

Specializing in Target Discover Derived from the Intracellular Proteome and Generating a Novel Family of Antibodies, with a Current Focus on Melanoma, Applied Immune Technologies (AIT), Ltd. is Offering Bio-Pharmaceuticals the Opportunity to Go Beyond Current Drug Discovery Technology

**Biotechnology
Drug Development
(Private)**

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(AIT), Ltd.**

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**Mira Peled-Kamar, PhD
Chief Executive Officer**

BIO:

Dr. Mira Peled is a co-founder and the CEO of Applied Immune Technologies (AIT) Ltd. AIT develops Prof. Reiter's antibody-based immunotherapy approaches to cancer and viral diseases.

Mira Peled holds a PhD degree from the Molecular and Cell Biology department at the Weizmann Institute of Science. She also spent four years at UC Berkeley in California, as postdoctoral research associate.

Mira has extensive academic and biotech research experience in basic sciences as well as in the biotechnology industry. Dr. Peled has worked for leading Israeli biotech companies including Biotechnology General and

Interpharm as a scientist, and in recent years she has been involved in the business aspects of the life science fields. She was the Co-Founder and CEO of BioMimic Pharma (licensed its technology to MannKind Corporation), participated in the establishment of few start-up companies, served as an advisor to several companies in the field as well as a member in the investment committee of New Generation Technology (NGT) incubator in Israel.

Company Profile:

Applied Immune Technologies (AIT) is an antibody-based drug development and target discovery company which develops novel therapeutic and diagnostic antibodies against unique targets for oncology and viral infectious diseases.

By developing a *novel family of therapeutic antibodies*, called T-Cell Receptor Like (TCRLs) antibodies, directed against *intracellular-derived targets by class I MHC*, AIT's proprietary technology is able to identify new cancer targets from the intracellular proteome offering Bio-Pharmaceutical companies the opportunity to go beyond current drug discovery technology that is limited to targeting cell surface markers and to develop a rich pipeline of novel therapeutics and diagnostics for an enormous range of infectious and malignant diseases with a multi \$billion market potential.

**Interview conducted by:
Lynn Fosse, Senior Editor**

CEOCFO: Dr. Peled-Kamar, what is the focus of AIT today?

Dr. Peled-Kamar: AIT is a biotech company specializing in target discovery, and generating a novel family of antibodies. The uniqueness of AIT is that we can identify disease specific targets derived from the intracellular proteome as compared to other Bio Pharma companies that are looking for targets in the extracellular proteome which is a smaller pool of proteins as compare to the intracellular proteome. Therefore, we have a huge potential to find new targets that nobody can use, except us, for generating our special type of antibodies.

CEOCFO: How is this currently being done and what is different about your approach?

Dr. Peled-Kamar: Antibodies are a targeted therapy. When treating with antibodies the patient suffers many less side effects as compared to other therapies. In addition, from the commercial point of view, all antibodies consider "blockbusters" because the yearly revenue is more than a billion dollars per antibody. Sometimes it reaches five or six billion dollars a year of sales of certain antibodies. Therefore pharmaceutical companies are looking to develop antibodies against a variety of diseases. The limitation for developing new antibodies is finding new targets for the antibodies. The targets should be specific for the disease, meaning presenting on the disease cells and not be presented on normal or on healthy cells. The limitation is that all the pharmaceutical companies that develop antibodies or are looking for new targets for antibodies, are looking for the disease specific markets or targets within the cell surface proteins. That is only

20 percent of the total proteins while the 80 percent are inside the cell. All antibodies are not able to use these intracellular proteins as targets. What is unique about us is that we can, with our special antibodies, bind disease-specific proteins that derive from the intracellular proteome. Therefore, the 80 percent of the total proteins, the intracellular proteome, is a pool of proteins to look for potential disease specific targets. At AIT we develop a way to identify new targets from the intracellular proteome. Once we identify them we have the ability, which is also unique about us, to generate the specific type of antibodies (called TCRLs) that can recognize and bind those unique targets.

CEOFO: What have you figured out scientifically or technically that allows you to do this?

Dr. Peled-Kamar: The idea came from analyzing or studying the immune system. The natural immune system of the body is composed of two arms; antibodies and white blood cells, the "T lymphocytes". Usually the T lymphocytes use the MHC peptide targets to identify a disease cell, by analyzing the peptide that derive from inside the cell. Also these targets considered very specific targets/markers in case of a viral or a cancer disease. We are using the MHC peptide complexes as our targets for our TCRL recombinant antibodies. To make it simpler, we learned from the immune system which disease targets would be perfect targets for the recognition of disease cells. And we generate TCRL antibodies against these targets.

CEOFO: What are you working on specifically right now?

Dr. Peled-Kamar: We focus on the oncology field. Our lead antibody is for melanoma, metastatic skin cancer. We have a great target for melanoma. We are now working on optimization of the antibody to this target. In addition we are looking for new

targets for additional cancer types. In addition, we are looking for novel targets for leukemia, pancreatic cancer, for many other different types of cancers. Once we identify new targets for those different tumor types we will generate the specific TCRL antibodies for them. The antibodies called TCRL and it comes from T Cell Receptor Like Antibodies. Our TCRL antibody is mimicking the specificity of the T-cells, of the T lymphocytes, binding the mHC peptide complexes.

CEOFO: Has the medical community been paying attention, are they aware of the new approach?

Dr. Peled-Kamar: Yes. We are in touch with many pharmaceutical companies. With several companies we are discussing potential collaborations. While other companies, although they are very interested in the

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technology, they are waiting for us to reach Phase I clinical trials. We are now raising money for the company to complete the development of the melanoma TCRL antibody up to Phase I. We know that once we get there we will have many requests for collaborations/licensing by big pharma companies.

CEOFO: How is the fundraising going for Applied Immune Technologies?

Dr. Peled-Kamar: So far we have found potential investors that are very interested and exited about the technology and we are looking for additional investors to complete the financing round. We are in the middle

of fundraising. Hopefully we will be able to finish it in about four or five months.

CEOFO: Once you have the funding in place, is there a timetable of how you are going to move forward, or does it depend on how the testing goes?

Dr. Peled-Kamar: Yes. It depends on the financing and the nature of the work. Once raising the funding, we can move forward with the development of the melanoma TCRL to clinical studies.

CEOFO: How did melanoma become the first target for you?

Dr. Peled-Kamar: There is a medical need to cure melanoma in advanced stages. Also, the scientific rationale behind the disease and the way the natural immune system works together with the unique features of our TCRL antibodies made us to think that this would be the best indication to start with. What I mean is that melanoma is one of the most immunological cancers. Our TCRL antibodies are targeting the same targets that the T lymphocytes are targeting on melanoma cells and since Adoptive T-Cell Transfer found to be effective treatment for melanoma we believe that our TCRL antibodies targeting the same targets of the T-cells would be the best way to treat melanoma.

CEOFO: Why should investors pay attention to Applied Immune Technologies today?

Dr. Peled-Kamar: Because we can find novel targets and develop our TCRL antibodies to many cancer and viral infection diseases. Our technology can solve the limitation of finding new disease specific targets and generating new antibodies. Therefore, we can generate a rich pipeline of antibodies and we can extend the market of therapeutic antibodies beyond its current limits.