

Theralase Discovers Anti-Cancer Memory Response

Toronto, Ontario – May 29, 2014 **Theralase Technologies Inc. (“Theralase”) (TSXV: TLT) (TLFF: OTCBB)** announced today that in preclinical animal testing, performed at Princess Margaret Cancer Centre, University Health Network (“UHN”), it has discovered that its lead Photo Dynamic Compound (PDC), intended for the destruction of cancer, has demonstrated an ability to render animals immune to repeated exposures of the same cancer.

This initial data has been accepted for presentation at the 37th Annual American Society for Photobiology taking place in San Diego, California in June 2014.

In previous research conducted at UHN by Theralase, mice were injected with 350,000 colon cancer cells (murine cell line CT26.CL25) to produce tumours that were allowed to grow to approximately five millimeters in size. They were treated with an intra-tumoural injection of Theralase’s lead PDC (3 mg/kg TLDOsH2IP) and then illuminated by Near Infrared (NIR) light (808 nm, 600 J cm⁻²) to activate the PDC. The vast majority of tumours were completely destroyed, with the PDC treatment demonstrating prolonged tumour regression.

In this latest research, the same mice who received the initial, successful Photo Dynamic Therapy (PDT) were re-injected with the same number of colon cancer cells, 13 to 23 days later. With no further treatment intervention, mice in these experiments, demonstrated either a small tumour regrowth, which quickly regressed, or in the majority of animals, no tumour regrowth at all, suggesting a short-term immune-mediated (immune “memory response”) tumour rejection.

To further prove the resilience of the PDT treatment, these same animals were then injected a third time with an additional 350,000 colon cancer cells at ten months post PDT treatment. None of these animals showed any sign of tumour regrowth, even at 3 months post follow up, suggesting the presence of a long-term anti-tumour immunity, responsible for complete tumour rejection.

To strengthen the data, control experiments were conducted where age matched mice without prior tumour exposure or PDT treatment were injected with the same number of colon cancer cells, where the majority of these mice proceeded to develop tumours and did not survive more than 1 month following the injection.

These initial results are now being further researched by Theralase and UHN scientists to confirm the immune-mediated (immune “memory response”) tumour rejection in additional subject animals. This potential short term and long term anti-cancer memory response suggests a major breakthrough in cancer research and may provide substantial treatment benefit and survival advantage to cancer patients. Technology that is able to rapidly and effectively destroy “patient-specific” cancer cells, prevent their recurrence and provide long lasting protection against local and distant metastasis, offers immense clinical benefit to cancer patients and the facilities that treat their disease.

Dr. Arkady Mandel, Chief Scientific Officer of Theralase stated, “This is one of the first preclinical trials to show that it’s possible to generate a long-term anticancer memory response. For the first time in our research program, we have demonstrated that NIR PDT leads not only to long standing clearance of colon cancer cells, but also provides long lasting protection against further tumour cell challenge in

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young (eight to ten weeks old) and older (ten to eleven month old) mice. It is our first step toward the long-term goal of developing an affordable and practical vaccine to prevent cancer recurrence. The next steps are to further validate this research with additional animals and then find the best way of translating this research into a human clinical trial. To complete our preclinical and clinical development in this ground breaking work, we are collaborating with experts in medical biophysics, immunology and clinical oncology at UHN and with other internationally acclaimed clinical research institutes to further advance this remarkable platform technology.”

Dr. Lothar Lilge PhD, Professor in the Department of Medical Biophysics at the University of Toronto, Senior Scientist, Princess Margaret Cancer Centre, University Health Network stated that, “We are delighted that we were able to partner in the preclinical research for this ground breaking discovery. The ability to effectively destroy cancer and simultaneously stimulate the immune system to target micro metastasis beyond the initial treatment volume is necessary to provide long term disease control. We will now proceed to confirm these findings for a range of induced and spontaneous animal tumour models.”

Dr. Michael Jewett MD, clinician investigator and uro-oncologist at UHN stated, “I am excited about the possibilities of this discovery. If this newly discovered characteristic of the Theralase PDCs can be replicated in humans and demonstrate the same efficacy that it has in small animals, then the implications to the war on cancer could be immense. I look forward to furthering this preclinical work to the clinical stage to validate its efficacy in humans.”

Roger Dumoulin-White, President and CEO of Theralase stated that, “If our PDC technology is proven effective in cancer patients, the implications of this discovery are nothing short of game changing for both Theralase and for cancer patients. The ability to destroy the original cancer and also program the body’s immune system to prevent its recurrence, after only a single treatment, is nothing short of miraculous. Born a technical person at heart, I have always marvelled at the complexity of the human body and regarded it as the single most complex and intricate machine ever devised. The opportunity to bring technology to market that could help preserve the integrity of the human body and destroy such a deadly disease as cancer, fills me with hope and a great sense of accomplishment. The scientific, clinical and engineering teams at UHN, Acadia and Theralase are all fully dedicated to bringing the Theralase anti-cancer PDC technology to the forefront of clinical success, as soon as possible, in order to help eradicate the world of cancer and assist cancer patients stricken with this deadly disease.”

About Theralase Technologies Inc.

Theralase Technologies Inc. designs, manufactures and markets patented, superpulsed laser technology used in eliminating pain and destroying cancer. Theralase technology is safe and effective in eliminating pain, reducing inflammation and accelerating tissue regeneration of numerous nerve, muscle and joint conditions. Theralase is actively developing patented technology that is able to target and destroy cancers, bacteria and viruses when light activated.

Additional information is available at www.theralase.com and www.sedar.com .

This press release contains forward-looking statements, which reflect the Company's current expectations regarding future events. The forward-looking statements involve risks and uncertainties. Actual results could differ materially from those projected herein. The Company disclaims any obligation to update these forward-looking statements.

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