

Dr hab. Leszek Ignatowicz – informacja biograficzna

EDUCATION:

- 1984 B.Sc. – Department of Biochemistry and Molecular Biology, Wrocław University
1985 M.Sc – Department of Biochemistry and Molecular Biology, Wrocław University
1990 PhD – Ludwik Hirszfild Institute of Immunology and Experimental Therapy, Polish Academy of Sciences, Wrocław

PROFESSIONAL:

- 1985–1987 Undergraduate Research Assistant, Department of Occupational and Internal Diseases, College of Medicine, Wrocław, Poland
1987–1990 Graduate Research Assistant, Department of Cellular Immunology, Ludwik Hirszfild Institute of Immunology and Experimental Therapy, Polish Academy of Sciences, Wrocław, Poland
1990–1996 Postdoctoral Fellow, Howard Hughes Medical Institute at the National Jewish Center for Immunology and Respiratory Medicine, Denver, CO, USA
1996–2001 Assistant Professor, Department of Medicine, Department of Cellular Biology and Anatomy, School of Graduate Studies, Institute of Molecular Medicine and Genetics, Medical College of Georgia, Augusta, Georgia, USA
2001–2005 Associate Professor, Department of Medicine, Department of Cellular Biology and Anatomy, School of Graduate Studies, Institute of Molecular Medicine and Genetics, Medical College of Georgia, Augusta, Georgia, USA
March 2007 Professor, Center for Biotechnology and Genomic Medicine, Department of Medicine, Department of Cellular Biology and Anatomy, School of Graduate Studies, Medical College of Georgia, Augusta, Georgia, USA

MAJOR INSTITUTIONAL and NATIONAL ASSIGNMENTS:

- 1998 – now Member, **Combined Intramural Grants Program** (previously MCG RI program)
2000 – 2004 Member, Committee of Animal use for Research and Education.
2002 – 2004 Member, IMMAG Executive Faculty Committee.
2000 – now Director, Flow Cytometry Core, MCG.
1996 – now Member, Faculty Search Committees (multiple)
1996 – now Member, PhD Committees (multiple)
2010 – now VA Eligibility Committee (member)

AWARDS/HONORS

The Roche Organ Transplantation Research Foundation (ROTRF) Recognition Prize – Philadelphia 2011 (*awarded to investigators whose ROTRF-funded projects had a major impact on the field of transplantation and whose achievements best exemplify the mission of the ROTRF*).

SCIENTIFIC AND PROFESSIONAL SOCIETIES:

American Association of Immunologists – member

REFEREE:

Immunity (*ad hoc*)
Journal of Immunology (*ad hoc*)
Journal of Experimental Medicine (*ad hoc*)
Cellular Immunology (*ad hoc*)
Scientific Reports (*ad hoc*)
EMBO J (*ad hoc*)
NIH (*ad hoc*)
Veterans Administration (*ad hoc*)

INVITED PRESENTATIONS AND SEMINARS (last five years):

TymUS international meeting, Puerto Rico, US
NIH/NIAID NIH Immunology Seminar Series
13 Congress of Polish Society of Clinical and Experimental Immunology, Lublin, Poland
Conference „Tolerance and Development”, Foundation des Treilles, Nice, France
American Transplant Congress Philadelphia 2011, ROTRF Luncheon Satellite Symposium
“Lymphocyte development, Tolerance and Autoimmunity: solved and open questions“ International Conference, Wroclaw, Poland
European Thymus Workshop EuroThyme Rolduc, Leeuwenhorst, Netherlands
Johns Hopkins Hospital, Philadelphia
University of Connecticut Health Center, Farmington, CT
University of Texas, Tyler, TX
Albany Medical College, Albany, NY
University of Alabama, Birmingham, AL

PUBLICATIONS IN REFEREED JOURNALS:

1. Ignatowicz L.: T cell antigen receptors. **Post. Hig.**, 1989, 3:1–12.
2. Swat W., Ignatowicz L., Kisielow P.: Detection of apoptosis of immature CD4+CD8+ thymocytes by flow cytometry. **J. Immunol. Meth.**, 1991, 137:79–87.
3. Swat W., Ignatowicz L., von Bohemer H., Kisielow P.: Clonal deletion of CD4+CD8+ thymocytes in suspension culture by extrathymic antigen-presenting cells. **Nature**, 1991, 351:150–153.
4. Ignatowicz L., Kappler J.W., Marrack P.: The effect of chronic infection with a Superantigen-producing virus. **J. Exp. Med.**, 1992, 175:917–923.
5. Marrack P., McCormack J., Callahan J., Ignatowicz L., Kappler J.W.: T cell tolerance. **Chest.**, 1993, 3:76–78.
6. P. Marrack, Freed J.H., Ignatowicz L.M., McCormack J., Callahan J., Hugo P., Kappler J.W.: Control of the T cell repertoire. **Progress in Immunology**, 1993, VIII, Springer Verlag.
7. Scherer M.T., Ignatowicz L., Winslow G.M., Kappler J. W., Marrack P.: Superantigens; Bacterial and viral proteins that manipulate the immune system. **Ann. Rev. Cell Biology**, 1993, 9:101–128.

8. Marrack P., Ignatowicz L., Kappler J.W., Boymel J., Freed J.: Comparison of peptides bound to spleen and thymus class II. *J. Exp. Med.*, 1993, 178:2173–2183.
9. Ignatowicz L., Kappler J.W., Marrack P., Scherer M.T.: Identification of two V β 7 specific superantigens. *J. Immunol.*, 1994, 1:65–71.
10. Ignatowicz L., Winslow G.M., Bill J., Kappler J.W., Marrack P.: Cell surface expression of Class II MHC proteins occupied by a single peptide. *J. Immunol.*, 1995, 154:3852–3862.
11. Scherer M.T., Ignatowicz L., Pullen A., Kappler J.W., Marrack P.: The use of Mtv negative and single Mtv mice to evaluate the effects of endogenous viral superantigens on the T cell repertoire. *J. Exp. Med.*, 1995, 182:1493–1504.
12. Ignatowicz L., Kappler J.W., Marrack P.: The repertoire of T cells shaped by a single MHC/peptide ligand. *Cell*, 1996, 84:521–529.
13. Ignatowicz L., Kappler J.W., Parker D., Marrack P.: The responses of mature T cells are not necessarily antagonized by their positively selected peptide. *J. Immunol.* (Cutting Edge), 1996, 157:1827–1831.
14. Marrack P., Ignatowicz L., Parker D., Liu C.-P., Kappler J.: The structure and specificity of T cells selected by a single MHC/peptide combination. *HLA and Disease – The Molecular Basis*, 1997. Alfred Barjon Symposium, Murksgaard, Copenhagen.
15. Ignatowicz L., Rees W., Pacholczyk R., Ignatowicz H., Kushnir E., Kappler J., Marrack P.: T cells can be activated which are unrelated in sequence to their selecting peptide. *Immunity*, 1997, 7:179–186.
16. Wilson N.A., Wolf P., Ploegh H., Ignatowicz L., Kappler J. W., Marrack P.: Invariant chain can bind MHC class II at a site other than the binding groove. *J. Immunol.*, 1998, 61(9):4777–4784.
17. Kuśnierczyk P., Pacholczyk R., Chmielowski B., Ignatowicz L.: Role of peptide ligand in the positive selection of T lymphocytes. *Cent. Eur. J. Immunol.*, 1998, 23:169–182.
18. Chmielowski B., Muranski P., Ignatowicz L.: Repertoire of CD4+ T cells positively selected by a single class II MHC/peptide complex and tolerant to normal self peptides retains different antigen specificities. *J. Immunol.*, 1999, 162:95–105.
19. Thayer W.F., Ignatowicz L., Jensen P.E.: CLIP-independent binding of invariant chain to class II major histocompatibility complex molecules. *J. Immunol.*, 1999, 162:1502–1509.
20. Chmielowski B., Muranski P., Ignatowicz L.: On the role of high and low abundance class II MHC/peptide complexes in the positive selection of CD4+ T cells. *Int. Immunol.*, 2000, 12:67–72.
21. Muranski P., Chmielowski B., Ignatowicz L.: Mature CD4+ T cells perceive a positively selecting class II MHC/Peptide complex in the periphery. *J. Immunol.*, 2000, 164:3087–3094.
22. Kovalik J.P., Singh N., Mendiratta S.K., Martin W.D., Ignatowicz L., van Kaer L.: Alloreactive and self-restricted CD4+ T cells directed against the same MHC class II/peptide complex have similar sensitivities to alterations in the peptide sequence. *J. Immunol.*, 2000, 165:1285–1293.
23. Gaszewska-Mastalarz A., Muranski P., Chmielowski B., Kraj P., Ignatowicz L.: Altered selection of CD4+ T cells by class II MHC bound with dominant and low-abundant self-peptides. *J. Immunol.*, 2000, 165:6099–6106.
24. Kraj P., Pacholczyk R., Ignatowicz L.: $\alpha\beta$ TCRs differ in the degree of their specificity for the positively selecting MHC/peptide ligand. *J. Immunol.*, 2001, 66:2251–2259.

25. Pacholczyk R., Kraj P., Ignatowicz L.: An incremental increase in the complexity of peptides bound to class II MHC changes the diversity of positively selected $\alpha\beta$ TCRs. *J. Immunol.*, 2001, 166:2357–2363.
26. Kraj P., Pacholczyk R., Ignatowicz H., Kisielow P., Jensen P., Ignatowicz L.: Positive selection of CD4⁺ T cells is induced in vivo by agonist and inhibited by antagonist peptides. *J. Exp. Med.*, 2001, 194(4):427–438.
27. Pacholczyk R., Kraj P., Ignatowicz L.: Peptide specificity of thymic selection of CD4⁺CD25⁺ T cells. *J. Immunol.*, 2002, 168:613–620.
28. Sullivan B.A., Kraj P., Weber D.A., Ignatowicz L., Jensen P.: Positive selection of a Qa-1 restricted T cell receptor with specificity for insulin. *Immunity*, 2002, 17:95–105.
29. Chmielowski B., Pacholczyk R., Kraj P., Kisielow P., Ignatowicz L.: Presentation of antagonist peptide to naive CD4⁺ T cells abrogates spatial reorganization of class II MHC/peptide complexes on the surface of dendritic cells. *Proc. Natl. Acad. Sci. USA*, 2002, 99:15012–15017.
30. Stephens G.L., Ashwell J.D., Ignatowicz L.: Glucocorticoids mediate distinct functions in early versus late thymic ontogeny. *Int. Immunol.*, 2003, 15(5):623–632.
31. Stephens G.L., Ignatowicz L.: Activation thresholds influence commitment to a regulatory lineage. *Eur. J. Immunol.*, 2003, 33(5):1282–1291.
32. Thayer W.P., Dao Ch. T., Ignatowicz L., Jensen P.E.: A novel single-chain I-A^b molecule can stimulate and stain antigen-specific T cells. *Molec. Immunol.*, 2003, 39(14):861–870.
33. Uz-Zaman T., Ignatowicz L., Sarkar N.H.: Mouse mammary tumor viruses expressed by RIII/Sa mice with a high incidence of mammary tumors interact with the V β -2- and V β -8-specific T cells during viral infection. *Virology*, 2003, 314, 294–304.
34. Bridges C.C., Hu H., Miyauchi S., Siddaramappa U.N., Ganapathy M.E., Ignatowicz L., Maddox D.M., Smith S.B., Ganapathy V.: Induction of cystine-glutamate transporter xc- by human immunodeficiency virus type 1 transactivator protein tat in retinal pigment epithelium. *Invest Ophthalmol Vis Sci.*, 2004, 45(9):2906–2914.
35. Nowak I., Pajtasz-Piasecka E., Chmielowski B., Ignatowicz L., Kuśnierczyk P.: The specific T-cell response to antigenic peptide is influenced by bystander peptides. *Cell. Mol. Biol. Lett.*, 2006, 11:70–79.
36. Pacholczyk R., Ignatowicz H., Kraj P., Ignatowicz L.: Origin and TCR diversity of CD4⁺CD25⁺Foxp3⁺ T cells. *Immunity*, 2006, 25:249–259.
37. Pacholczyk R., Kern J., Singh N., Iwashima M., Kraj P., Ignatowicz L.: Non-self antigens are the cognate specificities of Foxp3⁺ T_R cells. *Immunity*, 2007, 27(3):493–504.
38. Kuczma M., Podolsky R., Garge N., Daniely D., Pacholczyk R., Ignatowicz L., Kraj P.: Foxp3-Deficient Regulatory T Cells Do Not Revert into Conventional Effector CD4⁺ T Cells but Constitute a Unique Cell Subset. *J. Immunol.*, 2009, 183:3731–3741.
39. Daniely D., Kern J., Cebula A., Ignatowicz L.: Diversity of TCRs on natural Foxp3⁺ T cells in mice lacking Aire expression. *J. Immunol.*, 2010, 184: 6865–6873.
40. Singh N., Pacholczyk R., Iwashima M., Ignatowicz L.: Generation of T cell hybridomas from natural FoxP3⁺ regulatory T cells. *Methods in Cell Biology*, 2011, 707:39–44.
41. Van Valkenburgh J., Albu D.I., Bapanpally C., Casanova S., Califano D., Jones D.M., Ignatowicz L., Kawamoto S., Fagarasan S., Jenkins N.A., Copeland N.G., Liu P., Avram D.: Critical role of Bcl11b in suppressor function of T regulatory cells and prevention of inflammatory bowel disease. *J. Exp. Med.*, 2011, 208(10):2069–81.

42. Rempala G.A., Seweryn M., Ignatowicz L.: Model for Comparative Analysis of Antigen Receptor Repertoires. *J. Theor. Biol.*, 2011, 269(1):1–15.
43. Sonne S., Shekhawat P.S., Matern D., Ganapathy V., Ignatowicz L.: Carnitine deficiency in OCTN2^{-/-} newborn mice leads to a severe gut and immune phenotype with widespread atrophy, apoptosis and a pro-inflammatory response. *PLoS One*, 2012; 7(10):e47729. PMID: 23112839.
44. Greene J., Birtwistle M.R., Ignatowicz L., Rempala G.A.: Bayesian multivariate Poisson abundance models for T-cell receptor data. *J. Theor. Biol.*, 2013 Mar 1; 326C:1–10.
45. Cebula A., Seweryn M., Rempala G.A., Pabla S.S., McIndoe R.A., Denning T.L., Bry L., Kraj P., Kisielow P., Ignatowicz L.: Thymus-derived regulatory T cells control tolerance to commensal microbiota. *Nature*, 2013, 497(7448):258–62.
46. Goto Y., Panea C., Lee C., Cebula A., Laufer T.M., Ignatowicz L., Ivanov I.I.: Presentation of segmented filamentous bacteria antigens by lamina propria dendritic cells drives mucosal Th17 cell differentiation. *Immunity*, 2014, 40(4):594–607.
47. Wojciech L., Ignatowicz A., Seweryn M., Rempala G., Pabla S., McIndoe R.A., Kisielow P., Ignatowicz L.: The same self-peptide selects conventional and regulatory T cells with identical antigen receptors. *Nature Comm.*, 2014, 5:5061. PMID: 25270305.
48. Wojciech L., Ignatowicz L.: Tregs strip dendritic cells of CD70 to regulate Th1 differentiation. *EMBO J.*, 2015, (34) 10:1290–1292.
49. Kuczma M., Wang C.-Y., Ignatowicz L., Gourdie R., Kraj P.: Altered Connexin 43 Expression Underlies Age-Dependent Decrease of Regulatory T Cell Suppressor Function in Nonobese Diabetic Mice. *J. Immunol.*, 2015, 194:5261–71.