

Transient and persistent aspects of human platelet activation

Citation for published version (APA):

Zou, J. (2024). Transient and persistent aspects of human platelet activation. [Doctoral Thesis, Maastricht University]. Maastricht University. https://doi.org/10.26481/dis.20240319jz

Document status and date: Published: 01/01/2024

DOI: 10.26481/dis.20240319jz

Document Version: Publisher's PDF, also known as Version of record

Please check the document version of this publication:

 A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.

• The final author version and the galley proof are versions of the publication after peer review.

 The final published version features the final layout of the paper including the volume, issue and page numbers.

Link to publication

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these riahts.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
 You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Propositions belonging to the dissertation

Transient and persistent aspects of human platelet activation By Jinmi Zou

- The reversibility of αIlbβ3 integrin activation in human platelets, as induced by receptor agonists, is steered by protein kinase C isoforms. (*This thesis*)
- 2. Autocrine released ADP as well as signaling via protein kinase C isoforms contribute to persistent integrin α IIb β 3 activation and hence to stabilized platelet aggregation. (*This thesis*)
- Regulation of the long-term calcium entry in platelets, stimulated via collagen or thrombin receptors, is achieved by the channel protein Orai1 and by Na⁺/Ca²⁺ exchangers in the plasma membrane. (*This thesis*)
- 4. Protein phosphorylation via conventional and novel protein kinase C isoforms acts as a strong negative regulator of the calcium entry in platelets, thereby suppressing platelet-dependent procoagulant activity and coagulation. (*This thesis*)
- 5. In whole blood thrombin generation, red blood cells play an initial role, whilst activated platelets support this process at later stage. (*This thesis*)
- Previously activated platelets that have returned to a resting state can still contribute to the formation of a thrombus. (*De Simone, J Thromb Haemost* 2023)
- 7. Bridging integrator 2 is a central regulator of platelet activation in thrombosis and thrombo-inflammatory disease settings. (Volz, J Clin Investig 2020)
- An ideal antiplatelet drug selectively inhibits thrombosis, preserving essential hemostatic mechanisms, with research focused on signaling molecules downstream of receptor-mediated platelet activation. (Gawaz, Nat Rev Cardiol, 2023)
- Engagement in scientific research is a fascinating experience, as unexpected experimental outcomes serve as catalysts for uncovering novel mechanisms.
- Those who work will succeed, and those who walk will arrive at their destination. 为者常成, 行者常至——《晏子春秋》 (Yanzi Chunqiu)

March 19, 2024