


BIOGRAPHICAL SKETCH

<p>Thomas J. Scherer <i>Medical University Vienna</i> <i>Division of Endocrinology and Metabolism</i> <i>Department of Internal Medicine III</i> <i>Waehringer Guertel 18-20, 1090 Vienna, Austria</i></p>	<p>POSITION TITLE Associate Professor, <i>Medicine</i></p> <p>ORCID ID: 0000-0003-4980-706X</p> <p>Website: Link</p>	<p>ORCID QR CODE</p> 
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EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
Board certification, Austrian Medical Chamber		09/17	Medicine
<i>Venia docendi</i> (Habilitation) Medical University of Vienna, Austria	Priv. Doz.	05/17	Medicine
University of Luebeck, Germany	Dr. med. (PhD equivalent)	05/12	Dissertation title: “ <i>Hypothalamic insulin signaling regulates white adipose tissue lipolysis and de novo lipogenesis in vivo</i> ”
Postdoctoral Fellowship, Icahn School of Medicine at Mount Sinai, NY, USA		2008–2011	Brain control of nutrient partitioning
Medical University of Vienna, Austria	Dr. med. univ. (MD)	2001–2007	Medical School

Positions and Employment:

June 2019 – present	Associate Professor, Medicine
Oct 2017 – May 2019	Assistant Professor, Medicine
Oct 2011 – Oct 2017	Clinical Fellow and Research Group Leader, Department of Internal Medicine III, Division of Endocrinology and Metabolism, Medical University of Vienna, Austria
Jun 2008 – Aug 2011	Postdoctoral Fellow, Buettner Lab, Department of Medicine, Division of Endocrinology, Icahn School of Medicine at Mount Sinai, New York, NY, USA
Feb 2008 – Jun 2008	Resident, Family Medicine, Dr. Helena Franc, Vienna, Austria
Oct – Nov 2007	Medical Clerkship Walk-in clinic in Laba, Burkina Faso, West Africa
Oct 2000 – Oct 2001	Community Service, EMT, Austrian Red Cross, Bregenz, Austria

Memberships:

2017 –	European Society of Endocrinology (ESE)
2014 –	Austrian Society of Internal Medicine (ÖGIM)
2014 –	Austrian Obesity Association (ÖAG)
2013 –	Austrian Thyroid Association (OSDG)
2012 –	Austrian Society for Endocrinology and Metabolism (ÖGES)
2010 –	Endocrine Society
2008 –	European Association for the Study of Diabetes (EASD)

Awards and Honors:

2018	Habilitationspreis des Vereins zur Förderung von Wissenschaft und Forschung
2016	Young Investigator Award, Austrian Society for Endocrinology and Metabolism
2015	Langerhans Award of the Austrian Diabetes Association (ÖDG, <i>biennial</i>)
2015	Travel Award, Austrian Obesity Association (ÖAG)

- 2015 OGN – Thermo Fisher Scientific – Research Award for Thyroid Diseases
 2013 Young Investigator Award, Austrian Society for Endocrinology and Metabolism
 2012 The Endocrine Society Outstanding Abstract Award
 2012 *summa cum laude* – with highest honors, University of Luebeck, Germany
 2012 Austrian Society for Endocrinology and Metabolism Mentoring Award for Poster Presentation
 2011 Keystone Symposia Scholarship Winner (Killarney, Ireland)
 2010 The Endocrine Society Outstanding Abstract Award
 2008 Albert Renold Travel Fellowship (European Foundation for the Study of Diabetes)

h-index: 17 ([Google Scholar](#))

Extramural Responsibilities Served:

Reviewer: Diabetologia, Endocrinology, Surgery for Obesity and related Diseases, AJP-Endocrinology and Metabolism, Molecular Metabolism, European Journal of Endocrinology, Journal of Clinical & Translational Endocrinology, Frontiers in Systems & Translational Endocrinology, Frontiers in Integrative Physiology, Adipocyte, The Central European Journal of Medicine, General Physiology and Biophysics, Reactome.org

Scientific Secretariat Cooperator, European Endocrine Update (*European Union of Medical Specialists, Endocrinology Diabetes and Metabolism Section*) – <http://www.endoupdate.eu>

Advisory Board (Basic Science) Austrian Obesity Association <http://www.adipositas-austria.org>

Program committee European Congress on Obesity 2018 in Vienna

Publications:

Brain leptin reduces liver lipids by increasing hepatic triglyceride secretion and lowering lipogenesis in rats. MT Hackl, C Fürnsinn, CM Schuh, M Krssak, F Carli, S Guerra, A Freudenthaler, S Baumgartner-Parzer, T Helbich, A Luger, M Zeyda, A Gastaldelli, C Buettner, **T Scherer*** *Nat Commun.* 2019 Jun 20;10(1):2717 (IF 12.353)

CD8+ T cells induce cachexia during chronic viral infection. Baazim H, Schweiger M, Moschinger M, Xu H, **Scherer T**, Popa A, Gallage S, Ali A, Khamina K, Kosack L, Vilagos B, Smyth M, Lercher A, Friske J, Merkler D, Aderem A, Helbich TH, Heikenwälder M, Lang PA, Zechner R, Bergthaler A. *Nat Immunol.* 2019 Jun;20(6):701-710. doi: 10.1038/s41590-019-0397-y. Epub 2019 May 20. (IF 21.809)

Life Under Hypoxia Lowers Blood Glucose Independently of Effects on Appetite and Body Weight in Mice. Abu Eid S, Hackl MT, Kaplanian M, Winter MP, Kaltenecker D, Moriggl R, Luger A, **Scherer T**, Fürnsinn C *Front Endocrinol (Lausanne).* 2018 Aug 28;9:490. doi: 10.3389/fendo.2018.00490. (IF 3.519)

Chronic intranasal insulin does not affect hepatic lipids, but lowers circulating BCAAs in healthy male subjects **T Scherer***, P. Wolf, S. Smajjs, M. Gaggini, M. Hackl, A. Gastaldelli, P. Klimek, E. Einwallner, R. Marculescu, A. Luger, C. Fürnsinn, S. Tratting, C Buettner, M. Krššák, M. Krebs *J Clin Endocrinol Metab* 2017 Apr 1;102(4):1325-1332. doi: 10.1210/jc.2016-3623. (IF 6.430) *corresponding author

Preclinical characterisation of 55P0251, a novel compound that amplifies glucose stimulated insulin secretion and counteracts hyperglycaemia in rodents. Stadlbauer K, Brunmair B, Lehner Z, Adorjan I, **Scherer T**, Luger A, Bauer L, Fürnsinn C. *Diabetes Obes Metab.* 2017 Feb 17. doi: 10.1111/dom.12914. (IF 6.360)

Emodin, a compound with putative antidiabetic potential, deteriorates glucose tolerance in rodents. Eid SA, Adams M, Scherer T, Torres-Gómez H, Hackl MT, Kaplanian M, Riedl R, Luger A, Fürnsinn C. *Eur J Pharmacol.* 2017 Jan 17. pii: S0014-2999(17)30032-8. doi: 10.1016/j.ejphar.2017.01.022. (IF 2.730)

Adipocyte glucocorticoid receptor deficiency attenuates aging- and HFD-induced obesity, and impairs the feeding-fasting transition KM Mueller, K Hartmann, D Kaltenecker, S Vettorazzi, M Bauer, L Mauser, S Amann, S Jall, K Fischer, H Esterbauer, TD Mueller, M Tschoep, C Magnes, J Haybaeck, **T Scherer**, N Bordag, JP Tuckermann, R Moriggl *Diabetes.* Feb;66(2):272-286. doi: 10.2337/db16-0381. Epub 2016 Sep 20 (IF 8.474)

Clinical Value of 18F-fluorodihydroxyphenylalanine Positron Emission Tomography/Contrast-enhanced Computed Tomography (18F-DOPA PET/CT) in Patients with Suspected Paraganglioma. El-Rabadi K, Weber M, Mayerhofer M, Nakuz T, **Scherer T**, Mitterhauser M, Dudczak R, Hacker M, Karanikas G. *Anticancer Res.* 2016 Aug;36(8):4187-93 (IF 1.895)

Insulin regulates hepatic triglyceride secretion and lipid content via the brain. **T Scherer***, C Lindtner, J O'Hare, Hackl M, E Zielinski, A Freudenthaler, S Baumgartner-Parzer, K Tödter, J Heeren, M Krššák, L Scheja, C Fürnsinn & C Buettner. *Diabetes.* 2016 Jun;65(6):1511-20. doi: 10.2337/db15-1552. (IF 8.474) *corresponding author

Microdialysis assessment of cerebral perfusion during cardiac arrest, extracorporeal life support and cardiopulmonary resuscitation in rats - a pilot trial Schober A, Warenits AM, Testori C, Weihs W, Hosmann A, Högler S, Sterz F, Janata A, **Scherer T**, Magnet IA, Ettl F, Laggner AN, Herkner H, Zeitlinger M *PLoS One*. 2016 May 13;11(5):e0155303. doi: 10.1371/journal.pone.0155303 (IF 3.057)

[¹⁸F]FE@SNAP – a specific PET-tracer for melanin-concentrating hormone receptor 1 imaging? C Philippe, D Haeusler, **T Scherer**, C Fuernsinn, Zeilinger M, W Wadsak, Shanab K, Spreitzer H, M Hacker and M Mitterhauser *EJNMMI Res*. 2016 Dec;6(1):31. doi: 10.1186/s13550-016-0186-7. Epub 2016 Apr 1. (IF 1.761)

Cerebral and peripheral metabolism to predict successful reperfusion after cardiac arrest in rats – a microdialysis study. Hosmann A, Schober A, Gruber A, Sterz F, Testori C, Warenits A, Weihs W, Högler S, **Scherer T**, Janata A, Laggner A, Zeitlinger M *Neurocrit Care*. 2016 Apr;24(2):283-93. doi: 10.1007/s12028-015-0214-x. (IF 2.440)

55P0110, a novel synthetic compound developed from a plant derived backbone structure, shows promising anti-hyperglycaemic activity in mice. B Brunmair, Z Lehner, K Stadlbauer, I Adorjan, K Frobel, **T Scherer**, A Luger, L Bauer, C Fürnsinn. *PLoS One*. 2015 May 14;10(5):e0126847. doi: 10.1371/journal.pone.0126847. (IF 3.730)

Repurposing of Bisphosphonates for the Prevention and Therapy of Non-Small Cell Lung and Breast Cancer. ^A Stachnik, ^T Yuen, J Iqbal, M Sgobba, Y Gupta, P Lu, G Colaianni, Y Ji, L Zhu, SM Kim, J Li, P Liu, S Izadmehr, J Sangodkar, **T Scherer**, S Mujtaba, M Galsky, J Gomez, S Epstein, C Buettner, Z Bian, A Zallone, A Aggarwal, S Haider, M New, *L Sun, *G Narla, *M Zaidi (^equal contributions; *joint senior authors) *Proc Natl Acad Sci U S A*. 2014 Dec 1. Pii: 201421422. (IF 9.809)

Brain insulin lowers circulating BCAA levels by inducing hepatic BCAA catabolism. AC Shin, M Fasshauer, N Filatova, LA Grundell, E Zielinski, JY Zhou, **T Scherer**, C Lindtner, PJ White, AL Lapworth, O Ilkayeva, U Knippschild, AM Wolf, L Scheja, KL Grove, RD Smith, WJ Qian, CJ Lynch, CB Newgard, C Buettner *Cell Metab*. 2014 Nov 4;20(5):898-909. Doi: 10.1016/j.cmet.2014.09.003. Epub 2014 Oct 9. (IF 17.567)

Levothyroxine replacement in hypothyroid humans reduces myocardial lipid load and improves cardiac function. **T Scherer***, Wolf P, Winhofer Y, Duan H, Einwallner E, Gessl A, Luger A, Trattng S, Hoffmann M, Niessner A, Baumgartner-Parzer S, Krššák M, Krebs M. *J Clin Endocrinol Metab*. 2014 Nov;99(11):E2341-6. Doi:10.1210/jc.2014-2112. Epub 2014 Aug 8. (IF 6.430) *corresponding author

Intranasal insulin administration suppresses systemic but not subcutaneous lipolysis in healthy humans. **T Scherer**[#], KA Iwen[#], M Heni, F Sayk, T Wellnitz, F Machleidt, H Preissl, HU Haering, A Fritsche, H Lehnert, M Hallschmid[#], C Buettner[#]. *J Clin Endocrinol Metab*. 2014 Feb;99(2):E246-51. (# equal contribution) (IF 6.430)

Inhibition of cisplatin-induced lipid catabolism and weight loss by ghrelin in mice. JM Garcia, **T Scherer**, A Mehmeti, V Papusha, J Smiechowska, M Asnicar, C Buettner, RG Smith. *Endocrinology*. 2013 Sep;154(9):3118-29. (IF 4.717)

Simultaneous occurrence of Marine – Lenhart syndrome and a papillary thyroid microcarcinoma. **T Scherer**, E Wohlschlaeger-Krenn, M Bayerle-Eder, C Passler, A Reiner-Concin, M Krebs, A Gessl. *BMC Endocr Disord*. 2013 May 8;13(1):16. (IF 2.65)

De novo lipogenesis in human fat and liver is linked to ChREBP-β and metabolic health. **T Scherer**[#], L Eissing[#], K Toedter, U Knippschild, JW Greve, W Buurman, HO Pinnschmidt, S Rensen, AM Wolf, A Bartelt, J Heeren, C Buettner, L Scheja. *Nat Commun*. 2013 Feb 26;4:1528. (# equal contribution) (IF 12.353)

Brain insulin and leptin signaling in metabolic control: from animal research to clinical application. **T Scherer***, H Lehnert, M Hallschmid. *Endocrinol Metab Clin North Am*. 2013 Mar;42(1):109-25. (IF 3.792) *corresponding author

Binge drinking impairs hypothalamic insulin action in female rats. C Lindtner, **T Scherer**, E Zielinski, N Filatova, M Fasshauer, N Tonks, M Puchowicz, C Buettner. *Sci Transl Med*. 2013 Jan 30;5(170):170ra14. (IR 15.843)

Is Thyroxine Therapy Indicated in Any Case of Subclinical Hypothyroidism? RW Lipp, **T Scherer**, M Krebs *J Klin Endokrinol Stoffw* 2013; 6 (2) 12-16.

Effects of insulin therapy on myocardial lipid content and cardiac geometry in patients with type-2 diabetes mellitus. Janković D, Winhofer Y, Promintzer-Schifferl M, Wohlschläger-Krenn E, Anderwald CH, Wolf P, **Scherer T**, Reiter G, Trattng S, Luger A, Krebs M, Krssak M. *PLoS One* 2012;7(12):e50077. (IF 3.730)

Germline Ablation of VGF Increases Lipolysis in White Adipose Tissue. S Fargali, **T Scherer**, AC Shin, M Sadahiro, C Buettner, SR Salton. *J Endocrinol*. 2012 Nov;215(2):313-22. (IF 4.058)

Short-term voluntary overfeeding disrupts brain insulin control of liver and adipose tissue function. **T Scherer**, C Lindtner, E Zielinski, J O'Hare, N Filatova, C Buettner. *J Biol Chem* 2012 Sep 21;287(39):33061-9. Epub 2012 Jul 18. (IF 4.863)

Hepatic Cannabinoid Receptor-1 Mediates Diet-Induced Insulin Resistance via Inhibition of Insulin Signaling and Clearance in Mice Liu J, Zhou L, Xiong K, Godlewski G, Mukhopadhyay B, Tam J, Yin S, Gao P, Shan X, Pickel J, Batailler R, O'Hare J, **Scherer T**, Buettner C and Kunos G. *Gastroenterology*. 2012 May;142(5):1218-1228.e1 Epub 2012 Jan 31 (IF 13.926)

Yin and Yang of Hypothalamic Insulin and Leptin Signaling in Regulating White Adipose Tissue Metabolism. **Scherer T** and Buettner C. *Rev Endocr Metab Disord.* 2011 Sep;12(3):235-43. (IF 4.583)

Cajal revisited: does the VMH make us fat? Yi CX, **Scherer T**, Tschöp MH. *Nat Neurosci.* 2011 Jul pp806 – 808 (IF 15.251)

Brain insulin controls adipose tissue lipolysis and lipogenesis. **Scherer T**, O'Hare J, Diggs-Andrews K, Schweiger M, Cheng B, Lindtner C, Zielinski E, Vempati P, Su K, Dighe S, Milsom T, Puchowicz M, Scheja L, Zechner R, Fisher SJ, Previs SF, Buettner C. (2011) *Cell Metab* 13, 183-194. 2011 (IF 17.565)

Central endocannabinoid signaling regulates hepatic glucose production and systemic lipolysis. O'Hare JD, Zielinski E, Cheng B, **Scherer T**, Buettner C. *Diabetes* 2011 Apr;60(4):1055-62. (IF 8.474)

The dysregulation of the endocannabinoid system in diabetes—a tricky problem. **Scherer T** and Buettner C. *J Mol Med.* 2009 Jul;87(7):663-8. Epub 2009 Mar 17. (IF 4.739)

Leptin controls adipose tissue lipogenesis via central, STAT3-independent mechanisms. Buettner C, Muse ED, Cheng A, Chen L, **Scherer T**, Poci A, Su K, Cheng B, Li X, Harvey-White J, Schwartz GJ, Kunos G, Rossetti L *Nat Med.* 2008 Jun;14(6):667-75. Epub 2008 Jun 1. (IF 27.363)

Selected Invited Talks:

Neuroendocrine control of metabolism. Symposium on Comparative Medicine 2018, University of Veterinary Medicine, Vienna

Brain control of nutrient partitioning. AustroMetabolism 2017, CeMM Vienna

The role of brain insulin signaling in regulating hepatic lipid content. “Colloquia in Cellular Signaling”, Center for Physiology and Pharmacology, Medical University Vienna, 2014

Hypothalamic insulin signaling and systemic metabolic control. “Diabetes Research Day”, Helmholtz Center Munich Germany, 2011

Current Grant Support:

Austrian Science Fund (FWF) Project grant – P26766, € 255.538,50 (Scherer, PI) – The role of brain insulin and leptin action in modulating hepatic triglyceride secretion / Regulation der hepatischen Triglyceridsekretion durch Insulin und Leptin im ZNS. The goal of this project is to delineate the effects of CNS insulin and leptin signaling in regulating hepatic triglyceride secretion and how this affects hepatic lipid content.

Medical Scientific Fund of the Mayor of the City of Vienna – Grant # 15228 € 10.000,00 (Scherer, PI) – The role of intranasal insulin in regulating hepatic lipid and amino acid metabolism in humans. The aim of this translational project is to replicate rodent studies from our lab and assess whether chronic intranasal insulin treatment is able to modulate both hepatic lipid content and circulating BCAA levels.

The Role of Leptin in Regulating Hepatic Lipid Metabolism in Lipodystrophy – FA716B1501 # € 43.031,00 (Scherer, PI) Aegerion Pharmaceuticals a Novellon Therapeutics company (Investigator initiated trial). Based on preliminary data from rodent studies, the goal of this project is to investigate the mechanism by which metreleptin reduces hepatic lipid content in patients with lipodystrophy independent of changes in food intake.

Austrian Science Fund (FWF) Project grant – P30830, € 347.072,04 (PI: Clemens Fuernsinn, Collaborator)
Adaptation to Hypoxia: a template to fight metabolic disease. In this project we investigate in various rodent models the impact of intermittent and continuous hypoxia on glucose and lipid metabolism and the metabolic syndrome.

Research Grant of the Austrian Society of Endocrinology 2019 – € 10.000,00 (Scherer, PI) – Understanding Metformin Action The goal of this project is to visualize intracellular drug distribution of metformin in hepatocytes by using a combination of TEM and NanoSIMS.

Austrian Science Fund (FWF) Project grant – KLI 782 € 404.794,95 (Scherer, PI) – The Role of Leptin in Regulating Hepatic Lipid Metabolism in Humans. This translational project aims to replicate rodent studies from our lab and assess whether leptin treatment in humans affects VLDL secretion and de novo lipogenesis.