



## Phio Pharmaceuticals Presents Positive In Vivo Data at ASGCT Showing PH-762 Significantly Enhanced Antitumor Efficacy of HER2-Targeted CAR-T Cells

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**Data provide proof-of-concept for the application of INTASYL compounds as a way to unlock the potential of CAR-T cell therapy in solid tumors**

**Data presented at the 24th Annual Meeting of the American Society of Gene & Cell Therapy**

MARLBOROUGH, Mass., May 11, 2021 /PRNewswire/ -- Phio Pharmaceuticals Corp. (Nasdaq: PHIO), a biotechnology company developing the next generation of immuno-oncology therapeutics based on its proprietary self-delivering RNAi (INTASYL™) therapeutic platform, today announced positive new *in vivo* data showing that PH-762 significantly enhanced the antitumor efficacy of HER2-targeted CAR-T cells (HER2CART) in solid tumors. Compared to untreated HER2CART cells, HER2CART cells treated with PH-762 showed a statistically significant and durable inhibition of tumor growth. These data, using a HER2-targeted CAR-T cell product against a HER2-expressing ovarian cancer xenograft model, provide proof-of-concept for the application of PD-1 checkpoint silencing with INTASYL in CAR-T cells prior to adoptive cell therapy to enhance the therapeutic efficacy of CAR-T cell therapy in solid tumors.

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"The *in vivo* data announced today further support advancing the development of PH-762 into the clinic as a viable approach to improve various forms of T cell based immunotherapy. These data are especially impressive considering that to date CAR T-cell therapy effectiveness in solid tumors has been disappointing and the use of additional genetic engineering to address these issues has proven challenging and costly. Indeed, in a recent clinical study it was shown that CRISPR-Cas9 mediated PD-1 disruption resulted in low efficiency, namely an editing efficiency of less than 6% and a median disruption of PD-1 expression of less than 50% in the edited T cells. This compares sharply with our results where we show that our INTASYL compound, PH-762, achieves PD-1 silencing efficiency of ~90% in nearly 100% of the HER2CART cells used in this study," stated Dr. Simon Fricker, Phio's VP of Research. "In addition, these results are achieved by merely adding PH-762 to the HER2CART cell culture media, without the need for cell delivery vehicles or vectors, and without negative impact on cell growth/survival. In a prior presentation we also showed how PH-762 can improve the tumor cell killing activity of another adoptive cell therapy platform, namely tumor infiltrating lymphocytes. Taken together, you can start to see the full picture of the potential advancement that INTASYL could provide in adoptive cell therapy."

In this study the Company assessed the potential of PH-762, a PD-1 targeting INTASYL compound, to enhance the therapeutic efficacy of HER2CART cells in the treatment of a subcutaneous HER2-expressing SKOV3 model of human ovarian cancer in mice. On-target silencing of PD-1 *in vitro* was demonstrated in a dose associated manner in activated HER2CART cells, without significant impact on viability, and resulted in an enrichment of CD8<sup>+</sup> and CD25<sup>+</sup> cells. Analyses of PH-762-treated HER2CART cells isolated from tumors suggest that PH-762 enhances CAR-T function through multiple mechanisms including enhanced efficiency, degranulation, decreased suppressive potential, and promotion of memory/stem populations.

These data were presented today during the 24th Annual Meeting of the ASGCT in a poster titled "*INTASYL PH-762 Self-Delivering RNAi Targeting PD-1 Enhances the Therapeutic Efficacy of Systemically Administered HER2-Targeted CAR-T Cells in a SKOV3 Model of Human Ovarian Adenocarcinoma in NCG Mice*". An archived version of the poster presentation will be made available on the "Investors – Events and Presentations" section of the Company's website ([click here](#)).

### About Phio Pharmaceuticals Corp.

Phio Pharmaceuticals Corp. (Nasdaq: PHIO) is a biotechnology company developing the next generation of immuno-oncology therapeutics based on its self-delivering RNAi (INTASYL™) therapeutic platform. The Company's efforts are focused on silencing tumor-induced suppression of the immune system through its proprietary INTASYL platform with utility in immune cells and the tumor micro-environment. Our goal is to develop powerful INTASYL therapeutic compounds that can weaponize immune effector cells to overcome tumor immune escape, thereby providing patients a powerful new treatment option that goes beyond current treatment modalities. For additional information, visit the Company's website, [www.phioharma.com](http://www.phioharma.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 impact to our business and operations by the recent coronavirus outbreak, results from our preclinical and clinical activities, the development of our product candidates, the ability to obtain future financing, 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, but not limited to, market and other conditions and those identified in our Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q under the caption "Risk Factors" and in other filings the Company periodically makes with the SEC. 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. Phio 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, except as required by law.

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