

Unraveling the role of factor XI and plasma prekallikrein in coagulation

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Propositions belonging to the thesis

Unraveling the role of factor XI and plasma prekallikrein in coagulation

- 1) Plasma kallikrein plays a greater role in coagulation than previously thought by directly activating factor IX (*this thesis*)
- 2) Factor XI-deficient individuals show increased plasma kallikrein activity upon contact activation compared with normal subjects suggesting a hemostasis supporting role of plasma kallikrein in this bleeding disorder (*this thesis*)
- 3) Activated factor XI, measured in complex with its natural inhibitor C1 esterase inhibitor, is a predictor for mortality in acute venous thromboembolism (*this thesis*)
- 4) The severity of COVID-19 infection is associated with an increased activation of the contact activation pathway of coagulation (*this thesis*)
- 5) Targeting enzymes of the contact activation pathway could be a safe and effective treatment option of thrombosis (*impact paragraph*)
- 6) The contact activation system serves as a common node linking inflammatory and coagulation cascades (*Raghunathan V, Res Pract Thromb Haemost. 2019*)
- 7) Understanding fundamental differences between thrombosis and hemostasis in the vascular system is critical to develop safe and effective anticoagulants (*Woodruff RS, J Thromb Thrombolysis 2011*)
- 8) Using patient samples is key to translating in vitro data to the clinic as well as to understanding the impact of coagulation factors on thrombosis
- 9) Scientists in their laboratory are not mere technicians: they are also children confronting natural phenomena that impress them as though they were fairy tales (*based on Marie Curie*)
- 10) It always seems impossible until it's done (*Nelson Mandela*)
- 11) Books are a uniquely portable magic (*Stephen King*)

Mayken Visser, June 30 2021