



## Developing the next generation of immuno-oncology therapeutics

### RXI Pharmaceuticals and Karolinska Institutet Enter into Collaboration to Develop sd-rxRNA Compounds to Improve Functionality and Persistence of T Cells and NK Cells for the Advancement of Immuno-Oncology Therapeutics for Solid Tumors

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MARLBOROUGH, Mass., Aug. 15, 2018 /PRNewswire/ -- RXI Pharmaceuticals Corporation (NASDAQ: RXII) a biotechnology company developing the next generation of immuno-oncology therapeutics based on its proprietary self-delivering RNAi (sd-rxRNA8) therapeutic platform today announced that it has entered into a research collaboration with the Karolinska Institutet in Stockholm, Sweden. This collaboration will explore RXI's sd-rxRNA compounds against targets involved in T cell and NK cell differentiation and/or in the immune cell tumor-induced stress response with the aim of producing anti-tumor adoptive cell therapy grafts with improved functionality and persistence.

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This work will expand on the recently published results from the Kiessling group demonstrating that an sd-rxRNA targeting PD-1 can enhance TIL antitumor activity against melanoma cells *in vitro*, further showing that *ex vivo* treatment with the sd-rxRNA compounds was easily incorporated into a clinically relevant rapid expansion protocol for TILs.<sup>1</sup>

**Dr. Gerrit Dispersyn, Chief Development Officer of RXI Pharmaceuticals, stated:** "We are pleased to expand our collaboration with Dr. Kiessling's group, to further harness their expertise in oncology and to expand on the successful research they have previously done with our sd-rxRNA technology platform in immuno-oncology. The combination of their prior results and the anticipated research results from this new collaboration are critical elements for a rapid advancement of sd-rxRNA immuno-oncology therapeutics into the clinic, further supported by our prior clinical experience with sd-rxRNA in other indications."

**Roif Kiessling, MD, PhD, Senior Professor in Experimental Oncology at the Karolinska Institutet, Senior Chief Physician at the Oncology clinic at the Karolinska University Hospital and member of RXI's Scientific Advisory Board stated:** "Our results to date provide direct clinical relevance for the use of sd-rxRNA technology to improve ACT. In this collaboration, we look forward to exploring using sd-rxRNA to modulate targets outside of checkpoints to improve efficacy of immune effector cells such as T cells and NK cells."

Immunotherapy of cancer has become increasingly important in clinical practice over the recent decade. By activating the patient's immune system, immunotherapy treatments have shown remarkable promise in extending the lifespan of previously untreatable cancer patients. Adoptive cell therapy is an emerging immunotherapy approach which uses immune cells, such as T-lymphocytes or NK cells that are isolated from the patient or retrieved from allogeneic immune cell banks, and then expanded and in some cases processed to express tumor-binding receptors.

A new and important step in this *ex-vivo* processing of the immune cells is in development where self-delivering RNAi compounds (sd-rxRNA8) are used to eliminate the expression of immunosuppressive receptors or proteins from the therapeutic immune cells, thereby making them less sensitive to tumor resistance mechanisms and improving their ability to destroy tumor cells. In this way, sd-rxRNA therapeutic compounds can be used to weaponize therapeutic immune cells to attack cancer and ultimately provide patients battling terminal cancers with a powerful new treatment option that goes beyond current treatment modalities.

#### About RXI Pharmaceuticals

RXI Pharmaceuticals Corporation (NASDAQ: RXII) is a biotechnology company developing the next generation of immuno-oncology therapeutics based on its self-delivering RNAi (sd-rxRNA8) therapeutic platform. The Company's discovery and research efforts are focused on developing sd-rxRNA therapeutic compounds to be used with an Adoptive Cell Transfer (ACT) approach. This process uses immune cells, such as T-lymphocytes that are isolated from the patient or retrieved from allogeneic immune cell banks, and then expanded and in some cases processed to express tumor-binding receptors. Our approach introduces a new and important step in *ex-vivo* processing of the immune cells where sd-rxRNA is used to eliminate the expression of immunosuppressive receptors or proteins from the therapeutic immune cells, making them less sensitive to tumor resistance mechanisms and thus improving their ability to destroy the tumor cells. Essentially, we aim to maximize the power of our sd-rxRNA therapeutic compounds by weaponizing therapeutic immune effector cells to attack cancer and ultimately provide patients battling terminal cancers with a powerful new treatment option that goes beyond current treatment modalities.

For additional information, visit the Company's website, [www.rxipharma.com](http://www.rxipharma.com).

#### Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are neither historical facts nor assurances of future performance. These statements are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results may differ materially from those indicated in the forward-looking statements as a result of a number of important factors, including the safety and efficacy of our product candidates, future success of our clinical trials and scientific studies, our ability to enter into strategic partnerships and the future success of these strategic partnerships, the availability of funds and resources to pursue our research and development projects and general economic conditions. Our Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q include detailed risks under the caption "Risk Factors" that may affect our business, results of operations and financial condition. Readers are urged to review these risk factors and to not act in reliance on any forward-looking statements, as actual results may differ from those contemplated by our forward-looking statements. RXI does not undertake to update forward-looking statements to reflect a change in its views, events or circumstances that occur after the date of this release.

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<sup>1</sup>Ligtenberg et al., *Self-Delivering RNAi Targeting PD-1 Improves Tumor-Specific T Cell Functionality for Adoptive Cell Therapy of Malignant Melanoma*, Molecular Therapy, Vol. 26 No 6 June 2018.

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