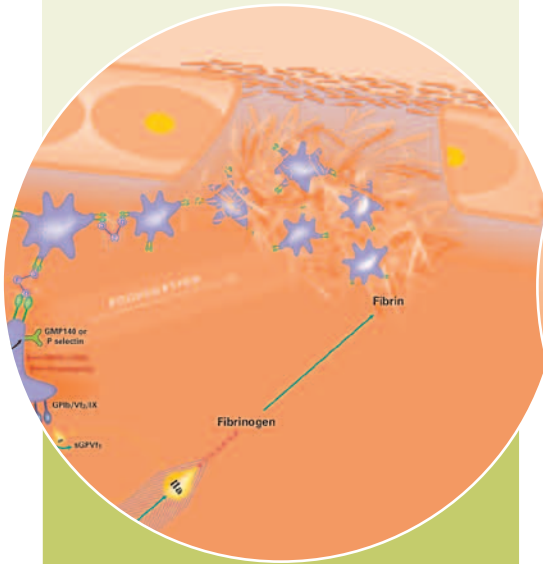


# Innovation dedicated to Haemostasis

## Primary Haemostasis

The primary Haemostasis corresponds to the reactions occurring after vascular damage and leads to the formation of a stable platelet clot. This is the first stage of the Haemostasis. To be effective, primary Haemostasis requires the optimal function of Von Willebrand Factor and platelets.

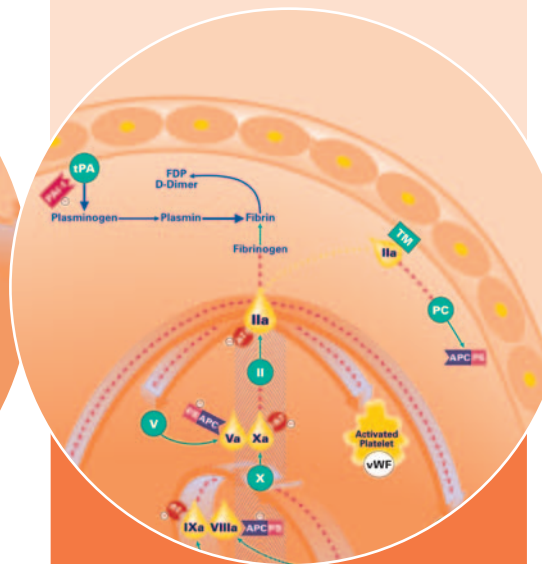


The parameters:

- Von Willebrand Factor
- Fibrinogen
- Platelet Factor 4
- $\beta$ -Thromboglobulin
- Soluble Glycoprotein V (sGPV)
- Platelet Glycoproteins by Flow Cytometry
- Anti-platelet antibodies by Flow Cytometry
- Thrombin Generation

## Haemostasis activation

Following platelet activation and plasmatic coagulation, new molecules appear circulating in the plasma and the platelet membrane proteins are modified. An increase of these markers can reveal a prothrombotic state.

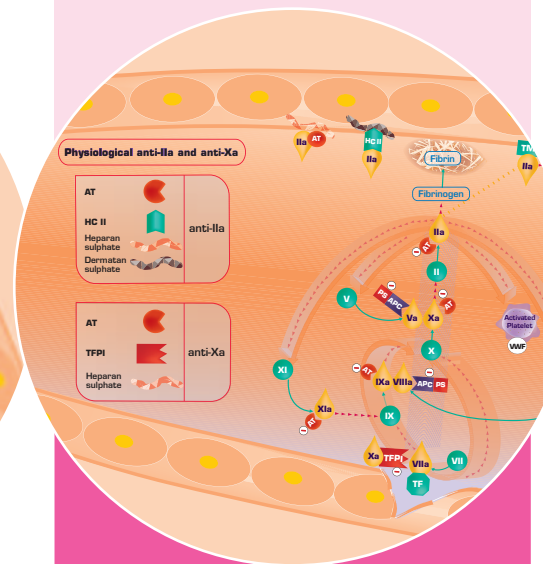


The parameters:

- D-Dimer
- Coagulation factors
- Von Willebrand Factor
- Fibrin Monomers
- Platelet Factor 4
- $\beta$ -Thromboglobulin
- Soluble Glycoprotein V (sGPV)
- Thrombomodulin
- Soluble Endothelial Protein C Receptor (sEPCR)
- Platelet Glycoproteins by Flow Cytometry
- Microparticles by Flow Cytometry
- Activated Factor VII - Antithrombin complex
- Thrombin Generation

## Thrombosis

The onset of plasma coagulation is an «explosive» event that triggers the generation of thrombin. Various control pathways involving a number of different inhibitors regulate thrombin generation and ensure that homeostasis is maintained. Anomalies regarding these inhibitors are the chief cause of venous and/or arterial thrombosis. However, thrombosis may also result from the presence of antiphospholipid antibodies.

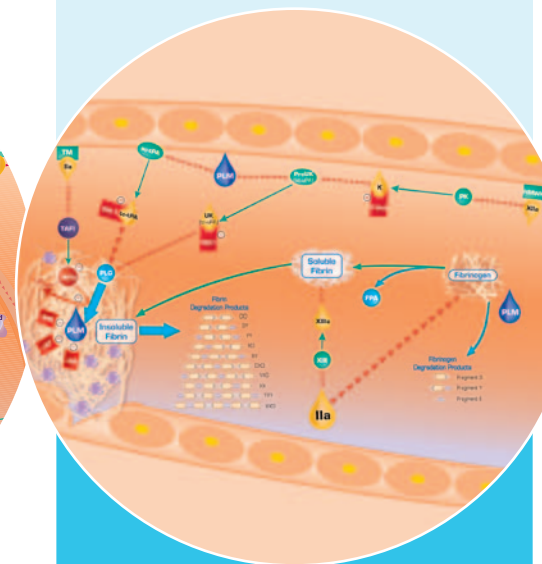


The parameters:

- Antithrombin
- Protein C
- Activated Protein C Resistance
- Protein S
- C4b-BP
- Protein Z
- Heparin Cofactor II (HCII)
- Inhibitors of the Extrinsic Pathway (TFPI)
- Soluble Endothelial Protein C Receptor (sEPCR)
- Lupus Anticoagulants
- Antiphospholipid Antibodies
- Thrombin Generation

## Fibrinolysis

Fibrinolysis is the enzymatic process which, along with vascular repair, leads to the destruction of the clot to restore normal blood circulation. An imbalance of the stability in anti-fibrinolytic factors results in a Haemostasis disorder.

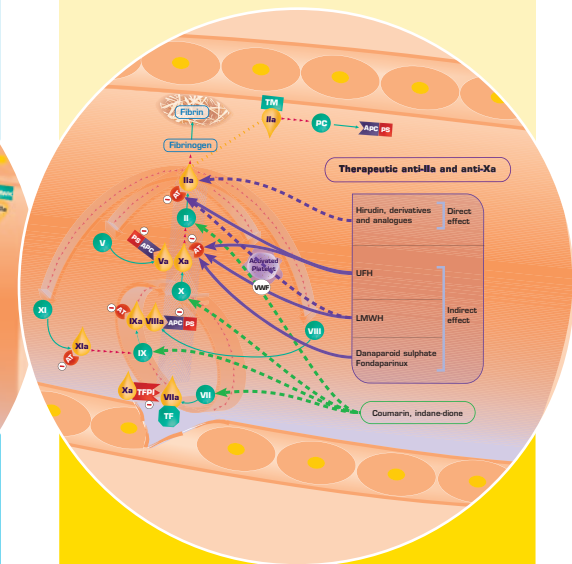


The parameters:

- D-Dimer
- Fibrinogen Degradation Products (FDP)
- Soluble Fibrin Monomer Complexes
- Fibrin Monomers
- Plasminogen
- tPA (Tissue Plasminogen Activator)
- Antiplasmin
- Plasminogen Activator Inhibitor (PAI)
- Thrombin Activatable Fibrinolysis Inhibitor (TAFI)

## Therapeutic monitoring

Haemostasis disorders can be regulated by a broad panel of anti-thrombotic or anti-haemorrhagic treatments. Many assays are available to measure the activity of these molecules.



The parameters:

- INR for monitoring OAT
- Anti-Xa activity for monitoring directs (xarelto) and indirects (heparins, fondaparinux...) anti-Xa
- Anti-IIa activity for Direct Thrombin Inhibitors determination (dabigatran)
- Monitoring of P2Y12 ADP receptor antagonists
- Monitoring of GpIb/IIIa antagonists by Flow Cytometry
- Coagulant Activity Monitoring for Activated Factor VII
- Clotting assay for monitoring Factors VIII and IX
- Anti-heparin antibodies/PF4 detection
- Thrombin Generation

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