

Scientific CV of Christian SEISER

Date of Birth: May 26, 1958
Place of Birth: Vienna
Nationality: Austrian
Acad. Degree: Mag.Dr. (Ph.D)
Current Position: Associate Professor for Molecular Biology
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Main Research Interests

My laboratory has a long-standing interest in Epigenetics. In particular, we study the function of the class I histone deacetylases HDAC1 and HDAC2. We have initially identified HDAC1 as a growth factor inducible gene in T-cells. Subsequently we have characterized the transcriptional co-repressor function of HDAC1 and have discovered that the transcription factor SP1 and the estrogen receptor associated factor REA can negatively modulate transcription by recruiting HDAC1 to target genes. In 2002 we have published the first histone deacetylase knockout in mice and have shown that HDAC1 is essential for embryonic development and unrestricted proliferation of embryonic stem cells. During the last years we have used transgenic mouse models to reveal the regulatory function of HDAC1 in teratomas and T cells and to examine specific and overlapping roles of HDAC1 and its closest homolog HDAC2 in epidermal homeostasis, skin tumorigenesis and brain development. To understand the regulatory functions of the two deacetylases in gene regulation, proliferation, differentiation and development we have established novel transgenic mouse models, molecular genetics tools and chromatin-related methods such as ChIP and ChIP-seq and have generated specific antibodies for enzymes, histone modifications and readers of histone modifications.

Scientific Education and Career History

1977 – 1981 Studies in Chemistry, Physics, Mathematics, University of Vienna
1981 – 1985 Studies in Biochemistry, University of Vienna, with distinction
1985 – 1986 Diploma thesis at the Institute for Biochemistry, University of Vienna
1986 – 1989 PhD studies (Molecular Biology), Institute of Molecular Biology, University of Vienna, with distinction
1989 – 1992 Postdoctoral Fellow in Lukas Kühn's laboratory, ISREC, Epalinges sur Lausanne, Switzerland
1992 – 1998 Group Leader and Assistant professor, Institute of Molecular Biology, University of Vienna
1998 *Venia legendi* in Molecular Biology, University of Vienna, Medical School
1998 – 2016 Associate Professor, Max F. Perutz Laboratories, Medical University of Vienna
2016 – present Associate Professor, CACB, Medical University of Vienna

Experience in Scientific Management, Teaching and Student Supervision

Since 1992 Supervision of 50 theses (19 PhD, 33 Diploma/Master)
1998 - 2003 more than 500 exams in Chemistry and Biochemistry, University of Vienna Medical School
2000 - 2002 Contribution to planning of the New Medical Curriculum, Medical University of Vienna
2000 - present Teaching > 100 academic hours per semester at the Medical University and the University of Vienna

Invited Conference Presentations

- 2013 August: Talk at the FASEB Conference *HDACs, Sirtuins and reversible Acetylation in Signaling and Disease*. Lucca Italy
- 2009 August: Talk at the FASEB Conference *Histone deacetylases and reversible Acetylation in Signaling and Disease*. Lucca Italy
- 2007 August: Talk at the FASEB Conference *Histone deacetylases*. Snowmass Village, Colorado, USA.

Memberships in Reviewing Panels, Editorial Boards, Scientific Organisations

- 2011 - Co-editor together with P. Matthias and M. Yoshida Special Issue "Protein Acetylation and the Physiological Role of HDACs" Journal of Biomedicine and Biotechnology
- Peer reviewer for funding agencies including Wellcome Trust (UK)
- Peer reviewer for > 10 journals

Key International Collaborators

- Patrick Matthias, Friedrich Miescher Institute for Biomedical Research, Novartis Research Foundation, Basel, Switzerland
- Susanna Chiocca, European Institute of Oncology, Milan, Italy
- Srividya Bhaskara, University of Utah, USA

Third-party funding (March 2013 -2019)

Project leader	Project title	Amount of Funding (k€)	Funding Agency	Funding period
Wilfried Ellmeier	SFB F 70: HDACs as Regulators of T-Cell-Mediated Immunity in Health and Disease	399 for Seiser group	FWF	2019-2023
Karl Kuchler	Molecular & Cellular Control of Tissue Homeo- stasis in Health & Disease	311 for Seiser group	FWF	2018-2022
Manuela Baccarini	Signaling Mechanisms in Cellular Homeostasis	224 for Seiser group	FWF	2017-2021
Christian Seiser	Mimicking isoform-specific HDAC inhibitors	390	FFG	2016-2019
Christian Seiser	HDAC1/HDAC2 as regulators of tumorigenesis	350	FWF	2016-2020
Christian Seiser	Enzymatic and non-enzymatic functions of HDAC1/HDAC2	349	FWF	2016-2020
Christian Seiser	HDAC1 and HDAC2 as regulators of epidermal homeostasis	322	FWF	2013-2016
Wilfried Ellmeier	HDAC1 and HDAC2 function in CD4+ T-cells	32 for Seiser group	FWF	2014-2017

PhD students (March 2013 – 2019)

Project leader	Name of the student	Title of the thesis	Year of Graduation
Christian Seiser	Mirjam Moser	Chromatin modifiers as regulators of mouse epidermal development and tumorigenesis	2015
Christian Seiser	Anna Sawicka	Genome-wide analysis of stress-induced histone H3 phosphorylation	2014
Christian Seiser	Astrid Hagelkruys	Redundant and specific functions of histone deacetylases HDAC1 and HDAC2 in brain development	2013

Christian Seiser	Lena Hess	HDAC1/HDAC2-mediated regulation of macrophages	ongoing
Christian Seiser	Terezia Vcelkova	Catalytic and noncatalytic functions of HDAC1/HDAC2 in ES cells	ongoing
Christian Seiser	Gülnihal Kavaklioglu	DNMT1-mediated regulation of macrophages	ongoing