

Michael Trauner

Key Researcher

Department Medicine III
Medical University of Vienna

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SCIENTIFIC & ACADEMIC CAREER

Since 2010	Professor of Medicine, Chair of Gastroenterology and Hepatology, Medical University of Vienna, Austria
2005 - 2010	Professor of Medicine, Experimental and Clinical Hepatology, Medical University of Graz, Austria
2000 - 2005	Associate Professor of Medicine (Tenure), Medical University of Graz, Austria
1998 - 2001	Subspecialty Training in Gastroenterology and Hepatology, Department of Internal Medicine, University of Graz, Austria
1997-1998	Residency in Internal Medicine (ctd.) Department of Internal Medicine, University of Graz, Austria
1994-1997	Postdoctoral Research Associate, Department of Internal Medicine, (Section of Digestive Diseases) and Liver Center, Yale University School of Medicine, New Haven, CT, USA
1991-1994	Residency in Internal Medicine, Department of Internal Medicine, University of Graz, Austria
1982-1991	University education in Medicine, University of Graz, Austria

MAIN AREA OF RESEARCH

Michael Trauner is a physician scientist developing non-invasive serum/imaging biomarkers and nuclear receptor-targeted therapeutics for metabolic and cholestatic liver diseases. He has contributed landmark studies to the role of the nuclear bile acid receptor/farnesoid X receptor (FXR) as key regulator of bile acid transport and hepatic metabolism, contributing to the clinical development of FXR ligands and side chain-shortened nor-bile acid derivatives for the treatment of cholestatic and steatotic liver disease. This work also led to the identification of bile acid transporter alterations and their regulatory transcriptional networks in the molecular pathogenesis of cholestasis leading to disturbed bile formation. Moreover his group has recently discovered the role of metabolic lipases such as PNPLA3 in hepatic stellate cells, explaining the association of the I148M variant with progressive liver injury and fibrosis.

ADDITIONAL RESEARCH ACTIVITIES (10 most important)

2003-present	Acquisition of 20 competitive third-party funded research grants for own translational research group, Hans Popper Laboratory of Molecular Hepatology (e.g. SFBs, DK, FWF, WWTF, EU, ...) (€ ~7 Mio)
2023	Mentor role, "Disease-driving mechanisms in patients with portal hypertension – MOTION" Ludwig Boltzmann Gesellschaft
2016-2019	Visiting Professor at the Oslo University Hospital, Norwegian PSC Research Center
2016-2018	External Advisory Committee, Center for Basic Research in Digestive Diseases at the Mayo Clinic, Rochester
2015 - 2019	Executive Board at the Center for Sepsis, Control and Care at the University Jena
2011-2021	Associate Editor, Hepatology (two terms)

2004-2009	Associate Editor Journal of Hepatology (since 2019 Special Section Editor)
Since 2010	Council Member of the Austrian Society for Gastroenterology and Hepatology (President 2014-2016)
2009-2013	Council Member, United European Gastroenterology Federation
2006-2010	Scientific Committee Member, European Association for the Study of the Liver

Selected Presentations

2017	Keystone Symposium - Bile Acid Receptors as Signal Integrators in Liver and Metabolism. "Pharmacological Agents for NASH". Monterey, California, USA
2017	American Association for the Study of the Liver. Basic Research Symposium "Nuclear Receptors in adult liver diseases and therapeutic potential", Washington, USA
2018	Federation of American Societies for Experimental Biology (FASEB) Meeting, Fundamental Biology and Pathophysiology of the Liver "Molecular mechanisms and therapeutic applications of norUDCA" Arizona, USA
2019	American Association for the Study of the Liver. Postgraduate Course, "Precision Therapy in Patients with PBC" Boston, USA
2019	Jean-Pierre Benhamou clinical state-of-the-art lecture: "Shared mechanisms in cholestatic and fatty liver disease - implications for current and future treatment, Cholestasis and autoimmune". European Association for the Study of the Liver, (EASL) The International Liver Congress, Vienna, Austria
2019	Japanese Digestive Disease Week "New therapeutic concepts for management of cholestatic liver diseases", Kobe, Japan
2022	Yale School of Medicine, Klatskin Lecture: "Leveraging bile acid signaling for the treatment of liver diseases and beyond." New Haven, USA
2023	American Association for the Study of Liver Diseases (AASLD), "The Gut-Liver Axis as Therapeutic Target in Cholestatic Liver Disease", Boston, USA
2024	Visiting Professor Saint Louis University, USA 5 lectures: "Bile Salts & Metabolic Disease", Metabolic Syndrome / MASLD & Liver Cancer, Therapeutic Potential of Bile Acid Signaling along the enterohepatic circulation and beyond, Primary Sclerosing Cholangitis – Clinical Challenges & Unresolved Mysteries along the gut-liver-axis, Updates on the management of autoimmune liver disease"
2024	German Diabetes Center Lecture, "Role of bile acids in metabolic dysfunction-associated steatotic liver disease"

Honors & Awards

1998	Hoechst Prizes for the Promotion of Medical research in Austria
1999	Bristol-Myers Squibb Prize of the Austrian Society for Internal Medicine
1999	Joseph Skoda Project-Award of the Austrian Society for Internal Medicine
2001	Otto Kraupp Prize for the best medical habilitation of the year 2000 in Austria
2002	Prize for Science and Research of the Federal State of Styria, Austria
2003	Novartis Prize for Medicine
2004	Rising Star in Gastroenterology, United European Gastroenterology (UEG)

2004	Alois Sonnleitner Prize for Biomedicine of Austrian Academy of Sciences
2010	Fellow of the American Gastroenterological Association (AGAF)
2015	Fellow of the American Association for the Study of the Liver (FAASLD)
2017	Member of the Academia Europaea “The Academy of Europe”
2020	Member of the Leopoldina, German National Academy of Sciences
2021	Full Member of the Austrian Academy of Sciences (Member since 2011)

10 MOST IMPORTANT PUBLICATIONS

- Zollner G, Fickert P, Zenz R, Fuchsbichler A, Stumptner C, Kenner L, Ferenci P, Stauber RE, Krejs GJ, Denk H, Zatloukal **Trauner M**. Hepatobiliary transporter expression in percutaneous liver biopsies of patients with cholestasis. *Hepatology*. 2001;33:633-46. doi:10.1053/jhep.2001.22646
- Wagner M, Fickert P, Zollner G, Fuchsbichler A, Silbert D, Tsybrovskyy O, Zatloukal K, Guo GL, Schuetz JD, Gonzalez FJ, Marschall HU, Denk H, **Trauner M**. Role of farnesoid X receptor in determining hepatic ABC transporter expression and liver injury in bile duct-ligated mice. *Gastroenterology*. 2003 Sep;125(3):825-38. doi: 10.1016/s0016-5085(03)01068-0.
- Fickert P, Wagner M, Marschall HU, Fuchsbichler A, Zollner G, Tsybrovskyy O, Zatloukal K, Liu J, Waalkes MP, Cover C, Denk H, Hofmann AF, Jaeschke H, **Trauner M**. 24-norUrsodeoxycholic acid is superior to ursodeoxycholic acid in the treatment of sclerosing cholangitis in Mdr2 (Abcb4) knockout mice. *Gastroenterology*. 2006 Feb;130(2):465-81. doi: 10.1053/j.gastro.2005.10.018.
- Baghdasaryan A, Fuchs CD, Österreicher CH, Lemberger UJ, Halilbasic E, Pählman I, Graffner H, Krones E, Fickert P, Wahlström A, Ståhlman M, Paumgartner G, Marschall HU, **Trauner M**. Inhibition of intestinal bile acid absorption improves cholestatic liver and bile duct injury in a mouse model of sclerosing cholangitis. *J Hepatol*. 2016 Mar;64(3):674-81. doi: 10.1016/j.jhep.2015.10.024.
- Fickert P, Hirschfield GM, Denk G, Marschall HU, Altorjay I, Färkkilä M, Schramm C, Spengler U, Chapman R, Bergquist A, Schrupf E, Nevens F, Trivedi P, Reiter FP, Tornai I, Halilbasic E, Greinwald R, Pröls M, Manns MP, **Trauner M**; norUrsodeoxycholic acid improves cholestasis in primary sclerosing cholangitis. European PSC norUDCA Study Group. *J Hepatol*. 2017 Sep;67(3):549-558. doi: 10.1016/j.jhep.2017.05.009.
- Bruschi FV, Claudel T, Tardelli M, Caligiuri A, Stulnig TM, Marra F, **Trauner M**. The PNPLA3 I148M variant modulates the fibrogenic phenotype of human hepatic stellate cells. *Hepatology*. 2017 Jun;65(6):1875-1890. doi: 10.1002/hep.29041.
- Traussnigg S, Schattenberg JM, Demir M, Wiegand J, Geier A, Teuber G, Hofmann WP, Kremer AE, Spreda F, Kluwe J, Petersen J, Boettler T, Rainer F, Halilbasic E, Greinwald R, Pröls M, Manns MP, Fickert P, **Trauner M**; Austrian/German NAFLD-norUDCA study group. Norursodeoxycholic acid versus placebo in the treatment of non-alcoholic fatty liver disease: a double-blind, randomised, placebo-controlled, phase 2 dose-finding trial. *Lancet Gastroenterol Hepatol*. 2019 Oct;4(10):781-793. doi: 10.1016/S2468-1253(19)30184-0.
- Zhu C, Boucheron N, Müller AC, Májek P, Claudel T, Halilbasic E, Baazim H, Lercher A, Viczenczova C, Hainberger D, Preglej T, Sandner L, Alteneder M, Gülich AF, Khan M, Hamminger P, Remetic J, Ohradanova-Repic A, Schatzlmaier P, Donner C, Fuchs CD, Stojakovic T, Scharnagl H, Sakaguchi S, Weichhart T, Bergthaler A, Stockinger H, Ellmeier W, **Trauner M**. 24-Norursodeoxycholic acid reshapes immunometabolism in CD8+ T cells and alleviates hepatic inflammation. *J Hepatol*. 2021 Nov;75(5):1164-1176. doi: 10.1016/j.jhep.2021.06.036.
- Staufer K, Huber-Schönauer U, Strebinger G, Pimingstorfer P, Suesse S, Scherzer TM, Paulweber B, Ferenci P, Stimpfl T, Yegles M, Datz C, **Trauner M**. Ethyl glucuronide in hair detects a high rate of

harmful alcohol consumption in presumed non-alcoholic fatty liver disease. *J Hepatol.* 2022 Oct;77(4):918-930. doi: 10.1016/j.jhep.2022.04.040.

10. Fuchs CD, Radun R, Dixon ED, Mlitz V, Timelthaler G, Halilbasic E, Herac M, Jonker JW, Ronda OAHO, Tardelli M, Haemmerle G, Zimmermann R, Scharnagl H, Stojakovic T, Verkade HJ, **Trauner M.** Hepatocyte-specific deletion of adipose triglyceride lipase (adipose triglyceride lipase/patatin-like phospholipase domain containing 2) ameliorates dietary induced steatohepatitis in mice. *Hepatology.* 2022 Jan;75(1):125-139. doi: 10.1002/hep.32112.