

NEWS RELEASE

## Therapeutic Solutions International Announces Paradigm Shifting Immunotherapy Product: Tolerogenic Neutrophils

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ELK CITY, Idaho--(BUSINESS WIRE)-- Therapeutic Solutions International, Inc. (TSOI) announced today a patent filing covering the unanticipated finding that neutrophils, a type of white blood cell, when manufactured in a specific manner, are capable of stopping unwanted immune responses while allowing the body to fight bacteria and viruses.

Classical immunology dogma teaches that these cells act as "first responders" but not as "leader cells", a function which has been classically ascribed to T helper cells.

In a series of experiments, it was found that neutrophils generated from hematopoietic stem cells in the presence of an immunological messenger molecule named IL-10, could potently block rejection responses when these cells were administered in different strains of mice. Importantly the injected cells allow other cells from the same donor to not be rejected, allowing for transplantation of therapeutic cells.

"The data generated potentially could change the way the biotechnology industry approaches the problem of pathologic immune responses. As someone who has spent many years believing and publishing that the most potent tolerogenic cell is the immature dendritic cell. The data disclosed today is truly remarkable," said Dr. Thomas Ichim, Board Member and Co-inventor of the patent filed. "We are especially thankful to Tatiana Lebedeva who came up with the idea to investigate the tolerogenic potential of in vitro generated neutrophils and supported the experiments. The idea that an innate immune system cell whose established role is initiating inflammation could act in a tolerogenic manner was completely out of the box, yet Ms. Lebedeva proved us wrong."

"The data demonstrated that these 'tolerogenic neutrophils' allowed the acceptance of therapeutic cells which reduced pathology in dopamine deficiency within Tay Sachs and Friedrich's Ataxia models," said Dr. James Valmeyer, Chief Medical Officer of the Company.

"Therapeutic Solutions International is focused on product development and concurrently elucidating biological mechanisms of our products, which allow for continuous improvement and credibility in the medical community," said Timothy Dixon, President, and CEO. "Through the hard work of our diverse set of advisors and collaborators we are extremely fortunate to have achieved such a high level of innovation."

### **About Therapeutic Solutions International, Inc.**

Therapeutic Solutions International is focused on immune modulation for the treatment of several specific diseases. The Company's corporate website is [www.therapeuticsolutionsint.com](http://www.therapeuticsolutionsint.com).

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