incubation Buffer	5450501	2 x 48 tests
	2/1 x 3 ml Activity Substrate	5450551	48 tests
	1 x 6 ml Antigen Substrate		
	1 x 0.7 ml Stable Peroxidase Solution		
	1 x 6 ml Stop Solution		
	7 x 0.5 ml Calibrators and Controls		
<b>Additional Calibrators &amp; Controls</b>			
<b>TECHNOZYM® ADAMTS-13 Activity/Antigen Calibrator Set</b>	Additional calibrator set for TECHNOZYM® ADAMTS-13 Activity and Antigen	5450561	5 x 0.5 ml
<b>TECHNOZYM® ADAMTS-13 Activity/Antigen Control Set</b>	Additional high and low control for TECHNOZYM® ADAMTS-13 Activity and Antigen	5450563	2 x 0.5 ml

## ANTICOAGULANT TREATMENTS

### Overview

An **anticoagulant** is a substance that prevents coagulation (clotting) of blood. Such substances occur naturally in leeches and blood-sucking insects. Various groups of anticoagulants are available to clinicians for the prevention and treatment of deep vein thrombosis, pulmonary embolism, myocardial infarction and stroke. Anticoagulants reduce blood clotting.

These treatments are characterised by different targets, mechanisms of action, pharmacokinetic profiles and varying pathological states. Their monitoring requires the use of specific assays and calibrators and controls.

ANTICOAGULANT TREATMENT \ ASSAYS	TECHNOCHROM® anti Xa	TECHNOCLLOT® DTI
<b>Apixaban</b>		
TECHNOVIEW® Apixaban	✓	
<b>Argatroban</b>		
TECHNOVIEW® Argatroban		✓
<b>Arixtra</b>		
TECHNOVIEW® Arixtra	✓	
<b>Dabigatran</b>		
TECHNOVIEW® Dabigatran		✓
<b>Edoxaban</b>		
<b>NEW</b> TECHNOVIEW® Edoxaban	✓	
<b>LMWH (Low Molecular Weight Heparin)</b>		
TECHNOVIEW® LMW	✓	
<b>Orgaran</b>		
TECHNOVIEW® Orgaran	✓	
<b>Rivaroxaban</b>		
TECHNOVIEW® Rivaroxaban	✓	
<b>UFH (Unfractionated Heparin)</b>		
TECHNOVIEW® UFH	✓	




*I'm not afraid of DOACs !*

## ANTICOAGULANT TREATMENTS

### Anti-Xa Assay

**TECHNOCHROM® anti-Xa** is a system of reagents for the chromogenic determination of direct and indirect Xa inhibitors in human citrated plasma. The assay is based on the inhibition of activated factor X (FXa) as measured by a chromogenic FXa substrate.

Product 	Description	REF	Package
<b>TECHNOCHROM® anti-Xa</b>	1 x 20 ml R1 anti-Xa Buffer 1 x 4 ml R2 bovine Factor Xa 1 x 4 ml R3 Substrate	5340250	~ 80 tests

### Calibrators & Controls



The *TECHNOVIEW® Calibrator* and *Control Plasma Sets* listed below are plasmas for calibration and quality control of the corresponding anticoagulant measurement, titrated and optimised using the **TECHNOCHROM® anti-Xa**.

Product	Description	REF	Package
<b>TECHNOVIEW® Apixaban</b>	Calibrator Set of 5 calibrators (~ 0-500 ng/ml)	5090269	5 x 1 ml
	Low Control (~ 120 ng/ml)	5090271	5 x 1 ml
	High Control (~ 300 ng/ml)	5090270	5 x 1 ml
<b>TECHNOVIEW® Arixtra</b>	Calibrator Set of 5 calibrators (~ 0-2 µg/ml)	5090010	5 x 1 ml
	Low Control (~ 0.5 µg/ml)	5090012	6 x 1 ml
	High Control (~ 1.5 µg/ml)	5090014	6 x 1 ml
<b>TECHNOVIEW® Edoxaban</b> <span style="color: red;">NEW</span>	Calibrator Set of 5 calibrators (~ 0-500 ng/ml)	5090250	5 x 1 ml
	Low Control (~ 30 ng/ml)	5090251	5 x 1 ml
	Medium Control (~ 125 ng/ml)	5090252	5 x 1 ml
	High Control (~ 400 ng/ml)	5090253	5 x 1 ml
<b>TECHNOVIEW® LMW Heparin</b> 	Calibrator Set of 5 calibrators (~ 0-1.8 U/ml)	5090040	5 x 1 ml
	Low Control (~ 0.4 U/ml)	5090042	5 x 1 ml
	Medium Control (~ 0.9 U/ml)	5090044	5 x 1 ml
	High Control (~ 1.3 U/ml)	5090046	5 x 1 ml
<b>TECHNOVIEW® Orgaran</b>	Calibrator Set of 5 calibrators (~ 0-1.6 U/ml)	5090110	5 x 1 ml
	Low Control (~ 0.5 U/ml)	5090112	5 x 1 ml
	High Control (~ 1.0 U/ml)	5090114	5 x 1 ml



## ANTICOAGULANT TREATMENTS



### Calibrators & Controls

Product	Description	REF	Package
<b>TECHNOVIEW® Rivaroxaban</b>	Calibrator Set of 5 calibrators (~ 0-150 ng/ml)	5090170	5 x 1 ml
	Calibrator High Set of 5 calibrators (~ 0-500 ng/ml)	5090171	5 x 1 ml
	Low Control (~ 60 ng/ml)	5090172	5 x 1 ml
	Medium Control (~ 120 ng/ml)	5090173	5 x 1 ml
	High Control (~ 300 ng/ml)	5090174	5 x 1 ml
<b>TECHNOVIEW® UFH</b>	Calibrator Set of 5 calibrators (~ 0-1.5 U/ml)	5090070	5 x 1 ml
	Low Control (~ 0.2 U/ml)	5090072	5 x 1 ml
	High Control (~ 0.5 U/ml)	5090074	5 x 1 ml

### Direct Thrombin Inhibitor (DTI) Assay

**TECHNOCLOT® DTI** (direct thrombin inhibitor) is a system of reagents for the clotting determination of direct thrombin inhibitors in plasma.

Product	Description	REF	Package
<b>TECHNOCLOT® DTI</b>	1 x 1 ml R1 Normal Plasma 1 x 2 ml R2 DTI Reagent	5100025	~ 2 x 20 tests



### Calibrators & Controls

The **TECHNOVIEW® Calibrator** and **Control Plasma Sets** listed below are plasmas for calibration and quality control of the corresponding anticoagulant measurement, titrated and optimised using the **TECHNOCLOT® DTI**.

Product	Description	REF	Package
<b>TECHNOVIEW® Argatroban</b>	Calibrator Set of 5 calibrators (~ 0-2 µg/ml)	5090140	5 x 1 ml
	Low Control (~ 0.7 µg/ml)	5090142	5 x 1 ml
	High Control (~ 1.2 µg/ml)	5090144	5 x 1 ml
<b>TECHNOVIEW® Dabigatran</b>	Calibrator Set of 4 calibrators (~ 50-500 ng/ml)	5090210	4 x 1 ml
	Low Control (~ 150 ng/ml)	5090214	5 x 1 ml
	High Control (~ 300 ng/ml)	5090212	5 x 1 ml

### Warfarin Monitoring (INR)

For PT reagents and Calibrators & Controls see page 3, 6 and 7.

## THROMBOPHILIA

### Antithrombin (AT)

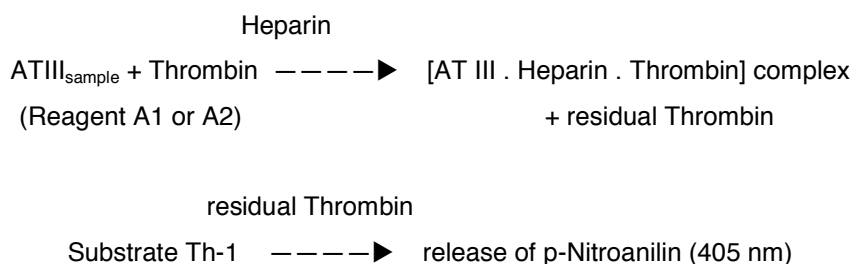
Antithrombin (AT, formerly called ATIII, also known as heparin cofactor I) is a natural anticoagulant that inhibits the activated coagulation factors thrombin (factor IIa), factor Xa, and, to a lesser extent, factor XIa and factor IXa.

TECHNOCHROM® AT III are reagents for the chromogenic and quantitative determination of AT activity in human plasma.

The **TECHNOCHROM® AT III Kits** are complete reagent kits suitable for the chromogenic determination of ATIII on analyzers and for the manual method.

The **TECHNOCHROM® AT III modular reagents** are a system of reagents for the chromogenic determination optimized for the manual method (Reagent A1, Th-1 and Buffer A1) and different types of analyzers (Reagent A2 and Reagent Th-1).

#### Test Principle:



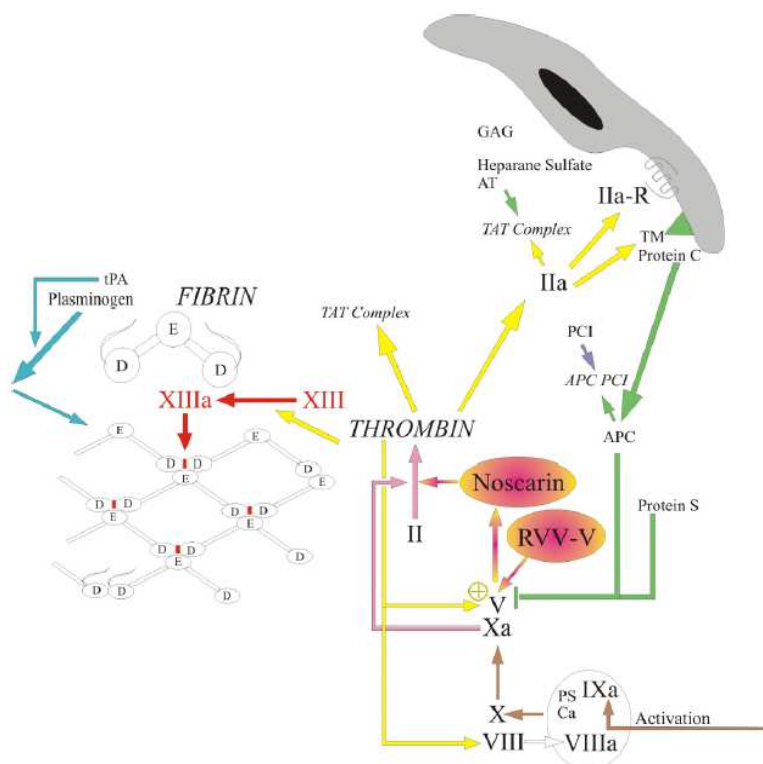
Product	Description	REF	Package
<b>TECHNOCHROM® AT III Kit</b>	Suitable for the photometric method 1 x 43 IU ATIII Reagent A2 1 x 10 µmol ATIII Reagent Th-1 2 x 25 mL Sodium chloride solution 0.9%	5340224	~ 100 tests
<b>TECHNOCHROM® AT III manual method Kit</b>	Suitable for the manual method 1 x 20 µmol ATIII Reagent A1 1 x 10 µmol ATIII Reagent Th-1	5340225	~ 40 tests
<b>Modular reagents</b>			
<b>TECHNOCHROM® AT III modular A1</b>	For use in combination with TECHNOCHROM® AT III modular Th-1	5340212 5340214	2 x 6.5 IU 20 x 6.5 IU
<b>TECHNOCHROM® AT III modular A2</b>	For use in combination with TECHNOCHROM® AT III modular Th-1	5340217 5340219	2 x 43 IU 20 x 43 IU
<b>TECHNOCHROM® AT III modular Th-1</b>	For use in combination with TECHNOCHROM® AT III modular A1 or A2	5340011 5340016	2 x 10 µmol 20 x 10 µmol
<b>TECHNOCHROM® AT III modular Buffer</b>	For use in combination with TECHNOCHROM® AT III modular A1 and Th-1.	5340221	100 ml

# THROMBOPHILIA

## Activated Protein C (APC)

**Activated protein C (APC)** is a potent natural anticoagulant that acts by cleaving and thus inactivating the activated forms of factor V and factor VIII (factors Va and VIIIa). Factor V Leiden results from a point mutation that causes an amino acid change (an arginine to glutamine substitution) at position 506 in factor V. This abolishes a cleavage site of APC, making the molecule less susceptible to inactivation.

Based on the observation that the anticoagulant activity of APC was reduced in a modified activated partial thromboplastin time (aPTT) assay, this defect was initially termed "APC resistance."



In contrast to traditional APC Resistance Test the **APC Resistance Kit** from Technoclone acts on the prothrombinase complex level. Its reliability is enhanced by the elimination of possible preceding interferences by factors upstream within the coagulation cascade and due to its independence from  $\text{Ca}^{2+}$ .

Coagulation is triggered by the addition of a FV dependent prothrombin activator from snake venom „Noscarin“ from Notechis scutatus scutatus in the absence of calcium. The time required for clot information is recorded.

Product	Description	REF	Package
APC Resistance Kit	3 x 2 ml R1 APC/RVV-V(+APC)	5344510	~ 120 tests
	3 x 2 ml R2 RVV-V (-APC)		
	3 x 4 ml R3 PTA Reagent		
	3 x 2 ml R4 Dilution plasma		
	1 x 1 ml FV-L Negative Control		
	1 x 1 ml FV-L Heterozygous Control		
APC Resistance Kit	1 x 2 ml R1 APC/RVV-V(+APC)	5344515	~ 40 tests
	1 x 2 ml R2 RVV-V (-APC)		
	1 x 4 ml R3 PTA Reagent		
	1 x 2 ml R4 Dilution plasma		
	1 x 1 ml FV-L Negative Control		
	1 x 1 ml FV-L Heterozygous Control		
Controls			
APC Control Kit	1 x FV-L Negative Control C1	5344512	2 x 1 ml
	1 x FV-L Heterozygous Control C2		

## THROMBOPHILIA

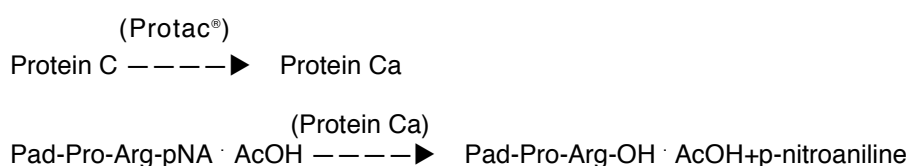
### Protein C (PC)

**Protein C** is a vitamin K dependent serine protease which, when activated, inhibits coagulation by inactivating the clotting factors V/Va and VIII/VIIIa. Additionally, protein C has been shown to have profibrinolytic activity. Hereditary, heterozygous protein C deficiency has been found to be associated with an increased risk of venous thrombosis and hereditary, homozygous total protein C deficiency has been found in neonates with purpura fulminans. Reduced levels of protein C have been found in association with vitamin K deficiency and during coumarin therapy.

#### TECHNOCHROM® Protein C

Is an enzymatic reagent kit for the determination of Protein C (PC) activity.

Test Principle:



#### TECHNOCLOT® Protein C

Is a reagent kit for the clotting determination of Protein C (PC) activity.

#### TECHNOZYM® Protein C ELISA

The TECHNOZYM® PC ELISA allows the determination of Protein C (PC) antigen plasma levels in patients with thrombotic tendencies. The assay is a double polyclonal antibody “sandwich” assay.

Product	Description	REF	Package
TECHNOCHROM® Protein C	3 x 1 ml Substrate PCa-2	5341013	~ 30 tests
	3 x 1 ml Protein C Activator		
	1 x 60 ml Protein C Buffer		
	3 x 1 ml Standards (~0.25-1.25 U/ml)		
TECHNOCLOT® Protein C	2 x 1 ml Protein C depleted plasma	5346200	~ 20 tests
	2 x 1 ml Protein C Activator		
	1 x 17 ml Imidazole Buffer		
TECHNOZYM® Protein C ELISA Kit	12 x 8 anti PC strips	TC12021	96 tests
	1 x 0.3 ml anti PC Conjugate		
	1 x 80 ml Wash Buffer Concentrate		
	1 x 90 ml Incubation Buffer		
	1 x 12 ml TMB Substrate		
	1 x 12 ml Stop Solution		
	7 x 0.5 ml Calibrators and Controls		

#### Modular reagents

Protein C deficient Plasma	Lyophilized PC deficient plasma, immunodepleted	5346806	2 x 1 ml
Substrate Pca-2	Chromogenic Substrate for the determination of protein C	5353011	2 x 6 µmol
Protac®	Protac®, a highly purified extract from the venom of the snake Agkistrodon Contortrix, is a fast and direct activator of Protein C.	5346212	5 x 1 ml
Protein C Buffer	Buffer for the chromogenic determination of protein C activity	5341052	60 ml

## THROMBOPHILIA

### Protein S

**Protein S (S for Seattle)** is a vitamin K-dependent plasma glycoprotein synthesized in the endothelium. In the circulation, Protein S exists in two forms: a free form and a complex form bound to complement protein C4b-binding protein (C4BP). The best characterized function of Protein S is its role in the anti coagulation pathway, where it functions as a cofactor to Protein C in the inactivation of Factors Va and VIIIa. Only the free form has cofactor activity.

**TECHNOCLOT® Protein S** is a reagent kit for the quantitative determination of protein S activity in human plasma to detect inherited or acquired protein S deficiencies.

Product	Description	REF	Package
<b>TECHNOCLOT® Protein S</b> <span>NEW</span>	2 x 2 ml Protein S Reagent 2 x 1 ml Protein S deficient plasma	5341030	~ 40 tests
<b>Protein S deficient plasma</b>	Lyophilized PS deficient plasma, immunodepleted	5341031	2 x 1 ml

### C1 Esterase Inhibitor

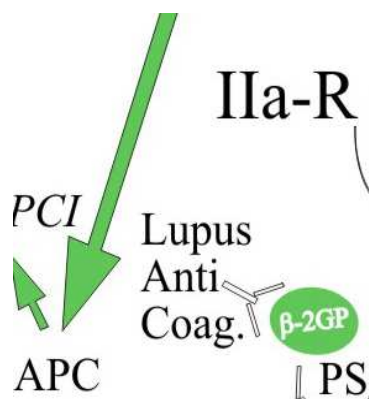
**C1-Inhibitor** (C1-INH, C1 esterase inhibitor) is a protease inhibitor belonging to the serpin superfamily. Its main function is the inhibition of the complement system to prevent spontaneous activation. C1-inhibitor is an acute-phase protein that circulates in blood at levels of around 0.25 g/L. The levels rise ~2-fold during inflammation. Although named after its complement inhibitory activity, C1-inhibitor also inhibits proteases of the fibrinolytic, clotting, and kinin pathways. C1-inhibitor is the most important physiological inhibitor of plasma kallikrein, FXIa, and FXIIa.

**TECHNOCHROM® C1-Inhibitor** is a reagent kit for the chromogenic determination of C1 esterase inhibitor (C1-INH). Defect in the synthesis of C1-INH leads to hereditary angioedema.

Product	Description	REF	Package
<b>TECHNOCHROM® C1-Inhibitor</b>	1 x 3 ml Substrate 1 x 3 ml C1-Esterase 1 x 25 ml Sample Buffer A 1 x 20 ml Reaction Buffer B 1 x 1 ml Reference Plasma 2 x 1 ml Normal and Abnormal	5345003	~ 100 tests

## THROMBOPHILIA

### Lupus Anticoagulant (LA)



**Lupus Anticoagulant** (also known as lupus antibody, LA, or lupus inhibitors) is an immunoglobulin that binds to phospholipids and proteins associated with the cell membrane. Lupus anticoagulant is a misnomer as it is actually a prothrombotic agent.

Lupus Anticoagulants are considered to be a significant cause of recurrent miscarriages and life threatening venous clots.

Lupus Anticoagulants are phospholipid “interfering” antibodies, which prolong clotting tests that are responsive to procoagulant phospholipid concentration such as APTT and dRVVT. Lupus Anticoagulants are not corrected by mixing with normal plasma but may be corrected by the addition of phospholipid.

**TECHNOCLOT® LA Screen and TECHNOCLOT® LA Confirm** are simplified, one-stage Dilute Russel’s Viper Venom Time (dRVVT) tests, comprising a complete screening and confirmatory system for the detection of Lupus Anticoagulant.

**Lupus Anticoagulant Test** is a modified activated partial thromboplastin time (aPTT) with an activator of  $\text{SiO}_2/\text{Al}_2\text{O}_3$  suspension and two phospholipid concentrations. The modified aPTT’s are performed with normal plasma (free from platelet contamination), with patient plasma and with a mixture of both plasmas. From the shape of the “aPTT against plasma concentration” curve the probability of the presence of lupus inhibitor can be assessed.

Product	Description	REF	Package
<b>Lupus Anticoagulant Test</b>	1 x 3 ml Reagent A 2 x 3 ml Reagent B 2 x 2 ml Reagent C 1 x 1 ml Lupus Inhibitor Plasma Low	5343005	~ 6 tests
<b>TECHNOCLOT® LA Screen</b>	Simplified screening (one-stage) dilute Russell’s Viper Venom (dRVV)Test	5343012	5 x 2 ml
<b>TECHNOCLOT® LA Confirm</b>	Confirmatory simplified screening (one-stage) dilute Russell’s Viper Venom (dRVV)Test	5343016	5 x 1 ml

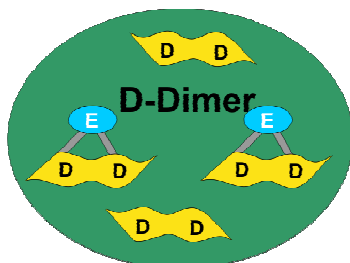
### Controls

<b>Lupus Inhibitor Plasma (positive)</b>	Positive Control for determination of Lupus Inhibitor	5343010 5343019	2 x 1 ml 5 x 1 ml
<b>Lupus Inhibitor Plasma Low (positive)</b>	Low Positive Control for determination of Lupus Inhibitor	5343021	5 x 1 ml
<b>Platelet Poor Plasma (negative)</b>	Negative Control for determination of Lupus Inhibitor	5343022	5 x 1 ml

# THROMBOSIS

## D-Dimer

**D-Dimer** is formed by Plasmin degradation of Factor XIIIa cross-linked Fibrin. Elevated D-Dimer levels are a key indicator of thrombotic events, indicating excess fibrinolysis, following activation of coagulation.



For exclusion diagnosis of

- ◆ Deep venous thrombosis
- ◆ Pulmonary embolism
- ◆ Disseminated intravascular coagulation
- ◆ Thrombolytic treatment
- ◆ Cancer diagnostics

The **TechnoLEIA® D-Dimer Latex Kit** is for the quantitative determination of D-Dimer by “latex enhanced immunoassay”.

The **TECHNOZYM® D-Dimer ELISA Kit** is a complete sandwich ELISA for the quantitative determination of D-Dimer in plasma based on monoclonal antibodies.

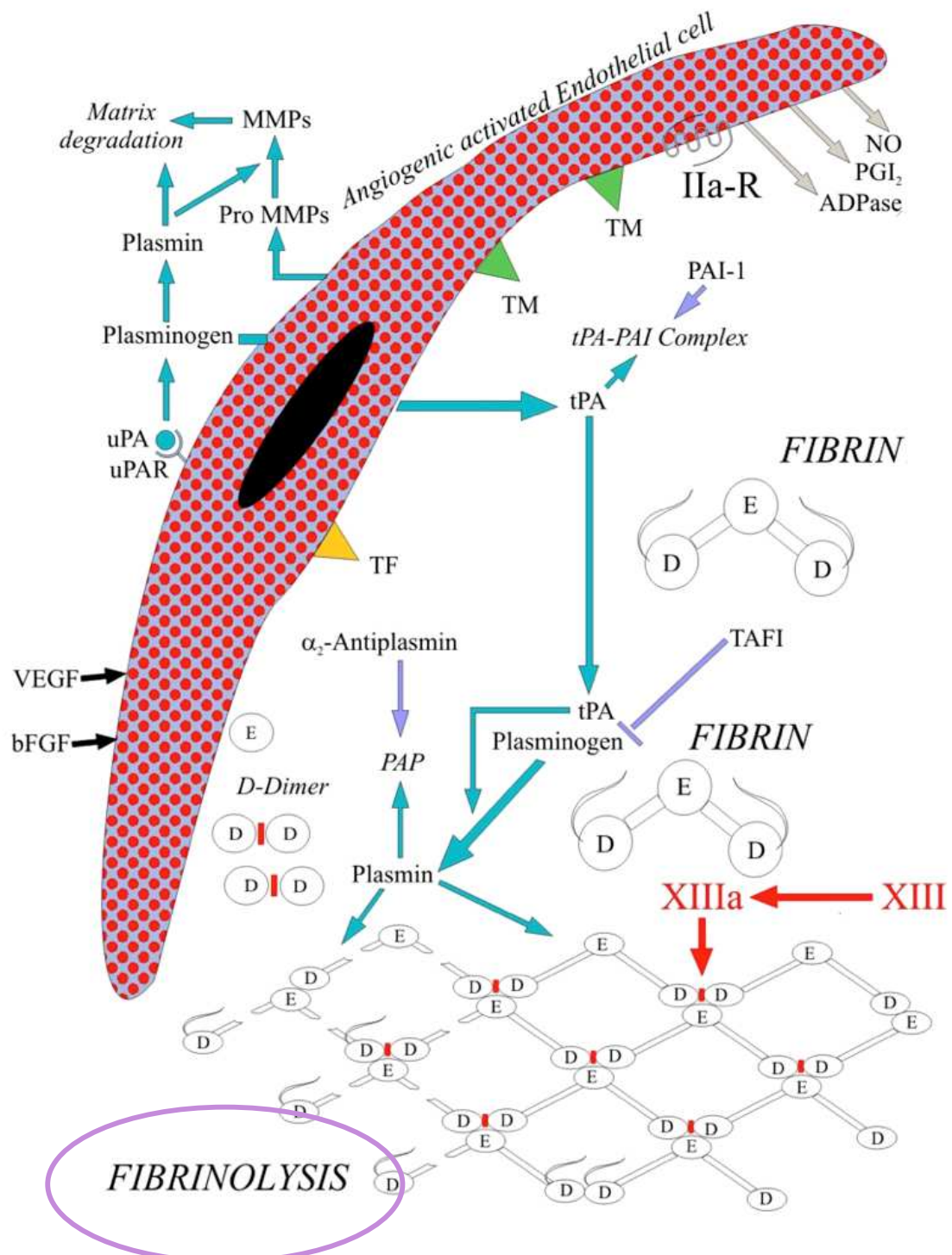
Product	Description	REF	Package
<b>TechnoLEIA® D-Dimer Latex Kit</b>	1 x 1 ml TechnoLEIA D-Dimer CAL 0 ng/ml		
	1 x 1 ml TechnoLEIA D-Dimer CAL ~ 3000 ng/ml	4847200	~ 150 tests
	1 x 8 ml Na-Chloride solution 0.9%	4847210	~ 50 tests
	1 x 12/4 ml TechnoLEIA D-Dimer Latex Reagent		
	1 x 21/7 ml TechnoLEIA D-Dimer Buffer		
<b>TECHNOZYM® D-Dimer ELISA Kit</b>	12 x 8 anti D-Dimer strips 1 x 0.3 ml anti D-Dimer Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 7 x 0.5 ml Calibrators and Controls	2599006	96 tests
<b>Modular reagents</b>			
<b>TechnoLEIA® D-Dimer Latex Reagent</b>	Latex reagents. For use in combination with TechnoLEIA® D-Dimer Buffer	4847220	2 x 12 ml
		4847238	5 x 4 ml
<b>TechnoLEIA® D-Dimer Buffer</b>	Reaction Buffer. For use in combination with TechnoLEIA® Latex Reagents	4847222	2 x 21 ml
		4847240	5 x 7 ml
<b>Calibrators &amp; Controls</b>			
<b>TechnoLEIA® D-Dimer CAL~3000 ng/ml</b>	Calibrator ~ 3000 ng/ml for the determination of D-Dimer.	4847234	2 x 1 ml
<b>TechnoLEIA® D-Dimer CAL 0 ng/ml</b>	Calibrator 0 ng/ml for the determination of D-Dimer.	4847236	2 x 1 ml
<b>TechnoLEIA® D-Dimer Control high</b>	High Control Serum (~ 2000 ng/ml) for accuracy and precision control in the determination of D-Dimer.	4847230	5 x 1 ml
<b>TechnoLEIA® D-Dimer Control low</b>	Low Control Serum (~ 300 ng/ml) for accuracy and precision control in the determination of D-Dimer.	4847232	5 x 1 ml



## FIBRINOLYSIS

**Fibrinolysis** is a process that prevents blood clots from growing and becoming problematic. In fibrinolysis, a fibrin clot, the product of coagulation, is broken down. Its main enzyme plasmin cuts the fibrin mesh at various places, leading to the production of circulating fragments that are cleared by other proteases or by the kidney and liver.

“Back in 1987 the founding idea of Technoclone was to create a channel through which the latest laboratory research advances in the field of fibrinolysis could be efficiently transferred to the clinical diagnostic setting.”  
Technoclone Product Catalog 1989





## FIBRINOLYSIS

### Tissue-Plasminogen Activator (t-PA)

**Tissue-Plasminogen Activator (t-PA)** is a protein involved in the breakdown of blood clots. It is a serine protease found on endothelial cells, the cells that line the blood vessels. As an enzyme, it catalyzes the conversion of plasminogen to plasmin, the major enzyme responsible for clot breakdown. Because it works on the clotting system, tPA is used in clinical medicine to treat embolic or thrombotic stroke. Use is contraindicated in hemorrhagic stroke and head trauma.

#### TECHNOZYM® t-PA EDTA ELISA Kit

A highly sensitive sandwich ELISA for the quantitative determination of t-PA in human plasma. Suitable also for monitoring t-PA levels during thrombolytic therapy. The assay is a sandwich ELISA employing two monoclonal antibodies. The system detects both complexed and uncomplexed t-PA. The detection limit is 1 ng/mL. The assay is standardized against an International standard. Assay time is 2.5 hours. Kit contents include calibrators, high and low controls, coated plate, peroxidase-labeled antibody, buffers and ready to use TMB substrate. The sample buffer contains EDTA for increased recovery of t-PA in normal samples.

#### TECHNOZYM® t-PA Combi Actibind® ELISA Kit

A highly sensitive ELISA system for the combined quantitative determination of antigen concentration and activity of t-PA in human plasma. TECHNOZYM® t-PA Combi Actibind® ELISA Kit employs a capture antibody which does not interfere with t-PA functional activity. Following the binding of t-PA contained in the sample by this antibody, t-PA functional activity is determined using chromogenic plasmin substrate. After measuring the functional activity, bound t-PA antigen is detected using a peroxidase-labeled monoclonal anti t-PA antibody which recognizes both complexed and uncomplexed t-PA.

Product	Description	REF	Package
<b>TECHNOZYM® t-PA EDTA ELISA Kit</b>	12 x 8 anti t-PA strips 1 x 0.3 ml anti t-PA Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 1 x 20 ml Dilution Buffer 7 x 0.5 ml Calibrators and Controls	TC12007	96 tests
<b>TECHNOZYM® t-PA Combi Actibind® ELISA Kit</b> RUO	12 x 8 anti t-PA strips 1 x 0.3 ml anti t-PA Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 1 x 0.5 ml Standard t-PA 1 x 20 ml Detection Buffer 1 x 20 ml Detection mixture	TC16000	96 tests
<b>Additional Calibrators &amp; Controls</b>			
<b>TECHNOZYM® t-PA Calibrator Set</b>	Additional 5 calibrators for TECHNOZYM® t-PA EDTA ELISA	TC12001	5 x 0.5 ml
<b>TECHNOZYM® t-PA Control Set</b>	Additional high and low control for TECHNOZYM® t-PA EDTA ELISA	TC12003	2 x 0.5 ml

## Urokinase-type Plasminogen Activator (u-PA)

**Urokinase-type plasminogen activator (uPA)**, is a serine protease. It was discovered in 1947. Urokinase was originally isolated from human urine, but is present in several physiological locations, such as blood stream and the extracellular matrix. The primary physiological substrate is plasminogen, which is an inactive form (zymogen) of the serine protease plasmin. Activation of plasmin triggers a proteolysis cascade that, depending on the physiological environment, participates in thrombolysis or extracellular matrix degradation. This links urokinase to vascular diseases and cancer. The most important inhibitors of urokinase are the serpins plasminogen activator inhibitor-1 (PAI-1) and plasminogen activator inhibitor-2 (PAI-2), which inhibit the protease activity irreversibly. In the extracellular matrix, urokinase is tethered to the cell membrane by its interaction to the urokinase receptor.

### TECHNOZYM® u-PA ELISA Kit

A highly sensitive sandwich ELISA for the quantitative determination of u-PA in human plasma and tissue extracts. The u-PA ELISA Kit is based on a monoclonal antibody used as a catching antibody and a second monoclonal peroxidase-labeled detecting antibody. Double and single chain urokinase can be detected.

### TECHNOZYM® u-PA Combi Actibind® ELISA Kit

An ELISA for the combined quantitative determination of concentration and activity of u-PA in human plasma. TECHNOZYM® u-PA Combi Actibind® ELISA Kit is based on a catching antibody which does not interfere with the functional activity of u-PA. Following the binding of u-PA in the sample by the antibody, functional activity of bound u-PA is determined using chromogenic plasmin substrate. After measuring the functional activity, this determination system is washed away and bound u-PA antigen is detected using a peroxidase-labeled monoclonal anti u-PA antibody which recognizes both free u-PA and u-PA inhibitor complexes.

Product	Description	REF	Package
<b>TECHNOZYM® u-PA ELISA Kit</b> RUO	12 x 8 anti u-PA strips	TC12010	96 tests
	1 x 0.3 ml anti u-PA Conjugate		
	1 x 100 ml Wash Buffer Concentrate		
	1 x 100 ml Incubation Buffer		
	1 x 12 ml TMB Substrate		
	1 x 12 ml Stop Solution		
	1 x 0.5 ml Standard u-PA		
<b>TECHNOZYM® u-PA Combi Actibind® ELISA</b> RUO	12 x 8 anti u-PA strips	TC16010	96 tests
	1 x 0.3 ml anti u-PA Conjugate		
	1 x 20 ml Wash Buffer		
	1 x 20 ml Dilution Buffer		
	1 x 12 ml Conjugate Dilution Buffer		
	1 x 12 ml TMB Substrate		
	1 x 12 ml Stop Solution		
	1 x 0.5 ml Standard u-PA		
	1 x 20 ml Detection Buffer		
	1 x 20 ml Detection Mixture		

## Plasminogen Activator Inhibitor-Type-1 (PAI-1)

**Plasminogen Activator Inhibitor-Type-1 (PAI-1)** also known as endothelial plasminogen activator inhibitor or serpin E1 is a protein that in humans is encoded by the *SERPINE1* gene. PAI-1 is a serine protease inhibitor (serpin) that functions as the main inhibitor of the plasminogen activators t-PA and u-PA (urokinase) and hence is an inhibitor of fibrinolysis, the physiological process that degrades blood clots.

### TECHNOZYM® PAI-1 Antigen ELISA Kit

The assay is a double sandwich ELISA employing two monoclonal antibodies. The system detects active PAI-1, latent and t-PA - PAI-1 complexes. The detection limit is 0.5 ng/mL. Assay time is 2.5 hours.

### TECHNOZYM® PAI-1 Actibind® ELISA Kit

A highly sensitive ELISA System for the quantitative determination of active PAI-1 antigen in human plasma. The kit allows determination of active PAI-1 antigen in plasma of patients also with disseminated intravascular coagulation and in atherosclerotic disease. The Kit is based on the immobilization of functionally active t-PA to plates by means of a monoclonal antibody. PAI-1 contained in the test samples binds to t-PA and is then quantified using a peroxidase-labeled monoclonal anti-PAI-1 antibody. The assay recognizes PAI-1 active form with no interference of PAI-2 (5 U/mL) and PAI-3 (5.5 µg/mL). Assay time is only 60 minutes.

Product	Description	REF	Package
<b>TECHNOZYM® PAI-1 Antigen ELISA Kit</b>	12 x 8 anti PAI-1 strips 1 x 0.3 ml anti PAI-1 Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 7 x 0.5 ml Calibrators and Controls	TC12075	96 tests
<b>TECHNOZYM® PAI-1 Actibind® ELISA Kit</b>	12 x 8 Antigen t-PA strips 1 x 0.3 ml anti PAI-1 Conjugate 1 x 80 ml Wash Buffer Concentrate 1 x 90 ml Incubation Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 7 x 0.5 ml Calibrators and Controls	TC16075	96 tests
<b>Additional Calibrators &amp; Controls</b>			
<b>TECHNOZYM® PAI-1 Antigen Calibrator Set</b>	Additional 5 calibrators for TECHNOZYM® PAI-1 ELISA	TC12077	5 x 0.5 ml
<b>TECHNOZYM® PAI-1 Antigen Control Set</b>	Additional high and low control for TECHNOZYM® PAI-1 ELISA	TC12079	2 x 0.5 ml
<b>TECHNOZYM® PAI-1 Actibind® Calibrator Set</b>	Additional 5 calibrators for TECHNOZYM® PAI-1 Actibind® ELISA	TC16077	5 x 0.5 ml
<b>TECHNOZYM® PAI-1 Actibind® Control Set</b>	Additional high and low control for TECHNOZYM® PAI-1 Actibind® ELISA	TC16079	2 x 0.5 ml

## FIBRINOLYSIS

### t-PA-PAI-1 Complex

To understand how fibrinolysis is regulated, in general and in individual patients, we need to know the circulating in vivo concentration of active t-PA, active PAI-1, and **t-PA-PAI-1 complex**. Knowing the concentrations of both t-PA-PAI-1 complex and active PAI-1 is crucial to understanding how the level of active t-PA is being controlled.

#### TECHNOZYM® t-PA - PAI-1 Complex ELISA Kit

For determination of t-PA-PAI-1 complexes in plasma. The kit is based on a monoclonal antibody directed against t-PA as a catching antibody for t-PA - PAI-1 complexes and a peroxidase-labeled monoclonal anti-PAI-1 antibody used for the detection of bound t-PA - PAI-1 complexes.

Product	Description	REF	Package
TECHNOZYM® t-PA - PAI-1 Complex ELISA Kit RUO	12 x 8 anti t-PA strips	TC12080	96 tests
	1 x 0.3 ml anti PAI-1 Conjugate		
	1 x 20 ml Wash Buffer Concentrate		
	1 x 20 ml Incubation Buffer		
	1 x 12 ml TMB Substrate		
	1 x 12 ml Stop Solution		
	1 x 0.5 ml Standard		
	1 x 12 ml Conjugate Dilution Buffer		

### Glu-Plasminogen

Plasminogen (Plg) is synthesized in the liver and circulates in two forms: **Glu-Plasminogen** and Lys-Plasminogen. In its native form Plasminogen contains a glutamic acid residue at the N-terminus and this molecule is termed Glu-Plasminogen.

#### TECHNOZYM® Glu-Plasminogen ELISA Kit

A highly sensitive complete sandwich ELISA for the selective determination of Glu-Plasminogen in human plasma. The Kit is based on two monoclonal antibodies; a catching antibody and a detecting antibody specific for the Glu-form of Plasminogen.

Product	Description	REF	Package
TECHNOZYM® Glu-Plasminogen ELISA Kit RUO	12 x 8 anti Plasminogen strips	TC12040	96 tests
	1 x 0.3 ml anti Plasminogen Conjugate		
	1 x 80 ml Wash Buffer Concentrate		
	1 x 90 ml Dilution Buffer		
	1 x 12 ml TMB Substrate		
	1 x 12 ml Stop Solution		
	1 x 0.5 ml Standard		

## Plasmin-Alpha-2-Antiplasmin (PAP) Complex

**Plasmin-Alpha-2-Antiplasmin complex (PAP)** is an index of recent fibrinolytic activity.

Alpha-2-antiplasmin (α<sub>2</sub>-antiplasmin = plasmin inhibitor) is a single chain 70 kD plasmin inhibitor which rapidly reacts with plasmin to form the inactive Plasmin-Alpha-2-Antiplasmin complex (PAP). Synthesized by the liver, α<sub>2</sub>-antiplasmin circulates in plasma at a concentration of approximately 1 μM (70 μg/mL), with 20% being cross-linked when blood clots. The formation of the PAP complex is a two step process. First, the lysine binding sites of plasmin and the carboxy-terminal region of α<sub>2</sub>-antiplasmin form a reversible complex. In the second step, cleavage of the peptide bond of the inhibitor forms the irreversible complex. α<sub>2</sub>-antiplasmin is consumed during thrombolytic therapy. Increased PAP complex formation is accompanied by increased fibrin formation and an increased reactive plasminemia. Accordingly, a correlation between the level of fibrin degradation products (FDP) and the level of PAP complexes exists.

### TECHNOZYM® PAP Complex ELISA Kit

For the determination of the concentration of Plasmin-α<sub>2</sub>-Antiplasmin complexes in plasma. The Plasmin-α<sub>2</sub>-Antiplasmin Complex ELISA Kit is based on a monoclonal capture antibody which is directed against the neoantigenic site on the complex, an epitope only expressed in the complexes themselves. Therefore, this antibody is specific for complexes only and does not recognize free α<sub>2</sub>-antiplasmin or plasminogen. Detection of bound complexes is performed with a second monoclonal peroxidase-labeled antibody recognizing a different epitope on the complex.

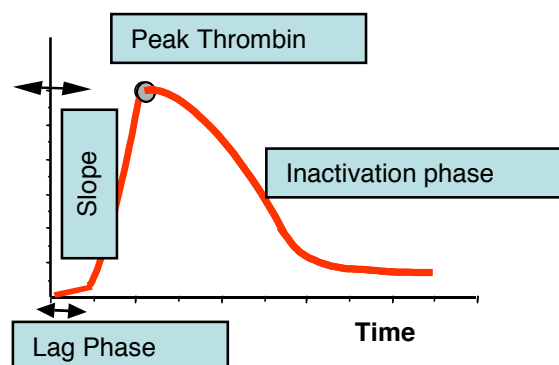
Product	Description	REF	Package
<b>TECHNOZYM® PAP Complex ELISA Kit</b> RUO	12 x 8 anti PAP strips 1 x 0.3 ml anti PAP Conjugate 2 x 20 ml Wash Buffer Concentrate 1 x 20 ml Dilution Buffer 1 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 7 x 0.5 ml Calibrators and Controls	TC12060	96 tests
<b>Additional Calibrators &amp; Controls</b>			
<b>TECHNOZYM® PAP Calibrator Set</b> RUO	Additional 5 calibrators for TECHNOZYM® PAP Complex ELISA	TC12062	5 x 0.5 ml
<b>TECHNOZYM® PAP Control Set</b> RUO	Additional high and low control for TECHNOZYM® PAP Complex ELISA	TC12064	2 x 0.5 ml

## Thrombin Generation

### TECHNOTROMBIN® TGA for Fluorescence Microplate Readers

TECHNOTHROMBIN® TGA is a **Thrombin Generation Assay (TGA)** based on monitoring the formation of thrombin by means of a fluorogenic substrate upon activation of the coagulation cascade by tissue factor. This assay can be used to monitor hemophiliacs during inhibitor bypassing therapy, to monitor anticoagulation therapy and to determine states of thrombophilia.

The use of **TECHNOTHROMBIN® TGA** for such diverse applications is made possible because TECHNOTHROMBIN® TGA measures the whole kinetics of thrombin generation not only during the initiation phase of thrombin formation with the end point fibrin formation, but also during the phase of down regulation of thrombin formation and inactivation of the formed thrombin. TECHNOTHROMBIN® TGA is therefore an universal tool for the analysis and monitoring of the haemostatic system on an individual basis.



Applications and an evaluation software can be downloaded from the website [www.technoclone.com](http://www.technoclone.com).

Product	Description	REF	Package
<b>TECHNOTHROMBIN® TGA Kit</b> RUO	3 x 1.5 ml TGA Substrate 1 x 3 ml TGA Buffer 1 x 0.5 ml TGA thrombin calibrator 1 x 0.5 ml TGA reagent C low (RCL) 1 x 0.5 ml TGA reagent C high (RCH) 1 x 1.5 ml TGA reagent D (RD) 1 x 1 ml TGA Control Low 1 x 1 ml TGA Control High	5006010	3 x 16 tests

### Modular Reagents

<b>TECHNOTHROMBIN® TGA RA</b> RUO	Reagent A (RA); Low concentration of phospholipid micelles without tissue factor.	5006205 5006206	5 x 0.5 ml 50 x 0.5 ml
<b>TECHNOTHROMBIN® TGA RB</b> RUO	Reagent B (RB); Low concentration of phospholipid micelles containing pM rhTF.	5006209 5006210	5 x 0.5 ml 50 x 0.5 ml
<b>TECHNOTHROMBIN® TGA RC Low</b> RUO	Reagent C Low (RCL); Low concentration of phospholipid micelles and pM rhTF.	5006212 5006213	5 x 0.5 ml 50 x 0.5 ml
<b>TECHNOTHROMBIN® TGA RC High</b> RUO	Reagent C High (RCH); High conc. of phospholipid micelles and pM rhTF.	5006214 5006216	5 x 0.5 ml 50 x 0.5 ml
<b>TECHNOTHROMBIN® TGA RD</b> RUO	Reagent D (RD); RD conc. of phospholipid micelles.	5006220 5006222	5 x 1.5 ml 50 x 1.5 ml
<b>TECHNOTHROMBIN® TGA SUB</b> RUO	Fluorogenic Substrate; 1 mM Z-G-G-R-AMC, 15 mM CaCl <sub>2</sub> for plasma samples.	5006235 5006230	5 x 1.5 ml 50 x 1.5 ml

### Calibrator Set & Controls

<b>TECHNOTHROMBIN® TGA CAL Set</b>	1 x 3 ml TGA Buffer 1 x 0.5 ml TGA Thrombin Calibrator	5006345	1 Set
<b>TECHNOTHROMBIN® TGA Control High</b>	TGA High Control. Human plasma with increased thrombin generation	5006320	5 x 1 ml
<b>TECHNOTHROMBIN® TGA Control Low</b>	TGA Low Control. Human plasma with decreased thrombin generation	5006330	5 x 1 ml

## Thrombin Generation

### Thrombin Generation for Ceveron® alpha TGA (CE marked)

**Ceveron® TGA reagents** are optimized Thrombin Generation Reagents for the fully automated analyzer **Ceveron® alpha TGA** which is equipped with a fluorescence measurement module, the TGA module. Thrombin Generation on Ceveron® alpha TGA can be measured from the same sample as routine parameters, with easy identification of patient samples, „traceability“ of the reagent used, minimal handling errors and an inbuilt quality control. Thrombin Generation can be measured reproducibly under routine laboratory conditions. Thus, **Ceveron® TGA reagent Kits are the first CE marked Thrombin Generation solutions** on the market.

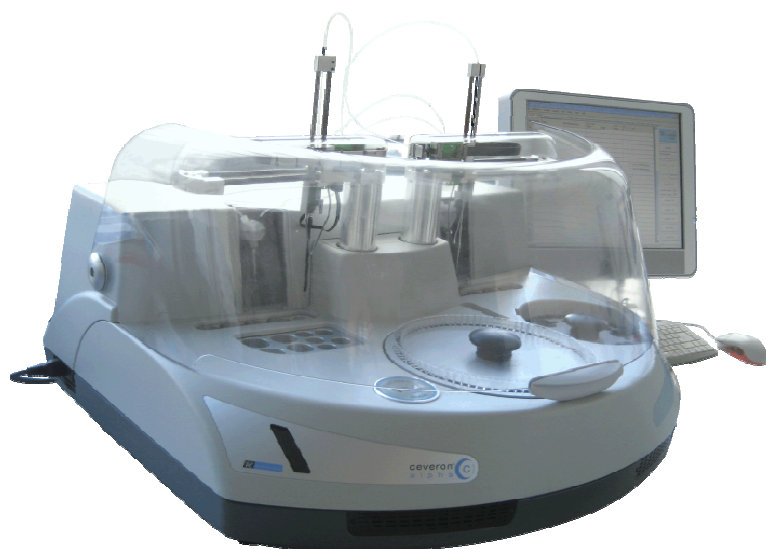
With the new optimized measurement: - an intra/inter-assay **CV < 5%** can be reached  
- a short assay time of **~20 min for Peak Thrombin** determination can be achieved

Product	Description	REF	Package
<b>Ceveron® TGA RB Kit</b>	For measurement of <b>bleeding tendencies</b> . Low concentration of phospholipid micelles containing low rhTF.		
	The Kit contains: 2 x 1 ml Ceveron® TGA Reagent RB 2 x 3 ml Ceveron® TGA Substrate 2 x 1.5 ml Ceveron® TGA Reaction Buffer 2 x 1 ml Ceveron® TGA Control Low 2 x 1 ml Ceveron® TGA Control High 1 x 25 ml CaCl <sub>2</sub> 25 mM	5006011	120 tests
<b>Ceveron® TGA RC Low Kit</b>	For measurement of <b>thrombophilic tendencies</b> . Low concentration of phospholipid micelles containing rhTF.		
	The Kit contains: 2 x 1 ml Ceveron® TGA Reagent RC Low 2 x 3 ml Ceveron® TGA Substrate 2 x 1.5 ml Ceveron® TGA Reaction Buffer 2 x 1 ml Ceveron® TGA Control Low 2 x 1 ml Ceveron® TGA Control High 1 x 25 ml CaCl <sub>2</sub> 25 mM	5006013	120 tests
<b>Ceveron® TGA RC High Kit</b>	For measurement in <b>anticoagulated patients</b> . High concentration of phospholipid micelles containing rhTF.		
	The Kit contains: 2 x 1 ml Ceveron® TGA Reagent RC High 2 x 3 ml Ceveron® TGA Substrate 2 x 1.5 ml Ceveron® TGA Reaction Buffer 2 x 1 ml Ceveron® TGA Control Low 2 x 1 ml Ceveron® TGA Control High 1 x 25 ml CaCl <sub>2</sub> 25 mM	5006015	120 tests
<b>Calibrator Set</b>			
<b>Ceveron® TGA CAL Set</b>	1 x 3 ml Ceveron® TGA Buffer 1 x 0.5 mL Ceveron® TGA Thrombin Calibrator	5006347	1 Set



### Ceveron® alpha

Ceveron® alpha is a compact and fully automated coagulation analyzer for routine, research and new generation diagnostics.



Clotting



Turbidimetric



Chromogenic



Fluorometric  
(Thrombin Generation\*)

\*optional

Product	Description	REF	Package
Ceveron® alpha	Fully automated coagulation analyzer for clotting, chromogenic and turbidimetric assays.	9820000	1 pc.
Ceveron® alpha TGA	Fully automated coagulation analyzer for clotting, chromogenic, turbidimetric and fluorimetric assays. TGA fluorimetric module for measurement of TECHNOTHROMBIN® TGA is included.	9820010	1 pc.
Ceveron® alpha All In One	Touch Screen for the use with Ceveron® alpha.	9820100	1 pc.
Solutions			
System Solution	System Solution for the use with Ceveron® alpha.	9820200	750 ml
Cleaning Solution	Cleaning Solution for the use with Ceveron® alpha.	9820300	25 ml
		9820302	9 x 25 ml
Wash Solution	Wash Solution for the use with Ceveron® alpha	9820320	30 ml
		9820326	750 ml
		9820328	9 x 30 ml
Cuvettes & Stirrers			
Magnetic Stirrer Bars	Magnetic Stirrer Bars for Ceveron® alpha.	9820340	5 pc.
Cuvette segments	Cuvette segments for Ceveron® alpha.	9820500	50 x 12 racks
		9820510	10 x 50 x 12 racks
Sample Cups	Sample cups for Ceveron® alpha.	9820515	100 pc.
		9820520	1000 pc.

For a complete list of spare parts please contact [ceveron@technoclone.com](mailto:ceveron@technoclone.com)



## Instruments

### Ceveron® one, four, ten

Ceveron® one, four and ten are semi automated coagulation analyzers for measurement of coagulation and fibrinolysis assays, Ceveron® four and ten are available optionally with an optical channel for the measurement of chromogenic and turbidimetric assays.



Product	Description	REF	Package
<b>Ceveron® one</b>	Semi-automated mechanical instrument with one channel	9830010	1 pc.
<b>Ceveron® four</b>	Semi-automated mechanical instrument with four channels	9830012	1 pc.
<b>Ceveron® four optical</b>	Semi-automated mechanical instrument with four channels and optical channel	9830014	1 pc.
<b>Ceveron® ten</b>	Semi-automated mechanical instrument with ten channels	9830016	1 pc.
<b>Ceveron® ten optical</b>	Semi-automated mechanical instrument with ten channels and an optical channel	9830018	1 pc.
<b>Accessories</b>			
<b>3 Volume automatic pipette Merlin</b>	Automatic pipette for filling and dispensing start reagent	9920050	1 pc.
<b>3 Volume automatic pipette Brand</b>	Automatic pipette for filling and dispensing start reagent	9920051	1 pc.
<b>Automatic HandyStep pipette Brand</b>	Automatic pipette HandyStep for dispensing start reagent.	9920052	1 pc.
<b>Printer for Ceveron® manual</b>	Printer for all Ceveron® manual instruments	9920063	1 pc.
<b>Ball dispenser micro</b>	Ball dispenser micro (only for optical versions)	9920090	1 pc.
<b>Ball dispenser macro</b>	Ball dispenser macro	9920091	1 pc.
<b>Cuvettes macro incl. balls</b>	Cuvettes for Ceveron® manual instruments macro	9920092	1000 pcs.
<b>Cuvettes micro incl. balls</b>	Cuvettes for Ceveron® manual instruments micro (only for optical versions)	9920093	1000 pcs.
<b>Thermal paper 57mm</b>	Thermal paper for use with external Thermal Printer	9920096	5 pc.

For more information please contact [ceveron@technoclone.com](mailto:ceveron@technoclone.com)

## Instruments

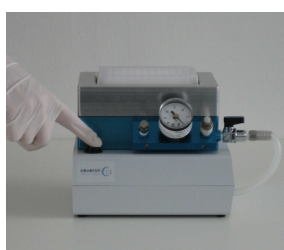
### Ceveron® MFU 500

**Ceveron® Filtration Unit (MFU) 500** enables easy, quick and standardised removal of microparticles from platelet poor plasma. Filtration is as effective as ultra-centrifugation to remove thrombogenic MP's from PPP.

#### EASY & QUICK



Pipette sample into the filter plate



Push the "START" button and filtration starts automatically



After filtration is terminated push the "VENTILATION" button



Filtered sample from the receiver plate

Product	Description	REF	Package
<b>Ceveron® MFU 500</b>	1 x Ceveron MFU 500 instrument 1 x Adapter 1 x Replacement Kit (gaskets) 1 x Filter plate 0.2 µm 1 x Receiver plate 2 x Plate Sealer Cover 1 x Warranty 1 x Manual	9821010	1 pc.

#### Accessories

<b>Replacement Accessory Kit</b>	Replacement Accessory Kit for Ceveron® MFU 500.	9821013	1 pc.
<b>Filter plate 0.2 µm (96 wells)</b>	Filter plate for Ceveron® MFU 500.	9821035 9821040	1 pc. 10 pc.
<b>Receiver plate (96 wells)</b>	Receiver plate for Ceveron® MFU 500.	9821055 9821060	1 pc. 10 pc.
<b>Plate sealer for Filter plates</b>	Plate sealer for Filter plates for Ceveron® MFU 500.	9821033 9821034	10 pc. 100 pc.

For more information please contact [ceveron@technoclone.com](mailto:ceveron@technoclone.com)

## Auxiliary Reagents

Product	Description	REF	Package
<b>CaCl<sub>2</sub> 25 mM</b>	Calcium Chloride solution for determination of aPTT with DAPTTIN <sup>®</sup> TC, SIRON LS, SIRON LIS and TECHNOCLOT <sup>®</sup> PT Owren	5277015	100 ml
		5277020	9 x 25 ml
<b>CaCl<sub>2</sub> 50 mM</b>	Calcium Chloride solution for determination of intrinsic coagulation factors with deficient methods	5279025	100 ml
		5279027	25 ml
<b>Citrate Sodium Chloride Buffer</b>	Dilution buffer for determination of coagulation factors II, V, VII and X with Thromboplastin reagent	5400045	60 ml
		5400047	25 ml
<b>Imidazole Buffer</b>	Dilution buffer for use in factor VIII, IX, XI, XII and factor VIII inhibitor tests, Protein C, Fibrinogen and TECHNOCLOT <sup>®</sup> PT Owren	5410010	50 ml
		5410012	90 ml
		5410014	500 ml
<b>Sodium-Chloride solution 0.9%</b>	For the use with ATIII and PC	4847127	25 ml
<b>for Ceveron<sup>®</sup> alpha</b>			
<b>CaCl<sub>2</sub> 25 mM</b>	Calcium Chloride solution for determination of aPTT with DAPTTIN <sup>®</sup> TC, SIRON LS, SIRON LIS and TECHNOCLOT <sup>®</sup> PT Owren	5277017	25 ml
		5277020	9 x 25 ml
<b>CaCl<sub>2</sub> 50 mM</b>	Calcium Chloride solution for determination of intrinsic coagulation factors with deficient methods	5279027	25 ml
<b>Citrate Sodium Chloride Buffer</b>	Dilution buffer for determination of coagulation factors II, V, VII and X with Thromboplastin reagent	5400047	25 ml
<b>Imidazole Buffer</b>	Dilution buffer for use in factor VIII, IX, XI, XII and factor VIII inhibitor tests, Protein C, Fibrinogen and TECHNOCLOT <sup>®</sup> PT Owren	5410008	25 ml
		5410007	9 x 25 ml
<b>Sodium-Chloride solution 0.9%</b>	For the use with ATIII and PC	4847127	25 ml
<b>System Solution</b>	System Solution for the use with Ceveron <sup>®</sup> alpha.	9820200	750 ml
<b>Cleaning Solution</b>	Cleaning Solution for the use with Ceveron <sup>®</sup> alpha.	9820300	25 ml
		9820302	9 x 25 ml
<b>Wash Solution</b>	Wash Solution for the use with Ceveron <sup>®</sup> alpha	9820320	30 ml
		9820326	750 ml
		9820328	9 x 30 ml

## RESEARCH PRODUCTS

### Fibronectin

**Fibronectin** is a high-molecular weight (~440kDa) glycoprotein of the extracellular matrix that binds to membrane-spanning receptor proteins called integrins. Similar to integrins, fibronectin binds extracellular matrix components such as collagen, fibrin, and heparan sulfate proteoglycans (e.g. syndecans).

#### Fibronectin ELISA Kit

A highly sensitive complete sandwich ELISA for the selective determination of intact uncleaved fibronectin in human plasma. The Fibronectin ELISA Kit is based on two monoclonal antibodies. One monoclonal antibody is immobilized to microtitre plates for use as a catching antibody; the second peroxidase-labeled monoclonal antibody recognizes exclusively uncleaved fibronectin.

Product	Description	REF	Package
<b>TECHNOZYM® Fibronectin ELISA Kit</b> RUO	12 x 8 anti Fibronectin strips 1 x 0.3 ml anti Fibronectin Conjugate 1 x 20 ml Wash Buffer Concentrate 3 x 20 ml Dilution Buffer 2 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 1 x 0.5 ml Fibronectin Standard	TC12030	96 tests
<b>Fibronectin protein</b>	Purified from human plasma, lyophilized	TC41150	1 mg
<b>Monoclonal anti Fibronectin antibody</b> <b>2FN</b>	Lyophilized; IgG	TC21223	500 µg
<b>Monoclonal anti Fibronectin antibody</b> <b>6FN</b>	Lyophilized; IgG	TC21243	500 µg

### Vitronectin

**Vitronectin** is a 75 kDa glycoprotein.

#### Vitronectin ELISA Kit

The Vitronectin Antigen ELISA Kit is an antibody “sandwich” system in which one monoclonal antibody functions as the catching antibody and a peroxidase-labeled polyclonal is the detecting antibody.

Product	Description	REF	Package
<b>TECHNOZYM® Vitronectin ELISA Kit</b> RUO	12 x 8 anti Vitronectin strips 1 x 0.3 ml anti Vitronectin Conjugate 1 x 20 ml Wash Buffer Concentrate 1 x 20 ml Dilution Buffer 2 x 12 ml TMB Substrate 1 x 12 ml Stop Solution 1 x 1 ml Vitronectin Standard	TC12120	96 tests
<b>Vitronectin protein</b>	Purified from human plasma, lyophilized	TC41140	50 µg
<b>Monoclonal anti Vitronectin antibody</b> <b>2VN</b>	Lyophilized; IgG	TC21511	500 µg
<b>Polyclonal anti Vitronectin antibody</b> Rabbit	Lyophilized	TC31054	1 mg

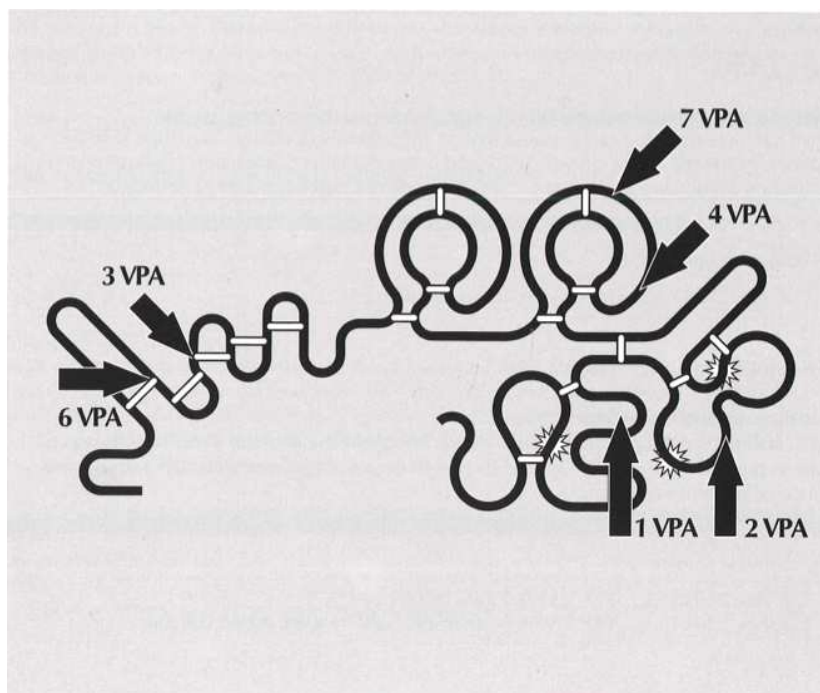
### Tissue-type Plasminogen Activator (t-PA)

t-PA is a plasminogen activator produced and released in its single chain form with an apparent molecular weight of 70kD. Single chain t-PA is converted to double chain t-PA by plasmin mediated cleavage of the Arg-278-Ile-279 peptide bond. The resulting 2-chain molecule consists of a light chain (B-chain) containing the catalytic site Ser, His, Arg and a heavy chain (A-chain) containing two kringle-structures, an EGF-domain, and a fibronectin finger domain.

The fibrin specificity of t-PA is mediated by fibrin binding via finger and/or kringle-2-domain, whereby, in latter case, lysine binding sites are involved.

t-PA displays a unique fibrin-specific plasminogen activating function. In the absence of fibrin both single-chain and double-chain t-PA are poor activators of Glu-plasminogen due to a relatively high  $K_M$  value and a low  $K_{cat}$  value. However, in the presence of physiological concentrations of fibrin the plasminogen activating activity of t-PA is increased 200-400 fold resulting from a decrease in  $K_M$  and an increase in  $K_{cat}$  values. While both single and double-chain t-PA share similar plasminogen activating properties in physiological systems, double chain t-PA is more active than single-chain t-PA in an amidolytic assay with low molecular weight paranitroanilide substrates as well as in Glu-plasminogen activating assay systems. The two forms also differ in their rates of inactivation by physiological inhibitors: Double-chain t-PA is more easily inactivated by PAI-2 than single-chain t-PA.

t-PA circulates in plasma at a concentration of approximately 5 ng/ml. However, 95% of circulating t-PA is complexed with plasminogen activator inhibitor (PAI-1) and less than 5% circulates in its free form. Upon venous occlusion the concentration of t-PA antigen increases to 10 ng/ml or higher leading to measurable fibrinolytic activity. This is probably due to a combination of increased t-PA release by endothelial cells and a reduction in the t-PA clearance from the occlusion site.



## RESEARCH PRODUCTS

### Tissue-type Plasminogen Activator (t-PA)

Monoclonal Antibody	TC 2VPA	TC 3VPA	TC 7VPA
Class	IgM	IgG <sub>1</sub>	IgG <sub>1</sub>
Epitope	Light-chain	Finger/EGF	K <sub>2</sub>
Half-max. binding (μg/ml)	0.65	8.5	19.0
Influence on cleavage of S-2288	-	-	-
Influence on plasminogen activation in the presence of CNBr fragments of fibrinogen	+	-	-
Inhibition	Non	Competitive	Competitive
K <sub>i</sub> (nM)		0.68	0.57

Cadaver vessel perfusate plasminogen activator purified according to the method of Binder et al. (B.R. Binder, J.Spragg, K.F. Austen: *Purification and characterization of human vascular plasminogen activator derived from blood vessel perfusates*. J. Biol. Chem. 1998-2003, 1979).

Product	Description	REF	Package
<b>t-PA purified protein</b>	Recombinant t-PA, lyophilized	TC41072	100 μg
<b>Monoclonal anti t-PA antibody 2VPA</b>	Lyophilized, IgM	TC21013	500 μg
<b>Monoclonal anti t-PA antibody 3VPA</b>	Lyophilized, IgG <sub>1</sub>	TC21023	500 μg
<b>Monoclonal anti t-PA antibody 7VPA</b>	Lyophilized, IgG <sub>1</sub>	TC21053	500 μg
<b>Polyclonal anti t-PA antibody Rabbit</b>	Lyophilized	TC31014 TC31005	1 mg 5 mg

### Plasminogen Activator Inhibitor-Type1 (PAI-1)

**PAI-1** is a glycoprotein with an approximate Mr of 50,000, consisting of 379 amino acids, lacking cysteine residues. It is a member of the serine protease inhibitor (Serpine) superfamily with homology to antithrombin III, PAI-2, alpha-2-antiplasmin, C1-inhibitor, and alpha-1-protease inhibitor.

PAI-1 reacts about equally well with single and double chain t-PA, with second order rate constants in the range of  $10^7$  to  $10^8$  M<sup>-1</sup>s<sup>-1</sup>, but not with single chain u-PA. The interaction of PAI-1 and t-PA is reported to be about 5-10-fold slower in the presence of fibrin. The interaction of plasminogen activator with PAI-1 probably results first in the formation of a reversible complex which, in a second step, becomes covalent after the cleavage of the peptide bond Arg 346 - Met 347 has taken place. Finally, a 33 amino acid stretch (Met 347 - Pro 379) is released from the complex reducing the Mr of activator-inhibitor complex by approximately 4.2kD. The plasma concentration of PAI-1 is in the range of 1 nM, but the plasma compartment accounts only for three quarters of the total PAI-1 content in blood. A large amount of PAI-1 is contained in platelets, which upon physiological stimuli, e.g. thrombin, release PAI-1.

Monoclonal Antibody	TC 1PAI	TC 3PAI	TC 5PAI
Class	IgG <sub>2</sub>	IgG <sub>2b</sub>	IgG <sub>1</sub>
Half-max. binding (μg/ml)	1.0	10.0	n.d.
Active PAI-1	+	+	+
Latent PAI-1	+	+	+
t-PA - PAI-1 complexes	+	+	+
PAI-2 and PAI-3	-	-	-
Functional activity of PAI-1	No effect	Interference	interference

Purified plasminogen activator inhibitor 1 from the human melanoma cell line MJZJ according to the method of Wagner et al. (O.F.Wagner, B.R. Binder: *Purification of an active plasminogen activator inhibitor immunologically related to the endothelial type plasminogen inhibitor from conditioned media of a human melanoma cell line*. J. Biol. Chem. 261: 14474-14481, 1986).

Product	Description	REF	Package
<b>PAI-1 purified protein</b>	Recombinant PAI-1, lyophilized	TC41069	250 U
		TC41067	500 U
<b>Monoclonal anti PAI-1 antibody 1PAI</b>	Lyophilized, IgG <sub>2</sub>	TC21163	500 μg
<b>Monoclonal anti PAI-1 antibody 3PAI</b>	Lyophilized, IgG <sub>2b</sub>	TC21173	500 μg
<b>Monoclonal anti PAI-1 antibody 5PAI</b>	Lyophilized, IgG <sub>1</sub>	TC21193	500 μg
<b>Polyclonal anti PAI-1 antibody Rabbit</b>	Lyophilized	TC31024	1 mg
		TC31025	5 mg



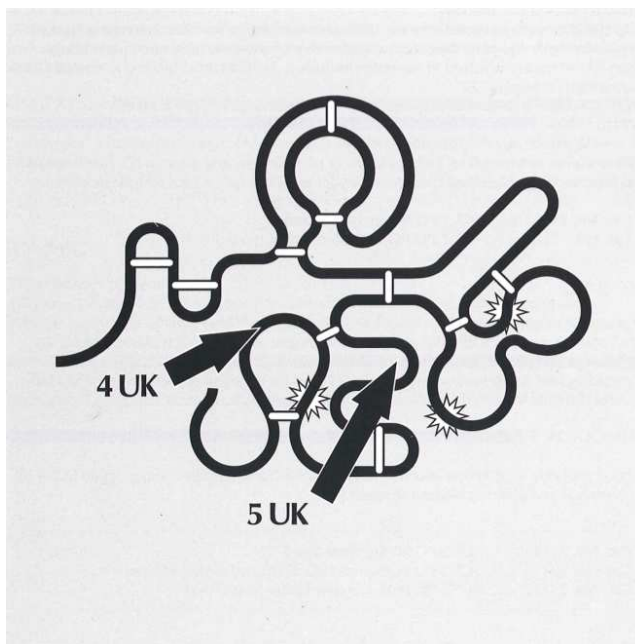
## Urokinase-type Plasminogen Activator (u-PA)

**u-PA** is a 55kD two chain plasminogen activator produced by plasmin or kallikrein cleavage of single-chain precursor molecule scu-PA at the site of the Lys-158 - Ileu159 peptide bond. A single disulphide bond links the two chains of the u-PA molecule: the B-chain contains the catalytic site and the A-chain contains a kringle-domain and a growth factor domain. Thrombin is capable of cleaving scu-PA at position Arg-156 - Phe-157 resulting in an inactive 2-chain u-PA.

Single chain u-PA has some intrinsic activities which represents less than 5% of the activity of 2-chain u-PA. However, scu-PA is capable of activating plasminogen to plasmin, a process which is stimulated in the presence of fibrin and which, especially in vivo, mediates fibrin specific thrombolytic activity.

As compared to tissue-type plasminogen activator which binds to forming fibrin, u-PA binds to specific receptors on several cell types, thereby focusing its plasminogen activating and proteolytic activity on the cell surface.

u-PA circulates in its single chain form in plasma in an average concentration of 1 to 2 ng/mL. Its concentrations is increased in cases of some malignancies, especially those of the urogenital and gastrointestinal tracts.



Monoclonal Antibody	TC 4UK	TC 5UK
Class	IgG <sub>1</sub>	IgG <sub>1</sub>
Half-max. binding (μg/ml)	0.56	0.03
Influence on cleavage of S-2444	-	-
Influence on plasminogen inhibition	-	+

Purified human urinary high molecular weight urokinase according to the method of Huber et al. (k. Huber, J. Kircheimer, B.R. Binder: *Characterization of specific anti-human urokinase antibody: development of a sensitive competitive radioummunoassay for urokinase antigen*. J. Lab. Clin. Med. 103: 684-694, 1984).

Product	Description	REF	Package
<b>u-PA purified protein</b>	Purified human, lyophilized	TC42000	125 μg
<b>Monoclonal anti u-PA antibody 4UK</b>	Lyophilized, IgG <sub>1</sub>	TC21063	500 μg
<b>Monoclonal anti u-PA antibody 5UK</b>	Lyophilized, IgG <sub>1</sub>	TC21073	500 μg
<b>Polyclonal anti u-PA antibody Rabbit</b>	Lyophilized	TC31014 TC31015	1 mg 5 mg



## RESEARCH PRODUCTS

### Single Chain Urokinase Plasminogen Activator (scu-PA)

**Urokinase-type plasminogen activator (uPA)** is synthesized as single-chain protein (scuPA) with little intrinsic activity. scuPA is activated when it is converted to two-chain urokinase (tcuPA) by plasmin or when it binds as a single-chain molecule to its cellular receptor (uPAR).

Monoclonal Antibody	TC 35 scu-PA	TC 14 scu-PA	TC 1 scu-PA	TC PUK
Class	IgG <sub>1</sub>	IgG <sub>1</sub>	IgG <sub>1</sub>	n.d.
Two-chain urokinase	+	+	+	-
Low molecular weight urokinase	+	+	n.d.	-
Inhibition of enzymatic activity	-	Partially	n.d.	-

Product	Description	REF	Package
<b>scu-PA purified protein</b>	from cell culture, frozen	TC41052	100 µg
<b>Monoclonal anti scu-PA antibody 35 scu-PA</b>	Lyophilized, IgG <sub>1</sub>	TC21283	500 µg
<b>Monoclonal anti scu-PA antibody 14 scu-PA</b>	Lyophilized, IgG <sub>1</sub>	TC21293	500 µg
<b>Monoclonal anti scu-PA antibody 1 scu-PA</b>	Lyophilized, IgG <sub>1</sub>	TC21393	500 µg
<b>Monoclonal anti scu-PA antibody PUK</b>	Lyophilized	TC21383	500 µg

### CNBr Fibrinogen fragments

Fibrinogen is the main plasma coagulation factor. It exhibits a molecular weight of 340KD and consists of a dimer in which each monomer itself is composed of an alpha-, beta- and gamma-chain, held together by disulfide bridges. Upon thrombin cleavage of the A-alpha- and B-beta-chain, fibrinopeptide A and thereafter fibrinopeptide B moieties are released. Binding sites for C-terminal regions of other fibrinogen or fibrin molecules are generated in the new aminoterminal. This allows formation of fibrin polymers which can be crosslinked by fibrin stabilizing factor. Fibrin is highly susceptible to proteolysis by plasmin which initially cleaves the C-terminal part of the alpha-chain generating lysine residues which, in turn, are involved in the binding of kringle structures leading to maximal stimulation of plasminogen activation by tissue plasminogen activator.

The stimulating effect of fibrin on plasminogen activation by t-PA is also mimicked by cyanogen bromide (CNBr) fragments of fibrinogen. Technoclon CNBr-fragments of fibrinogen are obtained by cyanogen bromide digestion of purified human fibrinogen according to the method of Blombäck et al. *N-terminal disulphide knot of human fibrinogen*. Nature 218: 130-134, 1968

Product	Description	REF	Package
<b>CNBr Fibrinogen fragments</b>	Lyophilized	TC41104	1 mg
		TC41105	5 mg

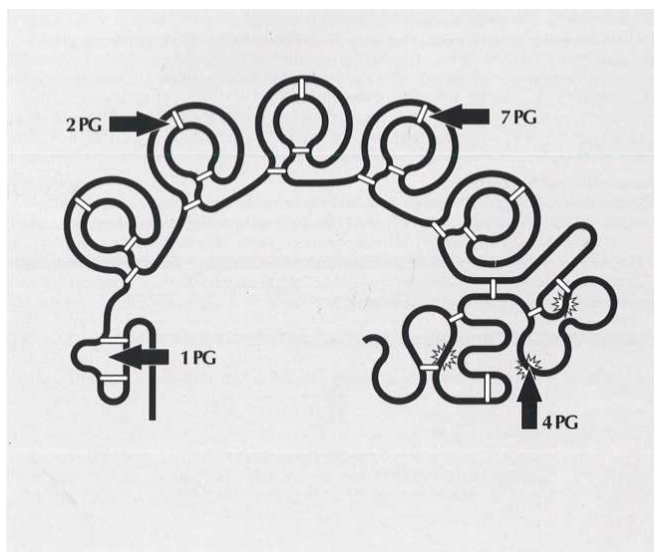
## Plasminogen

**Plasminogen**, the precursor of the serine protease plasmin, is a single chain glycoprotein with a molecular weight of approximately 92kD. Plasminogen activators cleave a single peptide bond in plasminogen between Arg-560 - Val-561 to generate the two-chain molecule plasmin which is a potent proteolytic enzyme with trypsin-like specificity.

The fibrin specificity of the proteolytic action of the active site contained in the B-chain of plasmin is mediated by kringle structures in the A-chain which can bind to lysine residues as they are exposed during fibrin formation. These kringle structures are also responsible for the affinity of plasmin(ogen) to alpha-2-antiplasmin, histidin-rich-glycoprotein and thrombospondin.

Plasminogen circulates in plasma in its native form Glu-plasminogen. The limited proteolytic action of plasmin on Glu-plasminogen cleaves a 76 or 67 amino acid aminoterminal peptide generating Lys-or Arg-plasminogen, respectively. Lys-plasminogen has higher affinity for lysine residues and is more readily activated by plasminogen activator than Glu-plasminogen.

The functional domains of plasminogen are revealed by elastase cleavage of the molecule which result in 3 major fragments: kringle 1-3 fragment, kringle 4 fragment and kringle 5 containing mini-plasminogen.



Monoclonal Antibody	TC 1PG	TC 2PG	TC 4PG	TC 7PG
Class	IgG <sub>1</sub>	IgG <sub>1</sub>	IgG <sub>1</sub>	IgG <sub>1</sub>
Binding to plasminogen	Glu-Plg	K <sub>1-3</sub>	Mini-Plg	K <sub>4</sub>
Binding to plasmin-alpha-2-antiplasmin complex	+	+	-	+
Half-max. binding (ng/ml)	0.006	0.010	n.d.	n.d.
Inhibition of plasminogen activation	-	-	Competitive K <sub>i</sub> =4nM	-
Stimulation of plasminogen activation	+	+	-	+

Product	Description	REF	Package
<b>Glu-Plasminogen protein</b>	Purified from human plasma, lyophilized	TC41004	1 mg
		TC41005	5 mg
<b>Lys-Plasminogen protein</b>	Purified from human plasma, lyophilized	TC41014	1 mg
		TC41015	5 mg
<b>Monoclonal anti plasminogen antibody 1PG</b>	Lyophilized, IgG <sub>1</sub>	TC21103	500 µg
<b>Monoclonal anti plasminogen antibody 2PG</b>	Lyophilized, IgG <sub>1</sub>	TC21113	500 µg
<b>Monoclonal anti plasminogen antibody 4PG</b>	Lyophilized, IgG <sub>1</sub>	TC21123	500 µg
<b>Monoclonal anti plasminogen antibody 7PG</b>	Lyophilized, IgG <sub>1</sub>	TC21133	500 µg

## RESEARCH PRODUCTS

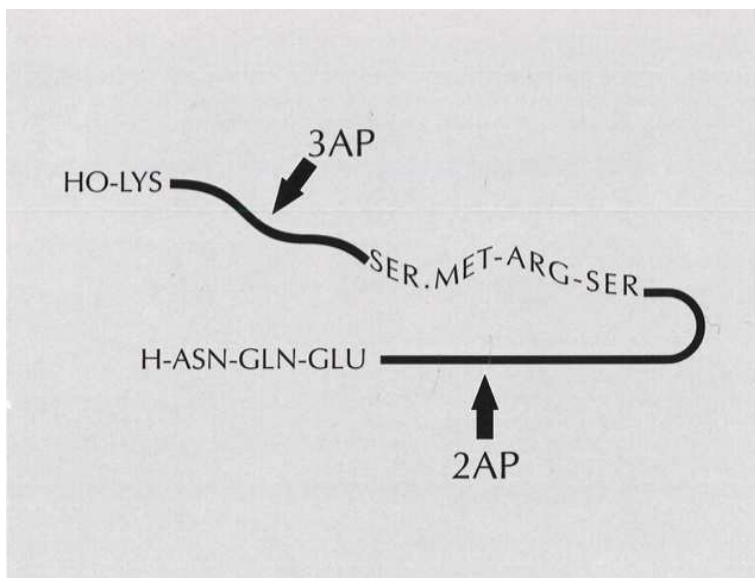
### Alpha-2-Antiplasmin

Alpha-2-antiplasmin (Plasmin Inhibitor) is a member of the serine protease inhibitor superfamily. It is a single chain glycoprotein with an apparent molecular weight of 70 kD and acts as the primary inhibitor of plasmin in plasma. It inhibits, in a fast reaction, plasmin whereby in a fast phase the C-terminal region of alpha-2-antiplasmin binds reversibly to the lysine-binding site of plasmin and, in a second step, the serine residue of the active site of plasmin reacts with the reactive site Arg-354 - Met-355 of alpha-2-antiplasmin.

Subsequently, an 11kD C-terminal sequence is liberated but remains non-covalently bound to the lysine-binding site 1 of plasmin.

Alpha-2-antiplasmin also crosslinks with the alpha-chain of fibrin through a site close to the N-terminus. Therefore, alpha-2-antiplasmin interferes with the fibrin-binding of plasminogen to fibrin but crosslinked alpha-2-antiplasmin enhances indirectly the binding of plasminogen to fibrin.

Alpha-2-antiplasmin circulates in plasma in a concentration of approximately 1  $\mu$ M equivalent to 70  $\mu$ g/ml. It is synthesized in the liver and has a biological half-life of 3.3 days. During coagulation approximately 20% of alpha-2-antiplasmin is crosslinked to fibrin.



Monoclonal Antibody	TC 2AP	TC 3AP
Class	IgG <sub>1</sub>	IgG <sub>1</sub>
Half-max. binding ( $\mu$ g/ml)	0.009	0.008
Reaction with native alpha-2-antiplasmin	+	+
Reaction with plasmin-alpha-2-antiplasmin complex	+	-

Product	Description	REF	Package
<b>Monoclonal anti <math>\alpha</math>-2-Antiplasmin antibody 2 AP</b>	Lyophilized, IgG <sub>1</sub>	TC21083	500 $\mu$ g
<b>Monoclonal anti <math>\alpha</math>-2-Antiplasmin antibody 3 AP</b>	Lyophilized, IgG <sub>1</sub>	TC21093	500 $\mu$ g
<b>Monoclonal anti <math>\alpha</math>-2-Antiplasmin antibody 7 AP</b>	Lyophilized, IgG <sub>1</sub>	TC21263	500 $\mu$ g
<b>Monoclonal anti <math>\alpha</math>-2-Antiplasmin antibody 14 AP</b>	Lyophilized, IgG <sub>2a</sub>	TC21265	500 $\mu$ g

## RESEARCH PRODUCTS

### Protein C Inhibitor

**Protein C Inhibitor** (PCI, SERPIN A5) is a serine protease inhibitor (serpin) which limits the expression of protein C (an anticoagulant). An N-terminal fragment of PCI is a possible serum biomarker for prostate cancer.

**TECHNOZYM® Protein C Inhibitor Actibind® ELISA Kit** allows the determination of active Protein C Inhibitor antigen. The assay is based on the immobilization of functionally active urokinase to plates by means of a monoclonal antibody. Protein C Inhibitor contained in the test sample binds to u-PA and is then quantified using a peroxidase-labeled monoclonal anti-Protein C Inhibitor antibody.

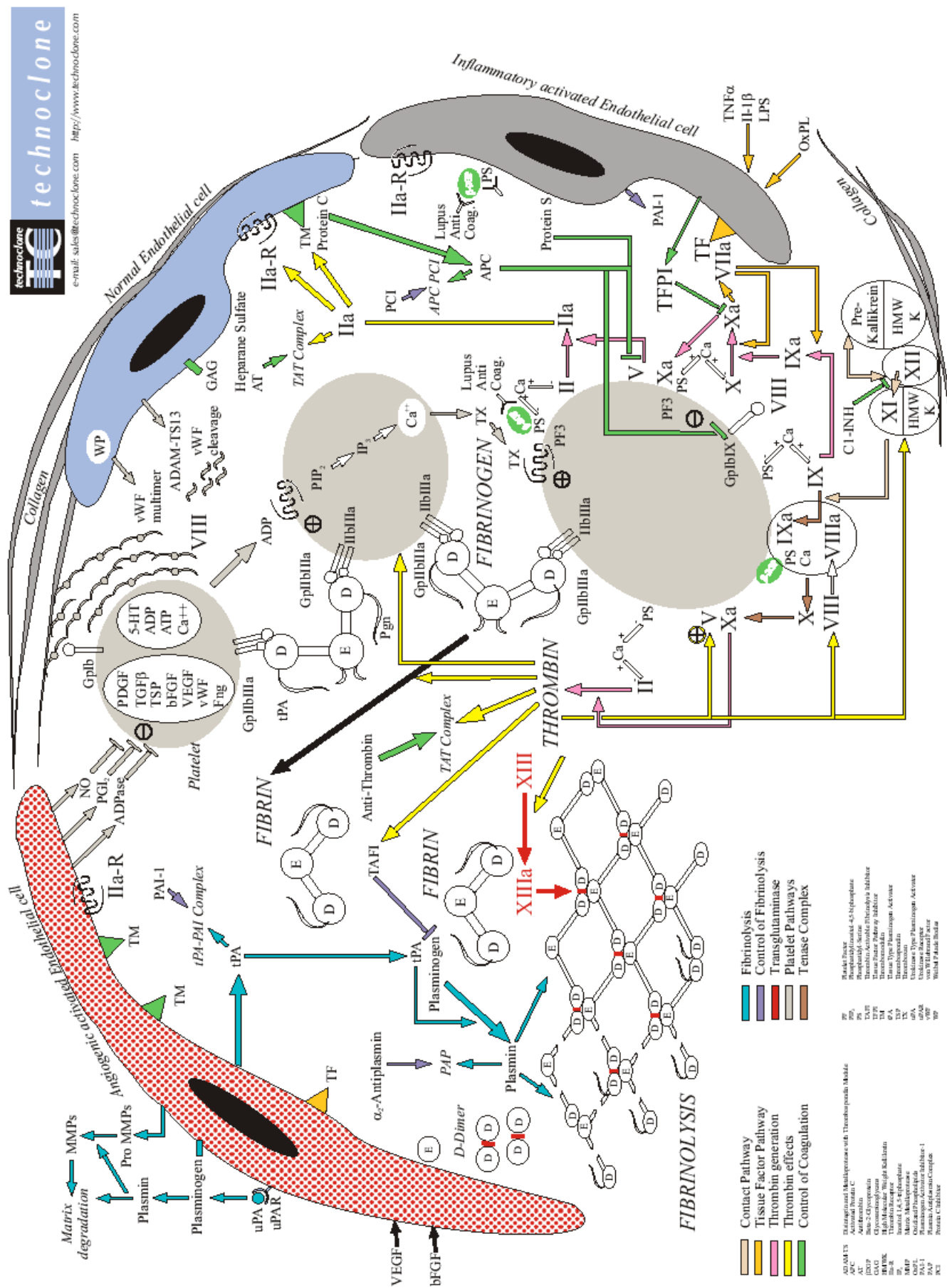
Product	Description	REF	Package
<b>TECHNOZYM® Protein C Inhibitor Actibind® ELISA RUO</b>	12 x 8 anti t-PA strips	TC16100	96 tests
	1 x 0.3 ml anti PAI-1 Conjugate		
	1 x 20 ml Wash Buffer Concentrate		
	1 x 20 ml Incubation Buffer		
	1 x 12 ml TMB Substrate		
	1 x 12 ml Stop Solution		
	1 x 0.5 ml Standard		
	1 x 12 ml Conjugate Dilution Buffer		
<b>Monoclonal anti Protein C Inhibitor antibody 4PCI</b>	Lyophilized, IgG <sub>1</sub>	TC21353	500 µg

### Peroxidase labeled anti ADAMTS-13 antibody

Rabbit raised polyclonal antibodies against full length recombinant human ADAMTS-13, recognizing plasma derived human ADAMTS-13. Purification with affinity chromatography on Protein G and peroxidase conjugated.

Product	Description	REF	Package
<b>Polyclonal ADAMTS-13 antibody Peroxidase conjugated</b>	Rabbit anti human	5450555	1 ml

## Coagulation Cascade



## A

Abnormal Control Plasma	7
Activated Protein C (APC)	21
ADAMTS-13	14, 47
AK-Calibrant, AK-Verification Kit	6,7
Alpha-2-Antiplasmin	45
Anticoagulant Treatments	17
Antithrombin (AT)	20
anti-Xa	18
Apixaban	18
aPTT	4
Argatroban	19
Arixtra	18

## B

Ball dispenser micro, Ball dispenser macro	35
--	----

## C

C1– Esterase Inhibitor	23
CaCl <sub>2</sub> 25 mM	3, 4, 37
CaCl <sub>2</sub> 50 mM	9, 37
Calibration Plasma	6, 18, 19
Ceveron® alpha, Ceveron® alpha TGA	34
Ceveron® one, four, ten	35
Ceveron® MFU 500	36
Ceveron® TGA RB Kit, RC Low Kit, RC High Kit, Calibrator Set	33
Citrate Sodium Chloride Buffer	8, 37
Cleaning Solution for Ceveron® alpha	34, 37
CNBr Fibrinogen fragments	43
Coagulation Reference	6
Coagulation Control N, A	7
Coagulation Control AK	7
Control Plasma	7, 18, 19
Cuvettes macro incl. balls	35
Cuvettes micro incl. balls	35
Cuvette Segments for Ceveron® alpha	34

## D

Dapttin® TC	4
D-Dimer	25
Deficient Plasma	8
dRVVT	24
Direct Thrombin Inhibitor (DTI)	19

## E

ELISAs	13, 15, 16, 22, 25, 27, 28, 29, 30, 31, 38, 46
--------	--

## F

Factor Assays	8
Factor II, V, VII and X	8
Factor VIII, IX, XI and XII	9
Factor VIII Inhibitor	11
Factor XIII	12
Fibrinogen	5
Fibrinolysis	26
Fibronectin	38
Filter plate for Ceveron® MFU 500	36
Fitzgerald Trait Plasma	9
Fletcher Trait Plasma	9
FVIII: C	10

## G

Glu-Plasminogen	30, 44
-----------------	--------

## H

High Molecular Weight Kininogen deficient plasma (Fitzgerald)	9
---	---

## I

INR, ISI	3, 6, 7
INR Calibration & Control Plasma	6, 7
Imidazole Buffer	3, 5, 09, 37
Inhibitors	11, 24, 46

## L

Lupus Anticoagulant (LA)	24
Lupus Inhibitor Plasma	24
Lys-Plasminogen	44

## M

Magnetic Stirrer Bars for Ceveron® alpha	34
Monoclonal Antibodies	38, 40, 41, 42, 43, 44, 45, 46

## N

Normal Control Plasma	7
-----------------------	---

## P

3 Volume automatic pipette Merlin	35
3 Volume automatic pipette Brand	35
Automatic HandyStep pipette	35
Plasminogen	44
Plasminogen Activator Inhibitor Type-1 (PAI-1)	29, 41
Plasmin-Alpha-2-Antiplasmin (PAP) Complex	31
Plate Sealer for Ceveron® MFU 500	36
Platelet Poor Plasma	24
Polyclonal Antibodies	38, 40, 41, 42, 46
Protac®	22
Proteins	38, 40, 41, 42, 43, 44
Protein C (PC)	22
Protein S (PS)	23
Prekallikrein deficient plasma (Fletcher Trait)	9
Prothrombin Time (PT)	3

## R

Receiver plate for Ceveron® MFU 500	36
Reference Plasma	6
Replacement Accessory Kit for Ceveron® MFU 500	36

## S

Sample Cups for Ceveron® alpha	34
scu-PA	43
SIRON LS	4
SIRON LIS	4
Single Factors	8
Sodium Chloride Solution	37
Substrate PCa-2	22
System Solution for Ceveron® alpha	34, 37



## T

TECHNOCLOT® Control A, A2 and N	7
TECHNOCLOT® DTI	19
TECHNOCLOT® LA Screen, LA Confirm	24
TECHNOCLOT® PT Plus, PT Owren manual and automated	3
TECHNOCLOT® PC	22
TECHNOCLOT® PS	23
TECHNOCHROM® anti-Xa	18
TECHNOCHROM® ATIII	20
TECHNOCHROM® C1-INH	23
TECHNOCHROM® FVIII:C	10
TECHNOCHROM® FXIII	12
TECHNOCHROM® PC	22
TECHNOLEIA® D-Dimer	25
TECHNOPLASTIN® HIS	3
TECHNOTHROMBIN® TGA Kit, RA, RB, RCL, RCH, RD, SUB	32
TECHNOVIEW® Apixaban, Arixtra, Edoxaban, LMW Heparin, Orgaran, Rivaroxaban, UFH	18, 19
TECHNOVIEW® Argatroban, Dabigatran	19
TECHNOZYM® ADAMTS-13 Activity ELISA, Antigen ELISA, INH ELISA (chromogenic)	15
TECHNOZYM® ADAMTS-13 Activity/Antigen ELISA (fluorogenic)	16
TECHNOZYM® D-Dimer	25
TECHNOZYM® Glu-Plasminogen ELISA	30
TECHNOZYM® PAI-1 Antigen ELISA, PAI-1 Actibind ELISA	29
TECHNOZYM® PAP Complex ELISA Kit	31
TECHNOZYM® Protein C	22
TECHNOZYM® Protein C Inhibitor	46
TECHNOZYM® t-PA EDTA ELISA, t-PA Combi Actibind	27
TECHNOZYM® t-PA - PAI-1 Complex ELISA	30
TECHNOZYM® u-PA ELISA Kit, u-PA Combi Actibind ELISA	28
TECHNOZYM® vWF:Ag ELISA, vWF:CBA ELISA; vWF:CBA Type I and Type VI	13
Thermal paper 57mm	35
Thrombin	5
Thrombin Generation	32
Thrombophilia	19
Tissue-Plasminogen Activator (t-PA)	27, 39
t-PA-PAI-1 Complex	30

## ***Index***

### **U**

Urokinase-Type Plasminogen Activator (u-PA)	28, 42
---	--------

### **V**

Vitronectin	38
-------------	----

von Willebrand Factor (vWF)	13
-----------------------------	----

### **W**

Wash solution for Ceveron® alpha	34, 37
----------------------------------	--------

## Company Information

Technoclone Herstellung von Diagnostika und Arzneimitteln GmbH was founded in **1987** by **Prof. Dr. Bernd R. Binder** (\*1945 - †2010). The main focus of the company was on monoclonal antibodies against components of the coagulation and the fibrinolytic systems. Technoclone was worldwide the first company offering a complete set of ELISAs and of a novel patented system allowing determination of activity and antigen in the same sample (Actibind) in the field of fibrinolysis.

### Acquisition of the former Immuno diagnostics portfolio from the Baxter AG

From 1998 on Technoclone expanded rapidly through the acquisition of the former Immuno diagnostics from Baxter AG and the establishment of an distribution system all over the world.

### Production and OEM Products

Technoclone is a world-leading producer of diagnostics tests, equipments and research products in the area of blood clotting. It offers both global as well as speciality coagulation tests. With the fully automated coagulation analyzer the **Ceveron® alpha** and the semi-automated analyzers the **Ceveron® one, four and ten** the portfolio was completed. The **Ceveron® alpha TGA** offers the unique feature of a fully automated **thrombin generation** measurement in the routine: CV <5% and assay times <20min Peak Thrombin. Furthermore Technoclone provides a complete range for **ADAMTS-13** testing, as well a complete portfolio for the **new anticoagulants (DOAC's)** such as for **Xa inhibitors** and **direct thrombin inhibitors**.

Technoclone's high quality in vitro diagnostics and test systems are sold worldwide not only under the Technoclone label but are also found as OEM products in the catalogues of international diagnostics companies.

### Research & Development

The focus of Technoclone's research and development is in the field of thrombosis and cardiovascular diseases, the world leading cause of mortality and morbidity. Research and development is pursued in Technoclone's own research division and in close cooperation with Universities and international and national research consortia. Technoclone holds at present more than 10 international patents in the field of diagnosis and therapy of vascular diseases.

### ISO 9001 and ISO 13485 certified

Certificates can be downloaded from  
[www.technoclone.com](http://www.technoclone.com)

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