CURRICULUM VITAE Claudia GUNDACKER

Institute of Medical Genetics, Medical University of Vienna, Währinger Strasse 10, 1090 Vienna, Austria
Phone: +43 1 40160 56503
Email: claudia.gundacker@meduniwien.ac.at
ORCID: 0000-0003-4093-3780
https://pbg.meduniwien.ac.at/en/research/research-medical-genetics/research-groups/
https://exposome.at/

Academic milestones and relevant positions

From 2012	Associate Professor, Institute of Medical Genetics, Medical University of Vienna
From 2011	Assistant Professor, Institute of Medical Genetics, Medical University of Vienna
From 2010	Head of teaching staff Institute of Medical Genetics, organising curriculum (Genetics, Medical Ecology, Biochemistry) and elective courses (Rounds Medical Genetics, Journal Club Medical Genetics, PhD Thesis seminars)
2009-2010	University Assistant *post doc*, Inst. of Medical Genetics, Medical University of Vienna
From 2009	Group leader, Institute of Medical Genetics, Medical University Vienna
2008	Habilitation (*Venia docendi*) in Medical Ecology, Medical University of Vienna
2002-2008	University Assistant *post doc*, Center for Public Health, Medical University of Vienna
2001-2002	Maternity leave
1996-2001	Contract Assistant, Institute of Medical Biology, University of Vienna
1996	Dr. *rer.nat.* (PhD equivalent), Graduation with distinction, University of Vienna
1995-1996	Maternity leave
1992-1995	Contract Assistant, Institute of Medical Biology, University of Vienna
1992	Mag. *rer.nat*. (MSc equivalent), Graduation with distinction, University of Vienna
1985-1990	Diploma Studies of Biology, University of Vienna

Main areas of research

Our focus is on the early life exposome, in particular how prenatal exposure to chemicals and environmental pollutants, heat stress, and assisted reproductive technologies (ART) affects health and function of the human placenta. Placental dysfunction has both direct effects on pregnancy outcome and long-term health consequences. In conjunction with human biomonitoring studies in mother-newborn pairs, we are conducting in vitro experiments on placental cells to determine how prenatal exposures may affect cellular signalling pathways and ultimately relate to placenta-associated pregnancy disorders. Using primary placental cells (trophoblasts, endothelial cells, macrophages) from healthy pregnancies and pregnancy disorders, we can directly compare the functioning of these placentas. Another area of interest is iron metabolism in the placenta, with the aim of developing improved therapies for premature infants with low iron levels.

Research achievements

Partner of Exposome Austria (https://exposome.at/), Research Infrastructure, EIRENE (European research infrastructure programme)

Research grants and Prizes

PARC - European Partnership for the Assessment of Risks from Chemicals (https://www.eu-parc.eu/), EU Horizon Europe, Co-Investigator in Targeted study 'PFAS in breast milk', WP4 (T4.1 Human biomonitoring,), 2022-2029

PFAS in the urban water cycle - Health risk of emerging concern, WWTF - Environmental Systems Research 2020 - Urban Regions, € 649 982 total, € 212 209 (WP3), Co-PI in WP3: Toxicity of PFAS and basis for risk assessment, 2021-2024 (four publications)

HBM4EU - Science and policy for a healthy future, EU Horizon 2020, € 70 M total, € 173,000 (WP), 2017-2022. Co-Investigator in WP13 (Exposure-Health relationships) and WP14 (Effect Biomarkers), Co-Chair of HBM4EU Focus Group on PFAS/AOPs (Perfluoroalkyl Substances/Adverse Outcome Pathways) with Environment Agency Austria including organisation of HBM4EU-PFAS Workshops (Vienna 2018, Berlin 2019), Coordinator and PI of NEWDA study: PFAS exposure and birth outcome (HBM4EU: five publications; NEWDA study: three publications)

Iron metabolism of the healthy human term placenta, Life Science Call, Gesellschaft für Forschungsförderung Niederösterreich m.b.H. (GFF), € 300,000, Scientific coordinator and PI, 2018-2021 (one publication)

Mercury kinetics in the human placenta: making the bridge between genotype and phenotype, Life Science Call Gesellschaft für Forschungsförderung Niederösterreich m.b.H. (GFF), € 295,000, Scientific coordinator and PI, 2016-2019 (two publications)

Mercury kinetics in human placenta - Functional proof and localization of candidate proteins, Life Science Call Gesellschaft für Forschungsförderung Niederösterreich m.b.H. (GFF), € 275,000, Scientific coordinator and PI, 2012-2015 (three publications)

Outreaching activities: Veronika Fialka Moser Diversity Award (First Place Prize) and two Prizes by the City of Vienna in 2020 and 2021 for NOST, a WNWmed project that supports applicants with a foreign Medical Doctor degree at the Medical University of Vienna.

Member of the Austrian Platform for Human Biomonitoring, Environment Agency, Vienna (Advisory body to the Ministry of Environment), Austrian Society of Toxicology (ASTOX), the Female Science Networks WNWmed and WISIA, and the European Placenta Group.

Supervision of 8 Bachelor works, 19 Diploma/Master theses, 5 PhD theses, Co-Supervision of two Diploma theses and three Dissertations (Univ. of Vienna). Current lab members: 1 PostDoc, 1 Master student, 1 Diploma student, 1 Technician

Reviewer for European Research Council (ERC), Czech Science Foundation (GACR), Slovenian Research Agency (ARIS), The Research Council of Norway (RCN)
Referee for 25+ scientific journals including Chemosphere, CDC/ATSDR, Environment International, Environmental Health, Environmental Health Perspectives, Environmental Pollution, Environmental Research, Heliyon, Placenta, The Lancet Planetary Health, Reproductive Toxicology, Scientific Reports, Science of the Total Environment, Toxicology Letters

Ten most relevant publications (2020-2025)

Granitzer, S., Widhalm, R., Ellinger, I., Zeisler, H., Forsthuber, M., Foessleitner, P., Geschrey, E., Saleh, L., Knöfler, M., Desoye, G., Ettel, P., Weichhart, T., Musiejovsky, L., Schabbauer, G., Salzer, H., Rosner, M., Hengstschläger, M., & Gundacker, C. (2025). LAT1-NRF2 axis controls sFlt-1/PlGF imbalance and oxidative stress in preeclampsia. *Nature Communications*, 16(1), 9112. https://doi.org/10.1038/s41467-025-64160-0

Widhalm, R., Granitzer, S., Natha, B., Zoboli, O., Derx, J., Zeisler, H., Salzer, H., Weiss, S., Schmitner, N., Kimmel, R. A., Österreicher, T., Oberle, R., Hengstschläger, M., Distel, M., & Gundacker, C. (2025). Perfluorodecanoic acid (PFDA) increases oxidative stress through inhibition of mitochondrial β-oxidation. *Environmental Pollution*, 367, 125595. https://doi.org/https://doi.org/10.1016/j.envpol.2024.125595

Granitzer S, Widhalm R, Atteneder S, Fernandez MF, Mustieles V, Zeisler H, Hengstschläger M, Gundacker C. (2023). BDNF and KISS-1 Levels in Maternal Serum, Umbilical Cord, and Placenta: The Potential Role of Maternal Levels as Effect Biomarker. *Exposure and Health*.:1-17. doi: 10.1007/s12403-023-00565-w.

Krausová, M., Braun, D., Buerki-Thurnherr, T., Gundacker, C., Schernhammer, E., Wisgrill, L., & Warth, B. (2023). Understanding the Chemical Exposome During Fetal Development and Early Childhood: A Review. *Annual Review of Pharmacology and Toxicology* 63(1), 24.21-24.24. https://doi.org/10.1146/annurev-pharmtox-051922-113350.

Forsthuber M, Widhalm R, Granitzer S, Kaiser AM, Moshammer H, Hengstschläger M, Dolznig H, Gundacker C (2022). Perfluorooctane sulfonic acid (PFOS) inhibits vessel formation in a human 3D co-culture angiogenesis model (NCFs/HUVECs). *Environmental Pollution* 293:118543. doi: 10.1016/j.envpol.2021.118543.

Ventura C, Gomes BC, Oberemm A, Louro H, Huuskonen P, Mustieles V, Fernández MF, Ndaw S, Mengelers M, Luijten M, Gundacker C*, Silva MJ* (2021). Biomarkers of effect as determined in human biomonitoring studies on hexavalent chromium and cadmium in the period 2008-2020. *Environmental Research* 197:110998. doi: 10.1016/j.envres.2021.110998.
*Shared Last Author with MJ Silva

Gundacker C, Ellinger I (2020) The unique applicability of the human placenta to the Adverse Outcome Pathway (AOP) concept: the placenta provides fundamental insights into human organ functions at multiple levels of biological organization. *Reproductive Toxicology* 96:273-281. doi: 10.1016/j.reprotox.2020.07.014

Granitzer S, Ellinger I, Khan R, Gelles K, Widhalm R, Hengstschläger M, Zeisler H, Desoye G, Tupova L, Ceckova M, Salzer H, Gundacker C (2020) In vitro function and in situ localization of Multidrug Resistance-associated Protein (MRP)1 (ABCC1) suggest a protective role against methyl mercury-induced oxidative stress in the human placenta. *Archives of Toxicology* 94(11):3799-3817. doi: 10.1007/s00204-020-02900-5

Forsthuber, M., Kaiser, A. M., Granitzer, S., Hassl, I., Hengstschläger, M., Stangl, H., & Gundacker, C. (2020). Albumin is the major carrier protein for PFOS, PFOA, PFHxS, PFNA and PFDA in human plasma. *Environment International*, 137, 105324. https://doi.org/10.1016/j.envint.2019.105324

Widhalm, R., Ellinger, I., Granitzer, S., Forsthuber, M., Bajtela, R., Gelles, K., Hartig, P. Y., Hengstschläger, M., Zeisler, H., Salzer, H., & Gundacker, C. (2020). Human placental cell line HTR-8/SVneo accumulates cadmium by divalent metal transporters DMT1 and ZIP14. *Metallomics*, 12(11), 1822-1833. https://doi.org/10.1039/d0mt00199f

April 2026