Selecta Biosciences Announces Science Advances Publication Highlighting Potential Potency and Durability Benefits of ImmTOR™ in Gene Therapy

February 24, 2021

- Data demonstrate that ImmTOR has the potential to enhance transgene expression in the liver at initial dose of AAV vector -

- ImmTOR shown to increase hepatic vector copy numbers and transgene mRNA expression -

- Replicated findings supporting ImmTOR's ability to block the formation of neutralizing anti-capsid antibodies thereby enabling vector redosing and dose sparing -

- Publication further validates use of ImmTOR in Selecta's gene therapy pipeline, including lead candidate, MMA-101, for the treatment of methylmalonic acidemia (MMA) in collaboration with AskBio, and ornithine transcarbamylase (OTC) deficiency -

WATERTOWN, Mass., Feb. 24, 2021 (GLOBE NEWSWIRE) -- Selecta Biosciences, Inc. (NASDAQ: SELB, "Selecta"), a biotechnology company leveraging its clinically validated ImmTOR™ platform to develop tolerogenic therapies that selectively mitigate unwanted immune responses, today announced the peer-reviewed publication of a study investigating the effects of the co-administration of ImmTOR nanoparticles to adeno-associated viral (AAV) vectors on transgene expression in mice. The data, published in a *Science Advances* paper titled "Enhancement of liver-directed transgene expression at initial and repeat doses of AAV vectors admixed with ImmTOR nanoparticles," demonstrate that the addition of ImmTOR nanoparticles to AAV vectors has the potential enhance the efficacy, safety and durability of gene therapies by mediating more efficient transgene expression at the first dose and by enabling vector redosing by preventing the formation of capsid-specific antibodies. These findings underscore the promise of Selecta's ImmTOR platform to address current limitations, notably immunogenicity, safety and durability, of gene therapy.

"The results in this publication continue to expand our knowledge of and validate the benefits of co-administering ImmTOR with AAV gene therapies," said Carsten Brunn, Ph.D., president and chief executive officer of Selecta. "Along with our previous research, this study demonstrates the multipronged mechanism of ImmTOR that makes it a particularly attractive candidate in clinical indications where repeat vector dosing may be necessary, most notably in children. Importantly, this study also shows the enhanced transgene expression induced by admixing ImmTOR and AAV vectors, which may enable lower doses of AAV to be used. We look forward to continuing to investigate the benefits of adding ImmTOR to gene therapy in clinical studies this year."

In the study, researchers evaluated the effects of ImmTOR on repeat administration of the same AAV vector expressing secreted embryonic alkaline phosphatase (SEAP), a widely used reporter gene transgene, in mice. Co-administration of ImmTOR and AAV8-SEAP showed a beneficial effect on transgene expression after the first dose and reached levels approximately two-to-three-fold higher than that observed in mice treated with the AAV vector alone. The first dose benefit was immediate, dose dependent and not mouse strain or capsid specific. The rapid and enhanced transgene expression may enable therapeutic benefit at lower doses of AAV and faster onset of transgene- directed therapeutic effects.

The study also investigated the extent to which the addition of ImmTOR nanoparticles to AAV vectors, known as admixing, has on expression and its potential mechanism. Admixing of ImmTOR and AAV showed even higher levels of vector genome copies in the liver and mRNA and protein expression of the transgene SEAP, compared to sequential administration of AAV-SEAP and ImmTOR or dosing with AAV-SEAP alone. The cumulative benefit of enhancing first dose transgene expression and enabling repeat dosing can provide up to a four-fold increase in transgene expression compared to gene therapy with AAV vector alone. Admixing ImmTOR and AAV prior to injection was important for enhanced transgene expression after the first dose, but not required for inhibition of AAV-specific antibodies or for repeated administration of AAV vectors. Despite this finding in mice, a recent study performed in non-human primates (NHP) has demonstrated that admixing of ImmTOR with AAV was not necessary to observe the increased levels and durability of transgene expression at the first dose.

About Selecta Biosciences, Inc.
Selecta Biosciences Inc. (NASDAQ: SELB) is leveraging its clinically validated ImmTOR™ platform to develop tolerogenic therapies that selectively mitigate unwanted immune responses. With a proven ability to induce tolerance to highly immunogenic proteins, ImmTOR has the potential to amplify the efficacy of biologic therapies, including redosing of life-saving gene therapies, as well as restore the body's natural self-tolerance in autoimmune diseases. The company's first program aimed at addressing immunogenicity to AAV gene therapies is expected to enter clinical trials in early 2021 in partnership with AskBio for the treatment of methylmalonic acidemia (MMA), a rare metabolic disorder. A wholly-owned program focused on addressing IgA nephropathy driven by ImmTOR and a therapeutic enzyme is also in development among additional product candidates. Selecta recently licensed its Phase 3 clinical product candidate, SEL-212, in chronic refractory gout to Sobi. For more information, please visit www.selectabio.com.

Selecta Forward-Looking Statements
Any statements in this press release about the future expectations, plans and prospects of Selecta Biosciences, Inc. ("the company"), including without limitation, statements regarding the unique proprietary technology platform of the company, and the unique proprietary platform of its partners, the potential of ImmTOR to enable re-dosing of AAV gene therapy, the timing of any clinical trials in the field of gene therapy, the potential treatment applications of product candidates utilizing the ImmTOR platform in areas such as gene therapy, the ability of the Company and AskBio to develop gene therapy products using ImmTOR and AskBio's technology, the novelty of treatment paradigms that the Company is able to develop, whether the observations made in non-human primate study subjects will translate to studies performed with human beings, the potential of any therapies

developed by the company and AskBio to fulfill unmet medical needs, the company's plan to apply its ImmTOR technology platform to a range of biologics for rare and orphan genetic diseases, the potential of the company's intellectual property to enable repeat administration in gene therapy product candidates and products, the ability to re-dose patients and the potential of ImmTOR to allow for re-dosing, the potential to safely re-dose AAV, the ability to restore transgene expression, the potential of the ImmTOR technology platform generally and the company's ability to grow its strategic partnerships, and other statements containing the words "anticipate," "believe," "continue," "could," "estimate," "expect," "hypothesize," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "would," and similar expressions, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including, but not limited to, the following: the uncertainties inherent in the initiation, completion and cost of clinical trials including proof of concept trials, including the uncertain outcomes, the availability and timing of data from ongoing and future clinical trials and the results of such trials, whether preliminary results from a particular clinical trial will be predictive of the final results of that trial or whether results of early clinical trials will be indicative of the results of later clinical trials, the ability to predict results of studies performed on human beings based on results of studies performed on non-human primates, the unproven approach of the company's ImmTOR technology, potential delays in enrollment of patients, undesirable side effects of the company's product candidates, its reliance on third parties to manufacture its product candidates and to conduct its clinical trials, the company's inability to maintain its existing or future collaborations, licenses or contractual relationships, its inability to protect its proprietary technology and intellectual property, potential delays in regulatory approvals, the availability of funding sufficient for its foreseeable and unforeseeable operating expenses and capital expenditure requirements, the company's recurring losses from operations and negative cash flows from operations raise substantial doubt regarding its ability to continue as a going concern, substantial fluctuation in the price of its common stock, and other important factors discussed in the "Risk Factors" section of the company's most recent Quarterly Report on Form 10-Q, and in other filings that the company makes with the Securities and Exchange Commission. In addition, any forward-looking statements included in this press release represent the company's views only as of the date of its publication and should not be relied upon as representing its views as of any subsequent date. The company specifically disclaims any intention to update any forward-looking statements included in this press release.

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