



Curriculum Vitae

Name: Yoram Reiter

Affiliation: Professor & Head, Laboratory of Molecular Immunology, Technion-Israel Institute of Technology

Short Biography (maximum of 400 words):

Yoram Reiter is a Professor of Immunology and heads the Laboratory of Molecular Immunology at the Faculty of Biology. He has >20 years of experience in molecular immunology in the fields of cancer immunotherapy, antibody engineering, T cell biology, autoimmunity. He did his undergraduate studies in Biochemistry at the Tel Aviv University and his master's and PhD degrees are from the Weizmann Institute of Science in Immunology. He was a post doctoral fellow (1992-1997) at the National Cancer Institute (NCI) Laboratory of Molecular Biology at the NIH in Bethesda, Maryland, where he developed new approaches in antibody engineering and cancer targeted therapy with Dr. Ira Pastan. During his post doctoral work he developed a novel strategy to stabilize recombinant antibody fragments which is currently being used in the application of recombinant antibodies and T cell receptors in the clinic. From 1997-8 he was a senior scientist at Peptor Ltd. establishing research in drug discovery. In 1998, Prof. Reiter was recruited to the Technion department of Biology as a Faculty member where he established the Laboratory of Molecular Immunology and Cancer Immunotherapy leading a research program at the cutting edge of molecular immunology, antibody engineering, cancer research and immunotherapy. He develops new approaches for cancer immunotherapy and his lab is considered as the leading laboratory in the world working on recombinant antibodies mimicking the specificity of immune killer cells. Reiter's team also developed a novel T cell engagement strategy that recruits viral-specific immunity to destroy tumor cells. Reiter's work spans T cell biology, recombinant antibodies and their fusions related to oncology, infectious diseases and autoimmunity. Reiter work include also interdisciplinary collaborations in the field of systems biology and immunology as well as nanoscience bridging molecular biology and Nano electronics. Reiter's leadership in the field of TCR-like antibodies was acknowledged by numerous research grants most profound was awarding a National Institutes of Health RO1 research grant as foreign investigator for these studies. Over the years Reiter's research group and graduates consisted of > 60 graduate students and post-doctoral fellows. Some of his graduates have now senior positions in academia and industry in Israel and the US. Reiter published >100 research papers and reviews in the professional scientific literature and is frequently invited to scientific meetings. Reiter's work yielded >20



ATC 2017

Antibody Therapeutics Conference

patents and his lab raised >\$7million in research grants from government (Israeli and USA), private funds, as well as industry. He won prizes from the Technion, Israel Academy of Sciences, Industry and others. His laboratory collaborates with many leading groups in the US and Europe and his lab had multiple collaborations with biopharma in translational collaborations of his scientific work including with Teva, Pfizer and Applied Immune Technologies (AIT). Reiter is founder of Applied Immune Technologies (AIT) Ltd. which develops novel antibody-based immunotherapy approaches for cancer and autoimmunity, AIT raised in series A and B investment rounds \$22million. In December 2015 AIT was acquired by Adicet Bio Inc. a California based biopharma focused on the development of next-generation cell immunotherapies. The combined company raised \$51million in series A round from Orbimed and Novartis venture funds and in August 2016 entered into a collaboration agreement with Regeneron Pharmaceuticals to develop next-generation engineered immune-cell therapeutics receiving \$25 million upfront payment as well as research funding over a course of five-year research term. Prof. Reiter is a member of various scientific committees in Israel and abroad. Reiter was the dean of the Faculty of Biology at the Technion (2006-2008), a member of the managing committee of the Russell Berrie Nanotechnology Institute at the Technion (2005-2009), and the director of the Lorry Lokey Interdisciplinary center for Life Sciences and Engineering (2013-2016), a wide Technion center that fosters infrastructure and research at the cutting edge interfaces of life sciences, medicine, nanotechnology, and engineering. Reiter holds the Sam Sebba Academic Chair in Sciences of the Technion.

Speech Summary at ATC 2017

Speech Title:	Engineering Immune Effector Molecules for the Development of Novel Immunotherapies for Cancer and Autoimmunity
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Speech Summary (200-400 words)

Antibody and protein engineering approaches are used in our laboratory to develop new cancer immunotherapy strategies which combine the advantage of the well-established tumor targeting capabilities of high affinity recombinant fragments of antibodies with the known efficient, specific, and potent killing ability and unique specificity of CD8 T lymphocytes directed against highly antigenic MHC/peptide complexes or other effector functions.

Two approaches have been developed by our research team. First, is a new class of recombinant chimerical molecules created by the genetic fusion of scFv antibody fragments, specific for tumor cell surface antigens, to monomeric single-chain HLA-A2 complexes containing immunodominant tumor or viral-specific peptides. Second, are unique recombinant antibodies that mimic the fine specificity of the T cell receptor and recognize tumor and viral specific peptide-MHC complexes.

The molecular feature of these molecules/approaches and their in vitro and in vivo activities will be described. The future development of these approaches as new modalities to immunotherapy, bridging antibody and T lymphocyte attack on cancer cells, will be discussed in the context of their development path to clinical trials humans.

The use of these novel molecules to study basic questions of tolerance will be described as well demonstrating the bridge between basic and translational immunological research.