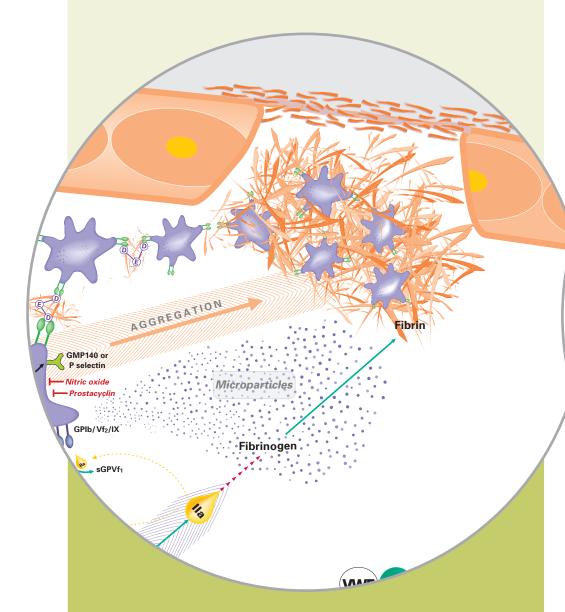
# Primary Hemostasis

Primary hemostasis corresponds to the events following vascular damage leading to the formation of a viable platelet plug. This is the first stage of hemostasis. In order for effective primary hemostasis to take place, the optimal function of von Willebrand Factor and platelets are required.



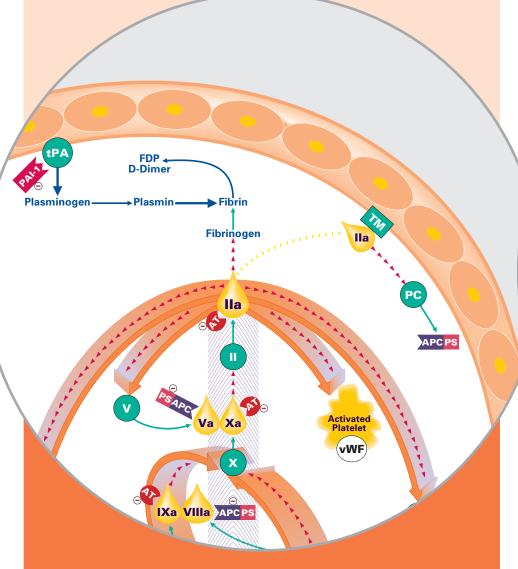
## The parameters:

- Von Willebrand Factor (vWF)
- Fibrinogen (fib)
- Platelet Factor 4 (PF4)
- ß thromboglobulin (ßTG)
- Soluble Glycoprotein V (sGPV)\*
- Platelet Glycoproteins by Flow Cytometry\*
- Anti-platelet antibodies (APA) by Flow Cytometry\*
- Thrombin generation (TG)\*
- Microparticles\*

# Hemostasis Activation

Following platelet activation and plasmatic coagulation new molecules appear circulating in the plasma and the platelet membrane proteins are modified.

An increase in plasma levels of these markers leads to a prothrombotic state.

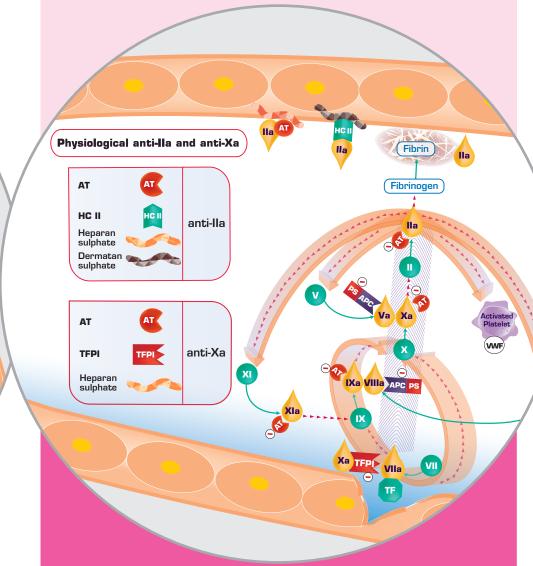


### The parameters:

- D-Dimer (D-Di)
- Coagulation Factors
- Von Willebrand Factor (vWF)
- Fibrin monomers (FM)\*
- Platelet Factor 4 (PF4)
- ß thromboglobulin (ßTG)
- Soluble Glycoprotein V (sGPV)\*
- Soluble Endothelial Protein C Receptor (sEPCR)\*
- Platelet Glycoproteins by Flow Cytometry\*
- Thrombin generation (TG)\*
- Microparticles\*
- Activated Factor VII Antithrombin complex (FVIIa-AT)\*

## **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 maintenance of hemostasis. Anomalies involving these inhibitors are the chief cause of venous and/or arterial thrombosis. However, thrombosis may also result from the presence of antiphospholipid antibodies (APLA), also known as lupus anticoagulants.



## The parameters:

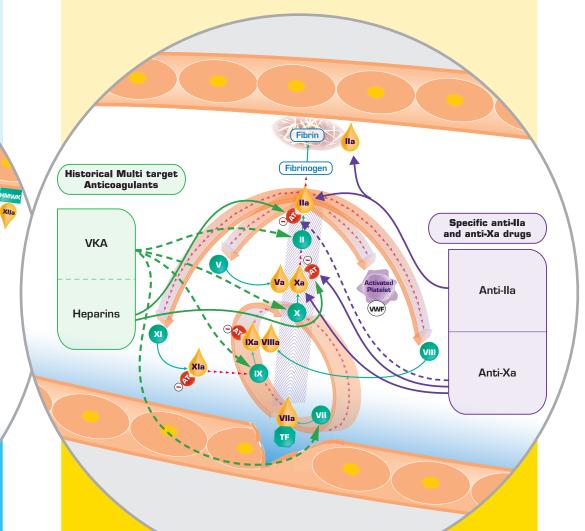
- Antithrombin (AT)
- Protein C (PC)
- Activated Protein C Resistance (APCR)
- Protein S (PS)
- C4b binding protein (C4bBP)\*
- Protein Z (PZ)\*
- Heparin cofactor II (HCII)\*
- Inhibitors of the Extrinsic Pathway (TFPI)\*
- Soluble Endothelial Protein C Receptor (sEPCR)\*
- Lupus Anticoagulants (LA)
- Antiphospholipid antibodies (APLA)\*
- Thrombin generation (TG)\*
- Microparticles\*

# **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 in antifibrinolytic factors results in a hemorrhagic or thrombotic disorder.

# Therapeutic Anticoagulant monitoring

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



### The parameters:

- D-Dimer (D-Di)
- Fibrin and Fibrinogen Degradation Products (FDP)
- Fibrin Monomers (FM)\*
- Plasminogen (PLM)
- tPA (tissue Plasminogen Activator)
- Antiplasmin (AP)
- Plasminogen Activator Inhibitor (PAI)\*
- Thrombin Activatable Fibrinolysis Inhibitor (TAFI)\*
- Microparticles\*

### The parameters:

- INR for monitoring VKA
- Anti-Xa activity for monitoring direct (rivaroxaban\*) and indirect (heparins, fondaparinux) anti-Xa anticoagulants
- Anti-Ila activity for Direct Thrombin Inhibitor determination (hirudin\*, argatroban\*, bivalirudin\*, dabigatran\*)
- Responsiveness testing for antiplatelet drugs, including anti-P2Y12\* and anti-GPIIb/IIIa\* drugs
- Clotting assays for monitoring factor VIII, factor IX, and von Willebrand Factor replacement therapies
- Anti-heparin inhibitors/Platelet Factor 4 (PF4) detection during pathogenesis of heparin-induced thrombocytopenia (HIT)



