

Special Issue

Mechanisms of Platelet Thrombus Formation

Message from the Guest Editor

Platelets are normally free flowing in a blood vessel. However, in the event of vessel injury or disease such as atherosclerotic plaques, platelets will initially tether, via exposed extracellular matrix ligands with respective platelet receptors, then adhesive events occur, followed by activation through signaling events. These inside out signaling events lead to the conversion of the major platelet integrin $\alpha\text{IIb}\beta_3$ from a resting to an activated state, where it will bind its natural ligands, including fibrinogen, to create stable platelet aggregates. The numerous steps involved in platelet thrombus formation are regulated by different receptors, ligands, signaling molecules, rheological biomechanical forces, and soluble agonist dependent mechanisms. These events regulate not only thrombus growth and stability but also the propagation of blood clots formed.

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