

# Curriculum Vitae - Dr. Thomas Gruber

## Personal information

Date of Birth January 14<sup>th</sup>, 1971  
Place of Birth St. Johann i. T. (Austria)  
Business Address: Division of Translational Cell Genetics, Department for Medical Genetics,  
Innsbruck Medical University  
Peter -Mayr -Str. 1a A-6020 Innsbruck, Austria  
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## Main area of research

- T cell immunology with focus on autoimmunity and tumor immunity
- Molecular mechanisms of T cell signaling

## Education

1977-1981 Elementary school in Brixen i. T.  
1981-1989 Secondary school (Gymnasium) in Wörgl  
1989-1993 Studies in Physics, Astronomy and Philosophy, Universities of Vienna and  
Innsbruck  
1993-1999 Studies in Microbiology, University of Innsbruck; title of the master thesis:  
*Interaction of ribosomal S8 proteins from mesophilic and thermophilic  
Archaea and Bacteria with their specific S8 binding site on the 16S rRNA.*  
1999-2000 Civilian service  
2000-2003 Studies for PhD at the Institute for Human Genetics, Medical University of  
Innsbruck; title of the PhD thesis: *Studies on the physiological roles of  
distinct protein kinase C isotypes in T cell signaling employing the gene  
knockout strategy.*  
2003-2012 Postdoc in the laboratory of Prof. Dr. Gottfried Baier at the Institute for  
Medical Genetics, Molecular and Clinical Pharmacology, Medical  
University of Innsbruck.  
2012- 2015 University assistant (B1) at the Institute for Medical Genetics, Molecular  
and Clinical Pharmacology, Medical University of Innsbruck.  
since 2015 Assistance Professor (A2) at the Institute for Medical Genetics, Molecular  
and Clinical Pharmacology, Medical University of Innsbruck.

Grants: FWF P22207 "The PKCθ/Cbl-b signaling pathway in immunological  
tolerance", Jan. 2010 – Dec. 2012.  
FWF P26892 " Analysis of the TGFβ/Cbl-b pathway in autoimmunity and

- Meetings:
- 4<sup>th</sup> European Congress of Immunology, 2015. Vienna
  - 15<sup>th</sup> International Congress of Immunology, 2013, Milano
  - Cancer Immunology and Immunotherapy Conference 2011, Washington D.C
  - Oncotyrol Retreat 2010, Innsbruck
  - Austrian Society for Hematology and Oncology, Frühjahrstagung 2009, Salzburg
  - Oncotyrol Retreat 2009, Obergurgl
  - Spezialforschungsbereich (SFB) Retreat 2007, Vienna
  - European Association for Cancer Research Meeting 2004, Innsbruck

## Teaching activity

Lectures and practical courses in Molecular Medicine, Medical Biology and in the MCBO PhD program  
Supervision of graduate students

## Publications

Peer S, Baier G, Gruber T. *Cbl/b-deficient T cells are less susceptible to PD-L1-mediated inhibition.* **Oncotarget.** 2017 Jun 3.

Pfeifhofer-Obermair C, Albrecht-Schgoer K, Peer S, Nairz M, Siegmund K, Klepsch V, Haschka D, Thuille N, Hermann-Kleiter N, Gruber T, Weiss G, Baier G. Role of PKCtheta in macrophage-mediated immune response to *Salmonella typhimurium* infection in mice. **Cell Commun Signal.** 2016 Jul 28;14(1):14.

Hermann-Kleiter N, Klepsch V, Wallner S, Siegmund K, Klepsch S, Tuzlak S, Villunger A, Kaminski S, Pfeifhofer-Obermair C, Gruber T, Wolf D, Baier G. The nuclear orphan receptor NR2F6 is a central checkpoint for cancer immune surveillance. **Cell Rep.** 2015 Sep 29;12(12):2072-85.

Paolino M, Choidas A, Wallner S, Pranjic B, Uribesalgo I, Loeser S, Nitsch R, Cronin SJ, Jamieson AM, Langdon WY, Schultz-Fademrecht C, Eickhoff J, Torka R, Gruber T, Hinterleitner R, Baier G, Wolf D, Ullrich A, Klebl BM, Penninger JM. The E3 Ligase Cbl-b and TAM receptors regulate cancer metastasis by inhibiting natural killer cell activity. **Nature.** 2014 Mar 27;507(7493):508-12.

Gruber T, Hinterleitner R, Hermann-Kleiter N, Meisel M, Kleiter I, Wang CM, Viola A, Pfeifhofer-Obermair C, Baier G. Cbl-b mediates TGFβ sensitivity by downregulating inhibitory SMAD7 in primary T cells. **J Mol Cell Biol.** 2013 May 24

Gruber T, Hinterleitner R, Pfeifhofer-Obermair C, Wolf D, Baier G. Engineering effective T-cell based antitumor immunity. **Oncimmunology**. 2013 Feb 1.

Meisel M, Hermann-Kleiter N, Hinterleitner R, Gruber T, Wachowicz K, Pfeifhofer-Obermair C, Fresser F, Leitges M, Soldani C, Viola A, Kaminski S, Baier G. The kinase PKC $\alpha$  selectively upregulates interleukin-17A during Th17 cell immune responses. **Immunity**. 2013 Jan 24.

Gruber T, Hinterleitner R, Pfeifhofer-Obermair C, Lutz-Nicoladoni C, Tzankov A, Schuster M, Penninger JM, Loibner H, Wolf D, Baier G. Adoptive transfer of siRNA Cblb-silenced CD8+ T lymphocytes augments tumor vaccine efficacy in a B16 melanoma model. **PLoS One**. 2012;7(9)

Wallner S, Gruber T, Baier G, Wolf D. Releasing the brake – targeting Cbl-b to enhance lymphocyte effector functions. Submitted to **Clin Dev Immunol**. 2012; 2012:692639.

Lutz-Nicoladoni C, Wallner S, Stoitzner P, Pircher M, Gruber T, Wolf AM, Gastl G, Penninger JM, Baier G, Wolf D. Reinforcement of cancer immunotherapy by adoptive transfer of cblb-deficient CD8+ T cells combined with a DC vaccine. **Immunol Cell Biol**. 2012 Jan;90(1):130.

Paolino M, Thien CB, Gruber T, Hinterleitner R, Baier G, Langdon WY, Penninger JM. Essential role of E3 ubiquitin ligase activity in Cbl-b-regulated T cell functions. **J Immunol**. 2011 Feb 15;186(4):2138-47.

Gruber T, Pfeifhofer-Obermair C, Baier G. PKC $\theta$  is necessary for efficient activation of NF-kappaB, NFAT, and AP-1 during positive selection of thymocytes. **Immunol Lett**. 2010 Aug 16;132(1-2):6-11

Gruber T, Hermann-Kleiter N, Hinterleitner R, Fresser F, Schneider R, Gastl G, Penninger JM, Baier G. PKC $\theta$  modulates the strength of T cell responses by targeting Cbl-b for ubiquitination and degradation. **Sci Signal**. 2009 Jun, 2:ra30.

Evenou JP, Wagner J, Zenke G, Brinkmann V, Wagner K, Kovarik J, Welzenbach K, Weitz-Schmidt G, Guntermann C, Towbin H, Cottens S, Kaminski S, Letschka T, Lutz-Nicoladoni C, Gruber T, Hermann-Kleiter N, Thuille N, Baier G. The potent protein kinase C selective inhibitor AEB071 (Sotрастурин) represents a new class of immunosuppressive agents affecting early T cell activation. **J Pharmacol Exp Ther**. 2009 Jun 2.

Gruber T, Hermann-Kleiter N, Pfeifhofer-Obermair C, Lutz-Nicoladoni C, Thuille N, Letschka T, Barsig J, Baudler M, Li J, Metzler B, Nüsslein-Hildesheim B, Wagner J, Leitges M, Baier G. PKC $\theta$  cooperates with PKC $\alpha$  in alloimmune responses of T cells in vivo. **Mol Immunol**. 2009 Jun;46(10):2071-9.

Hermann-Kleiter N, Gruber T, Lutz-Nicoladoni C, Thuille N, Fresser F, Labi V, Schiefermeier N, Warnecke M, Huber L, Villunger A, Eichele G, Kaminski S, Baier G. The nuclear orphan receptor NR2F6 suppresses lymphocyte activation and T helper 17-dependent autoimmunity. **Immunity**. 2008 Aug 15;29(2):205-16.

Gruber T, Fresser F, Jenny M, Uberall F, Leitges M, Baier G. PKC $\theta$  cooperates with atypical PKC $\zeta$  and PKC $\iota$  in NF- $\kappa$ B transactivation of T lymphocytes. **Mol Immunol**. 2008 Jan;45(1):117-26.

Pfeifhofer C, Gruber T, Letschka T, Thuille N, Lutz-Nicoladoni C, Hermann-Kleiter N, Braun U, Leitges M, Baier G. Defective IgG2a/2b class switching in PKC $\alpha$ -/- mice. **J Immunol**. 2006 May 15;176(10):6004-11.

Gruber T, Freeley M, Thuille N, Heit I, Shaw S, Long A, Baier G. Comment on "PDK1 nucleates T cell receptor-induced signaling complex for NF- $\kappa$ B activation". **Science**. 2006 Apr 7;312(5770):55.

Hermann-Kleiter N, Thuille N, Pfeifhofer C, Gruber T, Schäfer M, Zitt C, Hatzelmann A, Schudt C, Leitges M, Baier G. PKC $\theta$  and PKA are antagonistic partners in the NF-AT transactivation pathway of primary mouse CD3+ T lymphocytes. **Blood**. 2006 Jun 15;107(12):4841-8.

Thuille N, Gruber T, Pfeifhofer C, Hermann-Kleiter N, Lutz-Nicoladoni C, Letschka T, Kollmann V, Leitges M, Baier G. Physiological and non-redundant functions of PKC isotypes in T Lymphocytes. **Current Immunology Reviews**. 2006, 2, 143-156.

Gruber T, Thuille N, Hermann-Kleiter N, Leitges M, Baier G. Protein kinase C $\epsilon$  is dispensable for TCR/CD3-signaling. **Mol Immunol**. 2005 Feb;42(3):305-10.

Gruber T, Barsig J, Pfeifhofer C, Ghaffari-Tabrizi N, Tinhofer I, Leitges M, Baier G. PKC $\delta$  is involved in signal attenuation in CD3+ T cells. **Immunol Lett**. 2005 Jan 31;96(2):291-3.

Thuille N, Gruber T, Böck G, Leitges M, Baier G. Protein kinase C $\beta$  is dispensable for TCR-signaling. **Mol Immunol**. 2004 Jun;41(4):385-90.

Gruber T, Köhrer C, Lung B, Shcherbakov D, Piendl W. Affinity of ribosomal protein S8 from mesophilic and (hyper)thermophilic archaea and bacteria for 16S rRNA correlates with the growth temperatures of the organisms. **FEBS Lett**. 2003 Aug 14;549(1-3):123-8.

Pfeifhofer C, Kofler K, Gruber T, Tabrizi NG, Lutz C, Maly K, Leitges M, Baier G. Protein kinase C $\theta$  affects Ca $^{2+}$  mobilization and NFAT activation in primary mouse T cells. **J Exp Med**. 2003 Jun 2;197(11):1525-35.