

PUBLICATION LIST

Research articles:

Cecchini L, Barmaz C, Coloma Cea MJ, Baeschlin H, Etter J, Netzer S, Bregy L, Fernandez N, Meier R, Hirschi J, Wyss J, Wick A, Zingg J, Radan A-P, Etter A, Müller M, Kaess M, Surbek D, Yilmaz B, Macpherson AJ, Sokollik CV, Misselwitz B*, **Ganal-Vonarburg SC***. (2023). The Bern Birth Cohort (BeBiCo) to study the development of the infant intestinal microbiota in a high-resource setting in Switzerland: rationale, design, and methods. *BMC Pediatrics. BMC Pediatr.* 2023 Nov 10;23(1):560. doi: 10.1186/s12887-023-04198-5.

*Co-last author

Hassan, M., Juanola, O., Huber, S., Kellmann, P., Zimmermann, J., Lazzarini, E., **Ganal-Vonarburg, S.C.**, Gomez de Aguero, M., and Moghadamrad, S. (2023). Absence of gut microbiota impairs depletion of Paneth cells but not goblet cells in germ-free Atoh1(lox/lox) VilCreER(T2) mice. *Am J Physiol Gastrointest Liver Physiol* 324, G426-G437.

Kennedy, K.M., de Goffau, M.C., Perez-Munoz, M.E., Arrieta, M.C., Backhed, F., Bork, P., Braun, T., Bushman, F.D., Dore, J., de Vos, W.M., Earl, A.M., Eisen, J.A., Elovitz, M.A., **Ganal-Vonarburg, S.C.**, Ganzle, M.G., Garrett, W.S., Hall, L.J., Hornef, M.W., Huttenhower, C., Konnikova, L., Lebeer, S., Macpherson, A.J., Massey, R.C., McHardy, A.C., Koren, O., Lawley, T.D., Ley, R.E., O'Mahony, L., O'Toole, P.W., Pamer, E.G., Parkhill, J., Raes, J., Rattei, T., Salonen, A., Segal, E., Segata, N., Shanahan, F., Sloboda, D.M., Smith, G.C.S., Sokol, H., Spector, T.D., Surette, M.G., Tannock, G.W., Walker, A.W., Yassour, M., and Walter, J. (2023). Questioning the fetal microbiome illustrates pitfalls of low-biomass microbial studies. *Nature* 613, 639-649.

Rohm T.V., Keller L., Bosch A.J.T., AlAsfoor S., Baumann Z., Thomas A., Wiedemann S.J., Steiger L., Dalmas E., Wehner J., Rachid L., Mooser C., Yilmaz B., Fernandez Trigo N., Jauch A.J., Wueest S., Konrad D., Henri S., Niess J.H., Hruz P., **Ganal-Vonarburg S.C.**, Roux J., Meier D.T., Cavelti-Weder C. (2022). Targeting colonic macrophages improves glycemic control in high-fat diet-induced obesity. *Commun Biol.* 5(1):370.

Mossad O., Batut B., Yilmaz B., Dokalis N., Mezö C., Nent E., Nabavi L.S., Mayer M., Maron F.J.M., Buescher J.M., de Agüero M.G., Szalay A., Lämmermann T., Macpherson A.J., **Ganal-Vonarburg S.C.**, Backofen R., Erny D., Prinz M., Blank T. (2022). *Nat Neurosci.* 25(3):295-305.

Sanchez-Taltavull D., Castelo-Szekely V., Murugan S., Hamley J.I.D., Rollenske T., **Ganal-Vonarburg S.C.**, Büchi I., Keogh A., Li H., Salm L., Spari D., Yilmaz B., Zimmermann J., Gerfin M., Roldan E., Beldi G.; UVM-COVID researchers. (2021). Regular testing of asymptomatic healthcare workers identifies cost-efficient SARS-CoV-2 preventive measures. *PloS One.* 2021 Nov 5;16(11):e0258700.

Pownall W.R., Imhof D., Trigo N.F., **Ganal-Vonarburg S.C.**, Plattet P., Monney C., Forterre F., Hemphill A., Oevermann A. (2021). *Front Cell Infect Microbiol.* eCollection 2021.

Yilmaz, B., Mooser, C., Keller, I., Li, H., Zimmermann, J., Bosshard, L., Fuhrer, T., Gomez de Agüero, M., Trigo N.F., Tschanz-Lischer, H., Limenitakis J.P., Hardt ,W.D., McCoy, K.D., Stecher, B., Excoffier, L., Sauer, U., **Ganal-Vonarburg, S.C.**, Macpherson, A.J. (2021). Long-term evolution and short-term adaptation of microbiota strains and sub-strains in mice. *Cell Host Microbe.* 29(4):650-663.e9.

Li, H., Limenitakis, J.P., Greiff, V., Yilmaz, B., Scharen, O., Urbaniak, C., Zund, M., Lawson, M.A.E., Young, I.D., Rupp, S., Heikenwalder, M., McCoy, K.D., Hapfelmeier, S., **Ganal-Vonarburg, S.C.***, and Macpherson, A.J.* (2020). Mucosal or systemic microbiota exposures shape the B cell repertoire. *Nature* 584, 274-278.

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Mezo, C., Dokalis, N., Mossad, O., Staszewski, O., Neuber, J., Yilmaz, B., Schnepf, D., de Aguero, M.G., **Ganal-Vonarburg, S.C.**, Macpherson, A.J., Meyer-Luehmann, M., Staeheli, P., Blank, T., Prinz, M., and Erny, D. (2020). Different effects of constitutive and induced microbiota modulation on microglia in a mouse model of Alzheimer's disease. *Acta Neuropathol Commun* 8, 119.

Roder, T., Wuthrich, D., Bar, C., Sattari, Z., Ah, U.V., Ronchi, F., Macpherson, A.J., **Ganal-Vonarburg, S.C.**, Bruggmann, R., and Vergeres, G. (2020). In Silico Comparison Shows that the Pan-Genome of a Dairy-Related Bacterial Culture Collection Covers Most Reactions Annotated to Human Microbiomes. *Microorganisms* 8.

Schaupp, L., Muth, S., Rogell, L., Kofoed-Branzk, M., Melchior, F., Lienenklaus, S., **Ganal-Vonarburg, S.C.**, Klein, M., Guendel, F., Hain, T., Schutze, K., Grundmann, U., Schmitt, V., Dorsch, M., Spanier, J., Larsen, P.K., Schwanz, T., Jackel, S., Reinhardt, C., Bopp, T., Danckwardt, S., Mahnke, K., Heinz, G.A., Mashreghi, M.F., Durek, P., Kalinke, U., Kretz, O., Huber, T.B., Weiss, S., Wilhelm, C., Macpherson, A.J., Schild, H., Diefenbach, A., and Probst, H.C. (2020). Microbiota-Induced Type I Interferons Instruct a Poised Basal State of Dendritic Cells. *Cell* 181, 1080-1096 e1019.

Grootjans, J., Krupka, N., Hosomi, S., Matute, J.D., Hanley, T., Saveljeva, S., Gensollen, T., Heijmans, J., Li, H., Limenitakis, J.P., **Ganal-Vonarburg, S.C.**, Suo, S., Luoma, A.M., Shimodaira, Y., Duan, J., Shih, D.Q., Conner, M.E., Glickman, J.N., Fuhler, G.M., Palm, N.W., de Zoete, M.R., van der Woude, C.J., Yuan, G.C., Wucherpfennig, K.W., Targan, S.R., Rosenstiel, P., Flavell, R.A., McCoy, K.D., Macpherson, A.J., Kaser, A., and Blumberg, R.S. (2019). Epithelial endoplasmic reticulum stress orchestrates a protective IgA response. *Science* 363, 993-998.

Bauche, D., Joyce-Shaikh, B., Jain, R., Grein, J., Ku, K.S., Blumenschein, W.M., **Ganal-Vonarburg, S.C.**, Wilson, D.C., McClanahan, T.K., Malefyt, R.W., Macpherson, A.J., Annamalai, L., Yearley, J.H., and Cua, D.J. (2018). LAG3(+) Regulatory T Cells Restrain Interleukin-23-Producing CX3CR1(+) Gut-Resident Macrophages during Group 3 Innate Lymphoid Cell-Driven Colitis. *Immunity* 49, 342-352 e345.

Uchimura, Y., Fuhrer, T., Li, H., Lawson, M.A., Zimmermann, M., Yilmaz, B., Zindel, J., Ronchi, F., Sorribas, M., Hapfelmeier, S., **Ganal-Vonarburg, S.C.**, Gomez de Aguero, M., McCoy, K.D., Sauer, U., and Macpherson, A.J. (2018). Antibodies Set Boundaries Limiting Microbial Metabolite Penetration and the Resultant Mammalian Host Response. *Immunity* 49, 545-559 e545.

Gomez de Aguero, M.* **Ganal-Vonarburg, S.C.***, Fuhrer, T., Rupp, S., Uchimura, Y., Li, H., Steinert, A., Heikenwalder, M., Hapfelmeier, S., Sauer, U., McCoy, K.D., and Macpherson, A.J. (2016). The maternal microbiota drives early postnatal innate immune development. *Science* 351, 1296-1302.

*Co-first author

S. C. Ganal, S. L. Sanos, C. Kallfass, K. Oberle, C. Johner, C. Kirschning, S. Lienenklaus, S. Weiss, P. Staeheli, P. Aichele, A. Diefenbach, Priming of natural killer cells by nonmucosal mononuclear phagocytes requires instructive signals from commensal microbiota. *Immunity* 37, 171-186 (2012).

C. K. Ayata, **S. C. Ganal**, B. Hockenjos, K. Willim, R. P. Vieira, M. Grimm, B. Robaye, J. M. Boeynaems, F. Di Virgilio, P. Pellegatti, A. Diefenbach, M. Idzko, P. Hasselblatt, Purinergic P2Y(2) receptors promote neutrophil infiltration and hepatocyte death in mice with acute liver injury. *Gastroenterology* 143, 1620-1629 e1624 (2012).

H. Raifer, A. J. Mahiny, N. Bollig, F. Petermann, A. Hellhund, K. Kellner, A. Guralnik, K. Reinhard, E. Bothur, M. Huber, S. Bauer, M. Lohning, E. A. Kiss, **S. C. Ganal**, A. Diefenbach, T. Korn, M. Lohoff, Unlike alphabeta T cells, gammadelta T cells, LTI cells and NKT cells do not require IRF4 for the production of IL-17A and IL-22. *Eur J Immunol* 42, 3189-3201 (2012).

I. Puga, M. Cols, C. M. Barra, B. He, L. Cassis, M. Gentile, L. Comerma, A. Chorny, M. Shan, W. Xu, G. Magri, D. M. Knowles, W. Tam, A. Chiu, J. B. Bussel, S. Serrano, J. A. Lorente, B. Bellosillo, J. Lloreta, N. Juanpere, F. Alameda, T. Baro, C. D. de Heredia, N. Toran, A. Catala, M. Torrebadell, C. Fortuny, V. Cusi, C. Carreras, G. A. Diaz, J. M. Blander, C. M. Farber, G. Silvestri, C. Cunningham-Rundles, M. Calvillo, C. Dufour, L. D. Notarangelo, V. Lougaris, A. Plebani, J. L. Casanova, **S. C. Ganal**, A. Diefenbach, J. I. Arostegui, M. Juan, J. Yague, N. Mahlaoui, J. Donadieu, K. Chen, A. Cerutti, B cell-helper neutrophils stimulate the diversification and production of immunoglobulin in the marginal zone of the spleen. *Nat Immunol* 13, 170-180 (2011).

Reviews and editorials:

Jeckel, A.M., Beran, F., Zust, T., Younkin, G., Petschenka, G., Pokharel, P., Dreisbach, D., **Ganal-Vonarburg, S.C.**, and Robert, C.A.M. (2022). Metabolization and sequestration of plant specialized metabolites in insect herbivores: Current and emerging approaches. *Front Physiol* 13, 1001032.

Kalbermatter, C., Fernandez Trigo., N, Christensen, S., **Ganal-Vonarburg, S.C.** (2021). Maternal microbiota, early life colonization and breast milk drive immune development in the newborn. *Frontiers in Immunology* 12, 1768.

Ganal-Vonarburg, S.C., Hornef, M.W., and Macpherson, A.J. (2020). Microbial-host molecular exchange and its functional consequences in early mammalian life. *Science* 368, 604-607.

Ganal-Vonarburg, S.C.*, and Duerr, C.U.* (2020). The interaction of intestinal microbiota and innate lymphoid cells in health and disease throughout life. *Immunology* 159, 39-51.

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Mooser, C., and **Ganal-Vonarburg, S.C.** (2019). Microbiota as a cornerstone in the development of primary sclerosing cholangitis: paving the path for translational diagnostic and therapeutic approaches. *Gut* 68, 1353-1355.

Macpherson, A.J., and **Ganal-Vonarburg, S.C.*** (2018). Checkpoint for gut microbes after birth. *Nature* 560, 436-438.

***Corresponding author**

Macpherson, A.J., and **Ganal-Vonarburg, S.C.** (2018). IgA-about the unexpected. *J Exp Med* 215, 1965-1966.

Girard-Madoux, M.J.H., Gomez de Aguero, M., **Ganal-Vonarburg, S.C.**, Mooser, C., Belz, G.T., Macpherson, A.J., and Vivier, E. (2018). The immunological functions of the Appendix: An example of redundancy? *Semin Immunol* 36, 31-44.

Macpherson, A.J., Yilmaz, B., Limenitakis, J.P., and **Ganal-Vonarburg, S.C.** (2018). IgA Function in Relation to the Intestinal Microbiota. *Annu Rev Immunol* 36, 359-381.

Mooser, C., Gomez de Aguero, M., and **Ganal-Vonarburg, S.C.*** (2018). Standardization in host-microbiota interaction studies: challenges, gnotobiology as a tool, and perspective. *Curr Opin Microbiol* 44, 50-60.

***Corresponding author**

Macpherson, A.J., de Aguero, M.G., and **Ganal-Vonarburg, S.C.*** (2017). How nutrition and the maternal microbiota shape the neonatal immune system. *Nat Rev Immunol* 17, 508-517.

***Corresponding author**

Ganal-Vonarburg, S.C.*, Fuhrer, T., and Gomez de Aguero, M. (2017). Maternal microbiota and antibodies as advocates of neonatal health. *Gut Microbes* 8, 479-485.

***Corresponding author**

Macpherson, A.J., Heikenwalder, M., and **Ganal-Vonarburg, S.C.*** (2016). The Liver at the Nexus of Host-Microbial Interactions. *Cell Host Microbe* 20, 561-571.

***Corresponding author**

Ganal-Vonarburg, S.C., and Macpherson, A.J. (2016). Our Mothers' Antibodies as Guardians of our Commensals. *Trends Mol Med* 22, 739-741.

H. Li, J. P. itakis, **S. C. Ganal**, A. J. Macpherson, Penetrability of the inner mucus layer: who is out there? *EMBO Rep* 16, 127-129 (2015).

S. C. Ganal, A. J. Macpherson, An ambulance for retinol. *Elife* 3, e04246 (2014).