Peter Steinberger CV

Personal information

Name:	Steinberger, Peter
Acad. Degree:	Ph.D. (Dr. rer.nat)
Current Position:	Associate Professor; PI
Contact details:	Division of Immune Receptors and T cell Activation Institute of Immunology, Center for Pathophysiology, Infectiology and Immunology, Medical University of Vienna, Lazarettgasse 19, 1090 Vienna, Austria Tel. ++43-1-40160-33241
e-mail:	peter.steinberger@meduniwien.ac.at
website:	https://immunologie.meduniwien.ac.at/wissenschaft-forschung/forschungsabteilungen/abteilung-fuer-immunzellrezeptoren-und-t-zell-aktivierung-peter-steinberger/
ORCID:	0000-0001-6848-4097
Publications:	**https://pubmed.ncbi.nlm.nih.gov/?term=Steinberger+P&sort=date**

Academic milestones and positions

1986-1988	Prediploma Degree in Biology at the University of Graz, Austria
1989-1991	Diploma Degree in Zoology and Biochemistry at the University of Vienna, Austria
1992-1995	Ph.D. in Biochemistry at the University of Vienna, Austria Thesis at the Dept. of General and Experimental Pathology, University of Vienna, Austria; Supervisor: Dr. Rudolf Valenta. Title: Regulation of Human Allergen-Specific IgE-Synthesis; Molecular Characterization of Human Allergen-Specific IgE.
1996-1999	Research Associate at The Scripps Research Institute, La Jolla, USA in the group of Dr. Carlos F. Barbas III. Projects: Generation of Chemokine Receptor-Specific Antibodies to protect against HIV-1; Generation of Integrin-Specific Antibodies for Cancer Therapy.
2000-2004	Research Fellow, Institute of Immunology; University of Vienna, in the group of Dr. Walter Knapp.
2005-2007	Research Fellow, Institute of Immunology; working independently as project leader.
June 2006	Permanent research position at the Institute of Immunology
March 2007	Independent group leader at the Institute of Immunology
June 2007	Habilitation at the Medical University of Vienna
2007-now	Head Division of Immune Receptors and T cell activation, Institute of Immunology, Medical University of Vienna

2015-19 Head Christian Doppler Laboratory for Complement Research

Areas of research

T cell activation, Costimulation, Coinhibition, Receptor-Ligand interactions, Complement receptors

Research achievements

Molecular cloning of the first human allergen-specific IgE-antibodies (PMID: 8631916).
Demonstration of the use of CCR5-specific intrabodies to protect human T cell from HIV-1 (PMID: 16738691; PMID: 10639161).
Identification of the CD93 antigen (PMID: 11781389).
First description of a surface resident non-MHC-molecule targeted by allo-specific antibodies in HSCT-recipients (PMID: 19617579)
Identification of novel receptor - ligand interactions (ILT-4 as a receptor for complement split products (PMID: 26678451); identification of receptors for uromodulin (THP; PMID: 17928461) and identification of Neuropilin-1 as a novel complement receptor (PMID: 31572401)).
Generation of the T cell stimulator system to investigate costimulatory and coinhibitory pathways (PMID: 20858499).
Insight into costimulatory and coinhibitory pathways - e.g. the identification of CD2 as the major costimulatory receptor for CD28-negative T cells (PMID: 26041540).
Generation of efficient fluorescent T cell reporter systems (PMID: 29707134, PMID: 26780292 PMID: 29029399) – to date reporters and T cell stimulators have distributed to over 100 renowned laboratories worldwide.

10 most important publications

1. Steinberger P, Kraft D, Valenta R (1996) Construction of a combinatorial IgE library from an allergic patient. Isolation and characterization of human IgE Fabs with specificity for the major timothy grass pollen allergen, Phl p 5. The Journal of biological chemistry. 271: 10967-72. doi: 10.1074/jbc.271.18.10967
2. Steinberger P, Andris-Widhopf J, Buhler B, Torbett BE, Barbas CF, 3rd (2000) Functional deletion of the CCR5 receptor by intracellular immunization produces cells that are refractory to CCR5-dependent HIV-1 infection and cell fusion. Proceedings of the National Academy of Sciences of the United States of America. 97: 805-10. DOI: 10.1073/pnas.97.2.805
3. Pfistershammer K, Lawitschka A, Klauser C et al. (2009) Allogeneic disparities in immunoglobulin-like transcript 5 induce potent antibody responses in hematopoietic stem cell transplant recipients. Blood. 114: 2323-32. doi: 10.1182/blood-2008-10-183814
4. Leitner J, Rieger A, Pickl WF, Zlabinger G, Grabmeier-Pfistershammer K, Steinberger P (2013) TIM-3 does not act as a receptor for galectin-9. PLoS pathogens. 9: e1003253. doi: 10.1371/journal.ppat.1003253

5. Leitner J, Herndler-Brandstetter D, Zlabinger GJ, Grubeck-Loebenstein B, Steinberger P (2015) CD58/CD2 Is the Primary Costimulatory Pathway in Human CD28-CD8+ T Cells. J Immunol. 195: 477-87. doi: 10.4049/jimmunol.1401917

6. Hofer J, Forster F, Isenman DE et al. (2016) Ig-like transcript 4 as a cellular receptor for soluble complement fragment C4d. FASEB J. 30: 1492-503. doi: 10.1096/fj.15-275594

7. Jutz S, Leitner J, Schmetterer K, Doel-Perez I, Majdic O, Grabmeier-Pfistershammer K, Paster W, Huppa JB, Steinberger P (2016) Assessment of costimulation and coinhibition in a triple parameter T cell reporter line: Simultaneous measurement of NF-kappaB, NFAT and AP-1. J Immunol Methods. 430: 10-20. doi: 10.1016/j.jim.2016.01.007

8. Reithofer M, Rosskopf S, Leitner J, Battin C, Bohle B, Steinberger P, Jahn-Schmid B (2021) 4-1BB costimulation promotes bystander activation of human CD8 T cells. Eur J Immunol. 51: 721-33. doi: 10.1002/eji.202048762

9. Battin C, Kaufmann G, Leitner J, Tobias J, Wiedermann U, Rolle A, Meyer M, Momburg F, Steinberger P (2022) NKG2A-checkpoint inhibition and its blockade critically depends on peptides presented by its ligand HLA-E. Immunology. 166: 507-21. doi: 10.1111/imm.13515

10. Battin C, Leitner J, Waidhofer-Sollner P, Grabmeier-Pfistershammer K, Olive D, Steinberger P (2022) BTLA inhibition has a dominant role in the cis-complex of BTLA and HVEM. Front Immunol. 13: 956694. doi: 10.3389/fimmu.2022.956694

Awards, patent applications and lectures

Travel award from the Austrian Society for Allergology and Immunology, ÖGAI (September 1995)
Award for Ph. D. thesis of the Austrian Society of Allergy and Clinical Immunology (December 1996)
Erwin Schroedinger research fellowship, Austrian Science Foundation (1997-98)
Austrian National Award for Alternatives to Animal Experimentation (1998)
Patent SE0004892A: Group 2 allergen specific IgE-Fabs and use thereof
Patent WO2014006063 Complement split product C4d for the treatment of inflammatory conditions
Patent TM5703-01EP Costimulatory 4-1BBL ectodomain constructs for immunomodulation (subm.)
DGFI/ÖGAI Meeting Hannover 2022: Invited lecture at the Satellite Symposium Innate and Adaptive Signals received via the gamma-delta TCR and alpha-beta TCR
Reviewer Medical research counsil UK (2014; 2019)