

Accepted Manuscript

Review article

The multifaceted role of the renal mononuclear phagocyte system

Susanne F. Viehmann, Alexander M.C. Böhner, Christian Kurts, Sebastian Brähler

PII: S0008-8749(18)30180-1

DOI: <https://doi.org/10.1016/j.cellimm.2018.04.009>

Reference: YCIMM 3799

To appear in: *Cellular Immunology*

Received Date: 18 October 2017

Revised Date: 16 April 2018

Accepted Date: 20 April 2018



Please cite this article as: S.F. Viehmann, A.M.C. Böhner, C. Kurts, S. Brähler, The multifaceted role of the renal mononuclear phagocyte system, *Cellular Immunology* (2018), doi: <https://doi.org/10.1016/j.cellimm.2018.04.009>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

The multifaceted role of the renal mononuclear phagocyte system

Susanne F. Viehmann¹, Alexander M. C. Böhner¹, Christian Kurts¹, Sebastian Brähler²

¹Institute of Experimental Immunology, University Clinic of the Rheinische Friedrich-Wilhelms-Universität, 53127 Bonn, Germany. ²Department II of Internal Medicine and Center for Molecular Medicine Cologne, University of Cologne, 50931 Cologne, Germany

All authors contributed equally

Address correspondence to C.K. ckurts@web.de or S.B. sebastian.braehler@uk-koeln.de

Keywords: mononuclear phagocyte system, dendritic cell, macrophage, resident macrophage, kidney, glomerulonephritis, pyelonephritis, acute kidney injury

Abstract

The kidney contains an abundant and complex network of mononuclear phagocytes, which includes dendritic cells (DCs) and macrophages (MØs). The distinction between these cell types is traditionally based on the expression of molecular markers and morphology. However, several classification systems are used in parallel to identify DCs and MØs, leading to considerable uncertainty about their functional roles. The discovery that a substantial proportion of macrophages in tissues like the kidney are embryonically derived further complicates the situation. Recent studies have used newly identified transcription factors such as ZBTB46 and lineage tracing techniques for classifying mononuclear phagocytes. These approaches have shed new light on the functional specialization of these cells in health and disease, uncovered an influence of the renal microenvironment and revealed considerable cellular plasticity, especially in inflammatory situations. In this review, the current knowledge about the developmental origins and versatile functional roles of DCs and MØs in kidney homeostasis and disease is discussed.

Download English Version:

<https://daneshyari.com/en/article/8943864>

Download Persian Version:

<https://daneshyari.com/article/8943864>

[Daneshyari.com](https://daneshyari.com)