

Curriculum Vitae

SALVATORE ALBANI

PROFESSIONAL EXPERIENCE

Director of the SingHealth Translational Immunology and Inflammation Centre Professor at Duke-NUS Graduate Medical School Senior Clinical Scientist at KK Women's and Children's Hospital - Singapore

Title: Doctor and Professor

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Employment History:

1985 - 1989: Resident, University of Pavia, Department of Paediatrics, Rheumatology and Immunology Sections.
Supervisor: A. Martini
1989 - 1990: Research Fellow, Scripps Research Foundation, La Jolla, CA. Supervisor: D. Carson
1990 - 1992: Postdoctoral Fellow, Department of Medicine, University of California, San Diego, La Jolla, CA.(UCSD)
Supervisor: D. Carson
1993 - 1998: Assistant Professor of Pediatrics, UCSD
1994 - 2008: Director, Center for Pediatric Rheumatology,UCSD/Kaiser
1998 - 2004: Associate Professor of Pediatrics, UCSD
1999 - 2006: Scientific Founder and Chairman, Androclus Therapeutics, SpA
2001 - 2004: Associate Professor of Medicine, UCSD
2004 - 2008: Professor of Medicine and Pediatrics, UCSD
2004 - 2008: Director, Translational Medicine Unit, Clinical Investigation Institute
2006 - date: Founder and President, Eureka Institute for Translational Medicine
2008 - 2010: Professor of Medicine and Pediatrics, Director, Arizona Arthritis Center, University of Arizona
2010 - 2013: Professor, Director, Translational Research; IIDC, Sanford-Burnham Medical Research Institute
2011 - 2013: Professor of Medicine, University of California San Diego

Academic Qualifications:

1985: Medical School and M.D. degree, Summa cum Laude University of Pavia, Italy
1989: Residency in Pediatrics and Board Certification in Pediatrics, Summa cum Laude European Union.,
1995: Ph.D., in Molecular Basis of Pediatric Diseases, University of Pavia

Research Interests:

My fundamental research interest is in understanding human immunity and contributing to the knowledge to therapeutic and diagnostic advancements. I have developed several innovative approaches in the area of induction and maintenance of immune tolerance in humans, being responsible for the whole translational process from idea to conclusion of Phase II clinical trial in autoimmune inflammatory diseases, which have a large impact on society and individuals. Development of high throughput technology platforms is also part of my scientific career. These platforms aim to provide tools for knowledge-based diagnostic and therapeutics decisions (various papers and patents under review). In addition, I have developed a technology for the identification and manipulation ex vivo of antigen specific T cells. This technology, named T cell capture, is based on entirely artificial antigen presenting cells. It has applications in immunotherapy of cancer and treatment of infections in an immunocompromised host (Nature Medicine, JI. Blood, A&R, Haematologica, various patents).

Top Selected Publications:

- Albani S, Tuckwell JE, Esparza L, Carson DA, Roudier J: The susceptibility sequence to rheumatoid arthritis is a cross reactive B cell epitope shared by the Escherichia coli heat shock protein dnaJ and the histocompatibility leukocyte antigen DRB10401 molecule. J Clin Invest 89:327-331,1992.
- Albani S, Keystone EC, Nelson JL, Ollier WER, La Cava A, Montemayor AC, Weber DA, Montecucco C, Martini A, Carson DA: Positive selection in autoimmunity: abnormal immune responses to a bacterial dnaJ antigenic determinant in patients with early rheumatoid arthritis. Nature Med 1:448-452, 1995
- Prakken B, Wauben M, Genini D, Samodal R, Barnett J, Mendivil A, Leoni L, Albani S. Artificial antigen-presenting

- cells as a tool to exploit the immune 'synapse'. *Nature Med.* 6:1406-10, 2000.
- Prakken BJ, Samodal R, Le TD, Giannoni F, Puga Yung G, Scavulli J, Amox D, Roord SA, de Kleer I, Bonnin D, Lanza P, Berry C, Massa M, Billetta R, Albani S. Epitope-specific immunotherapy induces immune deviation of proinflammatory T cells in Rheumatoid Arthritis. *Proc Natl Acad Sci USA.* 101(12):4228-33, 2004.
 - Kamphuis S, Kuis W, de Jager W, Teklenburg G, Massa M, Gordon G, Boerhof, Rijkers GT, Uiterwaal CS, Otten HG, Sette A, Albani S, Prakken B. Tolerogenic immune responses to novel T cell epitopes from heat-shock protein 60 in juvenile idiopathic arthritis. *Lancet.* 366(9479):50-56, 2005.
 - Albani S and Prakken, B. The advancement of translational medicine-from regional challenges to global solutions. *Nature Med.* 15(9):1006-9, 2009.
 - Koffman E, Genovese M, Amox D, Santana E, Matteson EL, Kavanaugh A, Molitor JA, Schiff MH, Posever JO, Bathon JM, Kivitz AJ, Samodal R, Belardi F, Dennehey C, Keogh E, Zhang X, Zeiseniss P, Barnett J, Prakken B, Le T, Cutter GC, Albani S. Epitope-specific immunotherapy of rheumatoid arthritis: Clinical responsiveness occurs with immune deviation and relies on the expression of a cluster of molecules associated with T cell tolerance. *Arthritis Rheum.* 60(11): 3207-3216, 2009.
 - Albani S, Koffman EC, Prakken B. Induction of immune tolerance in the treatment of rheumatoid arthritis. *Nat Rev Rheumatol.* 7(5):272-81, 2011. PMID: 21468144
 - Prakken B, Albani S, Martini A. Juvenile idiopathic arthritis: new perspectives on disease pathogenesis and treatment. *Lancet.* 377(9783):2138-49, 2011. PMID: 21684384
 - van Loosdregt J, Spreafico R, Rossetti M, Prakken BJ, Lotz MK, Albani S. Hydroxychloroquine preferentially induces apoptosis of CD45RO+ effector T cells by inhibiting autophagy: A possible mechanism for therapeutic modulation of T cells. *J Allergy Clin Immunol May;* 131(5):1443-6.e.1, 2013.
 - Tong L, Thumboo J, Tan YK, Wong TY, Albani S. The eye: A window of opportunity in rheumatoid arthritis? *Nature Rheum.* Accepted, 2014.
 - Spreafico R, Rossetti M, Lovell DJ, Albani S. A115: deep immunophenotyping in the identification of clinically meaningful immune signatures in juvenile idiopathic arthritis. *Arthritis Rheumatol.* 2014 Mar;66 Suppl 11:S152.
 - Spreafico R, Rossetti R, van Loosdregt J, Wallace CA, Massad M, Magni-Manzoni S, Gattorno M, Martini A, Lovell DJ and Albani S. A circulating reservoir of pathogenic-like CD4+ T cells shares a genetic and phenotypic signature with the inflamed synovial micro-environment. *Ann Rheum Dis.* 2014 annrheumdis-2014-206226.
 - Rossetti M, Spreafico R, Moshref M, van Loosdregt J, Albani S. Ex vivo-expanded, but not in vitro-induced, human regulatory T cells are suitable for cell therapy in rheumatological autoimmune diseases thanks to stable FOXP3 demethylation. *J Immunol.* 2015 Jan 1;194(1):113-24. Selected Recent Scientific Awards:
2012: Nature Biotechnology, Outstanding Research Achievement Award
2013: NMRC, Singapore Translational Research (STaR) Investigator Award