

Immunologische Funktionen von Thrombozyten – Ein Überblick

1. Jenne CN, Kubes P. Platelets in inflammation and infection. *Platelets*. 19. Mai 2015;26(4):286–92.
2. Deppermann C, Kubes P. Start a fire, kill the bug: The role of platelets in inflammation and infection. *Innate Immun*. August 2018;24(6):335–48.
3. Michelson AD, Cattaneo M, Frelinger AL, Newman PJ, Herausgeber. *Platelets*. Fourth edition. London: Elsevier/Academic Press; 2019. 1230 S.
4. Valet C, Magnen M, Qiu L, Cleary SJ, Wang KM, Ranucci S, u. a. Sepsis promotes splenic production of a protective platelet pool with high CD40 ligand expression. *J Clin Invest*. 1. April 2022;132(7):e153920.
5. Sun S, Jin C, Si J, Lei Y, Chen K, Cui Y, u. a. Single-cell analysis of ploidy and the transcriptome reveals functional and spatial divergency in murine megakaryopoiesis. *Blood*. 7. Oktober 2021;138(14):1211–24.
6. Rondina MT, Weyrich AS, Zimmerman GA. Platelets as Cellular Effectors of Inflammation in Vascular Diseases. *Circ Res*. 24. Mai 2013;112(11):1506–19.
7. Scherlinger M, Richez C, Tsokos GC, Boilard E, Blanco P. The role of platelets in immune-mediated inflammatory diseases. *Nat Rev Immunol* [Internet]. 27. Januar 2023 [zitiert 27. Juli 2023]; Verfügbar unter: <https://www.nature.com/articles/s41577-023-00834-4>.
8. Maouia A, Rebetz J, Kapur R, Semple JW. The Immune Nature of Platelets Revisited. *Transfusion Medicine Reviews*. Oktober 2020;34(4):209–20.
9. Kapur R, Semple JW. The nonhemostatic immune functions of platelets. *Seminars in Hematology*. April 2016;53:S2–6.
10. Haemmerle M, Stone RL, Menter DG, Afshar-Kharghan V, Sood AK. The Platelet Lifeline to Cancer: Challenges and Opportunities. *Cancer Cell*. Juni 2018;33(6):965–83.
11. Li Y, Wang H, Zhao Z, Yang Y, Meng Z, Qin L. Effects of the interactions between platelets with other cells in tumor growth and progression. *Front Immunol*. 17. April 2023;14:1165989.
12. Hamzeh-Cognasse H, Damien P, Chabert A, Pozzetto B, Cognasse F, Garraud O. Platelets and Infections – Complex Interactions with Bacteria. *Front Immunol* [Internet]. 26. Februar 2015 [zitiert 30. Juli 2023];6. Verfügbar unter: <http://journal.frontiersin.org/Article/10.3389/fimmu.2015.00082/abstract>.
13. Schrottmaier WC, Schmuckenschlager A, Pirabe A, Assinger A. Platelets in Viral Infections – Brave Soldiers or Trojan Horses. *Front Immunol*. 28. März 2022;13:856713.
14. Eriksson O, Mohlin C, Nilsson B, Ekdahl KN. The Human Platelet as an Innate Immune Cell: Interactions Between Activated Platelets and the Complement System. *Front Immunol*. 10. Juli 2019;10:1590.
15. Arbesu I, Bucsaiova M, Fischer MB, Mannhalter C. Platelet-borne complement proteins and their role in platelet-bacteria interactions. *J Thromb Haemost*. November 2016;14(11):2241–52.
16. Simpson SR, Singh MV, Dewhurst S, Schifitto G, Maggirwar SB. Platelets function as an acute viral reservoir during HIV-1 infection by harboring virus and T-cell complex formation. *Blood Advances*. 22. September 2020;4(18):4512–21.
17. Ebermeyer T, Cognasse F, Berthelot P, Mismetti P, Garraud O, Hamzeh-Cognasse H. Platelet Innate Immune Receptors and TLRs: A Double-Edged Sword. *IJMS*. 23. Juli 2021;22(15):7894.
18. Koupenova M, Mick E, Mikhalev E, Benjamin EJ, Tanriverdi K, Freedman JE. Sex differences in platelet toll-like receptors and their association with cardiovascular risk factors. *Arterioscler Thromb Vasc Biol*. April 2015;35(4):1030–7.
19. Assinger A, Kral JB, Yaiw KC, Schrottmaier WC, Kurzejamska E, Wang Y, u. a. Human cytomegalovirus-platelet interaction triggers toll-like receptor 2-dependent proinflammatory and proangiogenic responses. *Arterioscler Thromb Vasc Biol*. April 2014;34(4):801–9.
20. Blair P, Flaumenhaft R. Platelet alpha-granules: basic biology and clinical correlates. *Blood Rev*. Juli 2009;23(4):177–89.
21. Chaurasia SN, Kushwaha G, Pandey A, Dash D. Human platelets express functional ectonucleotidases that restrict platelet activation signaling. *Biochemical and Biophysical Research Communications*. Juni 2020;527(1):104–9.
22. Eltzschig HK, Sitkovsky MV, Robson SC. Purinergic signaling during inflammation. *N Engl J Med*. 13. Dezember 2012;367(24):2322–33.
23. Haskó G, Cronstein BN. Adenosine: an endogenous regulator of innate immunity. *Trends Immunol*. Januar 2004;25(1):33–9.
24. Boudreau LH, Duchez AC, Cloutier N, Soulet D, Martin N, Bollinger J, u. a. Platelets release mitochondria serving as substrate for bactericidal group IIA-secreted phospholipase A2 to promote inflammation. *Blood*. 2. Oktober 2014;124(14):2173–83.

25. Melki I, Allaey S, Tessandier N, Lévesque T, Cloutier N, Laroche A, u. a. Platelets release mitochondrial antigens in systemic lupus erythematosus. *Sci Transl Med.* 17. Februar 2021;13(581):eaav5928.
26. Zhou H, Deng M, Liu Y, Yang C, Hoffman R, Zhou J, u. a. Platelet HMGB1 is required for efficient bacterial clearance in intra-abdominal bacterial sepsis in mice. *Blood Advances.* 27. März 2018;2(6):638–48.
27. Kraemer BF, Campbell RA, Schwertz H, Cody MJ, Franks Z, Tolley ND, u. a. Novel anti-bacterial activities of β -defensin 1 in human platelets: suppression of pathogen growth and signaling of neutrophil extracellular trap formation. *PLoS Pathog.* November 2011;7(11):e1002355.
28. Panigrahi S, Ghosh SK, Ferrari B, Wyrick JM, Podrez EA, Weinberg A, u. a. Human β -Defensin-3 is Associated With Platelet-Derived Extracellular Vesicles and is a Potential Contributor to Endothelial Dysfunction. *Front Mol Biosci.* 2022;9:824954.
29. Ezzeroug Ezzraimi A, Hannachi N, Mariotti A, Rolain JM, Camoin-Jau L. Platelets and Escherichia coli: A Complex Interaction. *Biomedicines.* 7. Juli 2022;10(7):1636.
30. Palankar R, Kohler TP, Krauel K, Wesche J, Hammerschmidt S, Greinacher A. Platelets kill bacteria by bridging innate and adaptive immunity via platelet factor 4 and Fc γ RIIA. *Journal of Thrombosis and Haemostasis.* Juni 2018;16(6):1187–97.
31. Hug S, Bernhard S, Stratmann AEP, Erber M, Wohlgemuth L, Knapp CL, u. a. Activation of Neutrophil Granulocytes by Platelet-Activating Factor Is Impaired During Experimental Sepsis. *Front Immunol.* 16. März 2021;12:642867.
32. Messerer DAC, Vidoni L, Erber M, Stratmann AEP, Bauer JM, Braun CK, u. a. Animal-Free Human Whole Blood Sepsis Model to Study Changes in Innate Immunity. *Front Immunol.* 2020;11:571992.
33. Manne BK, Denorme F, Middleton EA, Portier I, Rowley JW, Stubben C, u. a. Platelet gene expression and function in patients with COVID-19. *Blood.* 10. September 2020;136(11):1317–29.
34. Kaiser R, Escaig R, Erber J, Nicolai L. Neutrophil-Platelet Interactions as Novel Treatment Targets in Cardiovascular Disease. *Front Cardiovasc Med.* 31. Januar 2022;8:824112.
35. Leppkes M, Knopf J, Naschberger E, Lindemann A, Singh J, Herrmann I, u. a. Vascular occlusion by neutrophil extracellular traps in COVID-19. *EBioMedicine.* August 2020;58:102925.
36. Engemann B, Massberg S. Thrombosis as an intravascular effector of innate immunity. *Nat Rev Immunol.* Januar 2013;13(1):34–45.
37. Gajendran C, Fukui S, Sadhu NM, Zainuddin M, Rajagopal S, Gosu R, u. a. Alleviation of arthritis through prevention of neutrophil extracellular traps by an orally available inhibitor of protein arginine deiminase 4. *Sci Rep.* 23. Februar 2023;13(1):3189.
38. Yang C, Montgomery M. Dornase alfa for cystic fibrosis. *Cochrane Cystic Fibrosis and Genetic Disorders Group, Herausgeber. Cochrane Database of Systematic Reviews [Internet].* 18. März 2021 [zitiert 31. Juli 2023];2021(3). Verfügbar unter: <http://doi.wiley.com/10.1002/14651858.CD001127.pub5>.

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