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Titel des Beitrags:
Immunosurveillance by hematopoietic progenitor cells trafficking through blood, lymph, and peripheral tissues.

Abstract:
 Constitutive egress of bone marrow (BM)-resident hematopoietic stem and progenitor cells (HSPCs) into the blood is a well-established phenomenon, but the ultimate fate and functional relevance of circulating HSPCs is largely unknown. We show that mouse thoracic duct (TD) lymph contains HSPCs that possess short- and long-term multilineage reconstitution capacity. TD-derived HSPCs originate in the BM, enter the blood, and traffic to multiple peripheral organs, where they reside for at least 36 hr before entering draining lymphatics to return to the blood and, eventually, the BM. HSPC egress from extramedullary tissues into lymph depends on sphingosine-1-phosphate receptors. Migratory HSPCs proliferate within extramedullary tissues and give rise to tissue-resident myeloid cells, preferentially dendritic cells. HSPC differentiation is amplified upon exposure to Toll-like receptor agonists. Thus, HSPCs can survey peripheral organs and can foster the local production of tissue-resident innate immune cells under both steady-state conditions and in response to inflammatory signals.

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