

Research output list

1. Publications in peer-reviewed scientific journals:

Peer-reviewed original publications

1. McKendrick JG, Jones G, Elder SS, Watson E, T'Jonck W, Mercer E, Magalhaes MS, Rocchi C, Hegarty LM, Johnson AL, **Schneider C**, Becher B, Pridans C, Mabbott N, Liu Z, Ginhoux F, Bajenoff M, Gentek R, Bain CC, Emerson E. CSF1R-dependent macrophages in the salivary gland are essential for epithelial regeneration after radiation-induced injury. *Science Immunology*. 2023 Nov 4.
2. Chiarunt P, Burrows K, Ngai L, Tai SL, Cao EY, Liang H, Hamidzada H, Wong A, Gschwend J, Flüchter P, Kuypers M, Despot T, Momen A, Lim SM, Malleavey T, **Schneider C**, Conway T, Imamura H, Epelman S, Mortha A. Microbial energy metabolism fuels an intestinal macrophage niche in solitary isolated lymphoid tissues through purinergic signaling. *Science Immunology*. 2023 Aug 4.
3. Kayhan M, Vouillamoz J, Gonzalez Rodriguez D, Bugarski M, Mitamura Y, Gschwend J, **Schneider C**, Hall A, Legouis D, Akdis CA, Peter L, Rehrauer H, Gewin L, Wenger RH, Nlandu Khodo S. Intrinsic TGF- β Signaling Attenuates Proximal Tubule Mitochondrial Injury and Inflammation in Chronic Kidney Disease. *Nature Communications*. 2023 Jun 3.
4. Gurtner A[#], Borrelli C[#], Gonzalez-Perez I, Bach K, Acar IE, Núñez NG, Crepaz D, Handler K, Vu VP, Lafzi A, Stirm K, Raju D, Gschwend J, Basler K, **Schneider C**, Slack E, Valenta T, Becher B, Krebs P, Moor AE[#], Arnold IC[#]. Active eosinophils regulate host defense and immune responses in colitis. *Nature*. 2022 Dec 12. ([#] equal contribution)
5. Li F[#], Okreglicka KM[#], Piattini F, Pohlmeier LM, **Schneider C**, Kopf M. Gene therapy of Csf2ra-deficiency in mouse fetal monocyte precursors restores alveolar macrophage development and function. *JCI Insight*. 2022 Apr 8. ([#] equal contribution)
6. O'Leary CE, Sbierski-Kind J, Kotas ME, Wagner JC, Liang HE, Schroeder AW, de Tenorio JC, von Moltke J, Ricardo-Gonzalez RR, Eckalbar WL, Molofsky AB, **Schneider C**, Locksley RM. Bile acid-sensitive tuft cells regulate biliary neutrophil influx. *Sci Immunol*. 2022 Mar 4.
7. Ruiz-Serrano A, Monné Rodríguez JM, Günter J, Sherman SPM, Jucht AE, Flüchter P, Volkova YL, Pfundstein S, Pellegrini G, Wagner CA, **Schneider C**, Wenger RH, Scholz CC. OTUB1 regulates lung development, adult lung tissue homeostasis and respiratory control. *FASEB J*. 2021 Nov 18.
8. Gschwend J[#], Sherman SPM[#], Ridder F, Feng X, Liang HE, Locksley RM, Becher B, **Schneider C**. Alveolar macrophages rely on GM-CSF from alveolar epithelial type 2 cells before and after birth. *Journal of Experimental Medicine*. 2021 Oct 4. ([#] equal contribution)
9. Kotas ME, Mroz NM, Koga S, Liang HE, Schroeder AW, Ricardo-Gonzales RR, **Schneider C**, Locksley RM. CISH constrains the tuft–ILC2 circuit to set epithelial and immune tone. *Mucosal Immunol*. 2021 Jul 21.
10. Piattini F, Matsushita M, Muri J, Bretscher P, Feng X, Freigang S, Dalli J, **Schneider C**, Kopf M. Differential sensitivity of inflammatory macrophages and alternatively activated macrophages to ferroptosis. *European Journal of Immunology*. 2021 Jul 17.
11. Okreglicka KM, Irina I, Pohlmeier LM, Onder L, Feng Q, Kurrer M, Ludewig B, Nielsen P, **Schneider C**, Kopf M. PPAR γ is essential for the development of bone marrow erythroblastic island macrophages and splenic red pulp macrophages. *Journal of Experimental Medicine*. 2021 May 3.

12. O'Leary CE[#], Feng X[#], Cortez VS, Locksley RM, **Schneider C**. Interrogating the small intestine tuft cell-ILC2 circuit using in vivo manipulations. **Curr Protoc Immunol**. 2021 Mar 19. ([#] equal contribution)
13. Maric S, Flüchter P, Guglielmetti LC, Staerkle RF, Sasse T, Restin T, **Schneider C**, Holland-Cunz SG, Crenn P, Vuille-Dit-Bille RN. Plasma citrulline correlates with basolateral amino acid transporter LAT4 expression in human small intestine. **Clin Nutr**. 2020 Oct 9.
14. Ricardo-Gonzales RR[#], **Schneider C**[#], Liao C, Lee J, Liang HE, Locksley RM. Tissue-specific pathways extrude activated ILC2s to disseminate type 2 immunity. **Journal of Experimental Medicine**. 2020 Apr 6. ([#] equal contribution)
15. Li F, Okreglicka KM, Pohlmeier LM, **Schneider C**, Kopf M. Fetal monocytes possess increased metabolic capacity and replace primitive macrophages in tissue macrophage development. **EMBO J**. 2020 Jan 2.
16. **Schneider C**[#], Lee J[#], Koga S, Ricardo-Gonzales RR, Nussbaum JC, Liang HE, Smith LK, Villeda SA, Locksley RM. Tissue-resident group 2 innate lymphoid cells differentiate by layered ontogeny and in situ perinatal priming. **Immunity**. 2019 Jun 18. ([#] equal contribution)
17. Piattini F, Le Foll C, Kisielow J, Rosenwald E, Nielsen P, Lutz T, **Schneider C**, Kopf M. A spontaneous leptin-receptor point mutation in obese mice differentially affects leptin signaling in hypothalamic nuclei and results in a metabolic dysfunction distinct from db/db mice. **Molecular Metabolism**. 2019 Apr 25.
18. Ricardo-Gonzalez RR[#], Van Dyken SJ[#], **Schneider C**, Lee J, Nussbaum JC, Liang HE, Vaka D, Eckalbar WL, Molofsky AB, Erle DJ, Locksley RM. Tissue signals imprint ILC2 identity with anticipatory function. **Nature Immunology**. 2018 Sep 10.
19. Nadsjombati MS, McGinty JW, Lyons-Cohen MR, Jaffe JB, DiPeso L, **Schneider C**, Miller CN, Pollack JL, Nagana Gowda GA, Fontana MF, Erle DJ, Anderson MS, Locksley RM, Raftery D, von Moltke J. Detection of succinate by intestinal tuft cells triggers a type 2 innate immune circuit. **Immunity**. 2018 Jul 17.
20. **Schneider C**, O'Leary CE, von Moltke J, Liang HE, Ang QY, Turnbaugh PJ, Radhakrishnan S, Pellizzon M, Ma A, Locksley RM. A metabolite-triggered tuft cell-ILC2 circuit drives small intestinal remodeling. **Cell**. 2018 Jul 12.
21. Singh PB, Pua HH, Happ HC, **Schneider C**, von Moltke J, Locksley RM, Baumjohann D, Ansel KM. MicroRNA regulation of type 2 innate lymphoid cell homeostasis and function in allergic inflammation. **Journal of Experimental Medicine**. 2017 Nov 9.
22. Yakimovich A, Huttunen M, Zehnder B, Coulter LJ, Gould V, **Schneider C**, Kopf M, McInnes CJ, Greber UF, Mercer J. Inhibition of Poxvirus Gene Expression and Genome Replication by Bisbenzimidazole Derivatives. **Journal of Virology**. 2017 Aug 24.
23. Nobs SP, Natali S, Pohlmeier L, Okreglicka K, **Schneider C**, Kurrer M, Sallusto F, Kopf M. PPAR γ in dendritic cells and T cells drives pathogenic type-2 effector responses in lung inflammation. **Journal of Experimental Medicine**. 2017 Aug 10.
24. **Schneider C**[#], Nobs SP[#], Heer AK, Hirsch E, Penninger J, Siggs OM, Kopf M. Coincidental null mutation of *Csf2ra* in a colony of PI3K γ ^{-/-} mice causes alveolar macrophage deficiency and fatal respiratory viral infection. **Journal of Leukocyte Biology**. 2016 Jul 28. ([#] equal contribution)
25. Nobs SP, **Schneider C**, Heer AK, Huotari J, Helenius A, Kopf M. PI3K γ is critical for dendritic cell-mediated CD8⁺ T cell priming and viral clearance during influenza virus infection. **PLoS Pathogens**. 2016 Mar 31.

26. Nobs SP, **Schneider C**, Dietrich MG, Brocker T, Rolink A, Hirsch E, Kopf M. PI3-Kinase- γ has a distinct and essential role in lung-specific dendritic cell development. **Immunity**. 2015 Oct 6.
27. Mohapatra A, Van Dyken SJ, **Schneider C**, Nussbaum JC, Liang HE, Locksley RM. Group 2 innate lymphoid cells utilize the IRF4–IL-9 module to coordinate epithelial cell maintenance of lung homeostasis. **Mucosal Immunology**. 2015 Jul 1.
28. Matsushita M, Freigang S, **Schneider C**, Conrad M, Bornkamm GM, Kopf M. T cell lipid peroxidation induces ferroptosis and prevents immunity to infection. **Journal of Experimental Medicine**. 2015 Mar 30.
29. Banerjee I, Miyake Y, Nobs SP, **Schneider C**, Horvath P, Kopf M, Matthias P, Helenius A, Yamauchi Y. Influenza A virus uses the aggresome processing machinery for host cell entry. **Science**. 2014 Oct 24.
30. **Schneider C**, Nobs SP, Kurrer M, Rehrauer H, Thiele C, Kopf M. Induction of the nuclear receptor PPAR- γ by the cytokine GM-CSF is critical for the differentiation of fetal monocytes into alveolar macrophages. **Nature Immunology**. 2014 Sep 28.
31. **Schneider C**, Nobs SP, Heer A, Kurrer M, Klinke G, van Rooijen N, Vogel J, Kopf M. Alveolar macrophages are essential for protection from respiratory failure and associated morbidity following influenza virus infection. **PLoS Pathogens**. 2014 Apr 3.
32. Kilcher S, Schmidt FI, **Schneider C**, Kopf M, Helenius A, Mercer J. siRNA screen of early poxvirus genes identifies the AAA+ ATPase D5 as the virus genome-uncoating factor. **Cell Host & Microbe**. 2014 Jan 15.
33. Weber B, Schuster S, Zysset D, Rihs S, Dickgreber N, Schuerch C, Riether C, Siegrist M, **Schneider C**, Pawelski H, Gurtzler U, Ziltener P, Genitsch V, Tacchini-Cottier F, Ochsenbein A, Hofstetter W, Kopf M, Kaufmann T, Oxenius A, Reith W, Saurer L, Mueller C. TREM-1 deficiency can attenuate disease severity without affecting pathogen clearance. **PLoS Pathogens**. 2014 Jan 16.
34. Schmitz I, **Schneider C**, Fröhlich A, Frebel H, Christ D, Leonard WJ, Sparwasser T, Oxenius A, Freigang S, Kopf M. IL-21 restricts virus-driven Treg cell expansion in chronic LCMV infection. **PLoS Pathogens**. 2013 May 16.
35. Wolf MJ, Hoos A, Bauer J, Boettcher S, Knust M, Weber A, Simonavicius N, **Schneider C**, Lang M, Stürzl M, Croner RS, Konrad A, Manz MG, Moch H, Aguzzi A, van Loo G, Pasparakis M, Prinz M, Borsig L, Heikenwalder M. Endothelial CCR2 signaling induced by colon carcinoma cells enables extravasation via the JAK2-Stat5 and p38MAPK pathway. **Cancer Cell**. 2012 Jul 10.

Reviews and viewpoints

36. **Schneider C**. Tuft cell integration of luminal states and interaction modules in tissues. **Pflügers Archiv - Eur J Physiol**. 2021 Oct 11.
37. **Schneider C**[#], O'Leary CE[#], Locksley RM. Regulation of immune responses by tuft cells. **Nat. Rev. Immunol.** 2019 May 21. ([#] equal contribution)
38. O'Leary CE[#], **Schneider C**[#], Locksley RM. Tuft cells—systemically dispersed sensory epithelia integrating immune and neural circuitry. **Annu. Rev. Immunol.** 2018 Oct 31. ([#] equal contribution)
39. **Schneider C**, Kopf M. tEMPTing Fate MaYBe the Solution. *Preview*. **Immunity**. 2015 Apr 21.
40. Kopf M, **Schneider C**, Nobs SP. The development and function of lung-resident macrophages and dendritic cells. **Nature Immunology**. 2014 Dec 18.