Selecta Biosciences Presents Positive New Data from Ongoing Phase 2 Trial of SEL-212, in Development for Chronic Severe Gout, at PANLAR 2018 Congress

- *3-month Phase 2 data indicate SEL-212 (SVP-Rapamycin + pegsiticase) product profile may provide better and more sustained serum uric acid control, fewer flares, and less frequent dosing compared with recent data reported with the current FDA-approved uricase therapy.*
- *Data from patients receiving five doses of SEL-212 expected to be presented at Q3 medical conference*
- *Phase 3 trial planned to begin in 2018*
- *Company to host conference call and live webcast today at 8:30 am ET*

Watertown, Mass., April 10, 2018 – Selecta Biosciences, Inc. (NASDAQ: SELB), a clinical-stage biopharmaceutical company focused on unlocking the full potential of biologic therapies by mitigating unwanted immunogenicity, today presented new data from patients receiving SEL-212 for the treatment of chronic severe gout at the Pan American League of Associations for Rheumatology (PANLAR) 2018 Congress in Buenos Aires, Argentina.

SEL-212 is designed to be the first non-immunogenic version of uricase, which would allow for the effective and safe administration of multiple doses with concurrent mitigation of anti-drug antibodies (ADAs) against the pegsiticase enzyme. The data reported today at PANLAR consisted of patients that received three monthly doses of SEL-212, up to 0.15 mg/kg of SVP-Rapamycin in combination with 0.2 or 0.4 mg/kg of pegsiticase, followed by two monthly doses of pegsiticase alone. Approximately 75% of evaluable patients maintained serum uric acid level control below 6 mg/dl during the initial three months of therapy with concurrent mitigation of ADAs against the pegsiticase enzyme. Furthermore, 91% of patients dosed with pegsiticase alone in month four after the initial three monthly doses of SEL-212 maintained serum uric acid control demonstrating the potential of SVP technology for the induction of immune tolerance.

"We are very pleased by the clinical activity seen in the data presented today at PANLAR, not only in SEL-212's ability to control serum uric acid levels but also in the reduced incidence of gout flares compared to the current FDA-approved uricase. We believe that SEL-212 has the potential to change the treatment paradigm for patients with chronic severe gout since there remains a high unmet need for a monthly-dosed therapy that can provide better and sustained serum uric acid control in these patients. Today's reported data show that approximately 75% of evaluable patients maintained serum uric acid control through three months," said Werner Cautreels, Ph.D., President and CEO of Selecta. "We plan to present data from patients receiving five monthly SEL-212 doses at an upcoming medical meeting in the third quarter of this year. We expect these results will expand the 3-month SEL-212 clinical activity shown in today's PANLAR data across the entire 5-month treatment period of the Phase 2 trial. This will position us well to execute on our Phase 3 trial, which is expected to start later this year. Importantly, the new 4-month PANLAR data provide further evidence that our SVP-Rapamycin platform has the ability to induce immune tolerance, with 91% of evaluable patients maintaining serum uric acid level control after being dosed with pegsiticase only in month three versus 17% who receive pegsiticase without previously receiving the three-monthly doses of SEL-212. We believe this evidence of immune

tolerance to a highly immunogenic enzyme has positive implications for the overall platform and its potential for combination with other immunogenic biologic therapies."

Approximately 25% of the patient population treated with SEL-212 in the ongoing Phase 2 trial experienced gout flares during the first month after treatment with continued reduction of gout flare rates over months two to five. This low rate of gout flares appears to be in contrast with higher incidence of gout flares reported in clinical trials involving other urate lowering therapies.

SEL-212 has been generally well tolerated at clinically active doses following repeated administrations in the trial. There have been 15 serious adverse events (SAEs) reported, seven of which were reported to be not related or unlikely to be related to study drug, seven were infusion reactions that were previously reported by the company in its June 2017 data readout, and one infusion reaction in the most recent cohorts. No infusion reactions have been reported after treatment period 2. All SAEs were successfully treated without further issues.

Conference Call Reminder

The company will host a conference call via live webcast today at 8:30am ET. The live webcast of the presentation can be accessed via the Investors & Media section of the company's website, http://selectabio.com. Individuals may also participate in the live call via telephone by dialing (844)-845-4170 (domestic) or (412) 717-9621 (international) and may access a teleconference replay for one week by dialing (877) 344-7529 (domestic) or (412) 317-0088 (international) and using confirmation code 10118839.

About Selecta Biosciences, Inc.

Selecta Biosciences, Inc. is a clinical-stage biopharmaceutical company that is focused on unlocking the full potential of biologic therapies by mitigating unwanted immune responses. Selecta plans to combine its tolerogenic Synthetic Vaccine Particles (SVP™) with a range of biologics for rare and serious diseases that require new treatment options. The company's current proprietary pipeline includes SVP-enabled enzyme, oncology and gene therapies. SEL-212, the company's lead product candidate in Phase 2, is being developed to treat severe gout patients and resolve their debilitating symptoms, including flares and gouty arthritis. A Phase 1 trial is ongoing for a combination therapy consisting of SVP-Rapamycin and LMB-100 (Selecta's SEL-403 product candidate) for the treatment of patients with malignant pleural or peritoneal mesothelioma. Selecta's proprietary gene therapy product candidates are being developed for rare inborn errors of metabolism and have the potential to enable repeat administration. The use of SVP is also being explored in the development of vaccines and treatments for allergies and autoimmune diseases. Selecta is based in Watertown, Massachusetts. For more information, please visit http://selectabio.com and follow @SelectaBio on Twitter.

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 progress of the Phase 1/2 clinical program of SEL-212, the potential of SEL-212 to treat severe gout patients and resolve their debilitating symptoms, the ability of SVP-Rapamycin to induce immune tolerance against pegsiticase or otherwise mitigate immunogenicity, the ability of SEL-212 to allow for the effective and safe administration of multiple doses with concurrent mitigation of anti-drug antibodies (ADAs) against the pegsiticase enzyme, the ability of SEL-212 to provide better and more sustained serum uric acid

control, fewer flares, and less frequent dosing compared with recent data reported with the current FDA-approved uricase therapy, whether results from patients receiving five monthly combination doses of SEL-212 will expand the three-month SEL-212 clinical activity data across the entire five-month treatment period of the Phase 2 trial, when the company will report further data from the Phase 2 trial, whether the FDA approves the company's plan to provide combination therapy of SEL-212 for the entire treatment period, whether the data from patients receiving five monthly combination doses of SEL-212 will support the company's plans for its Phase 3 trial, when the company will advance to a Phase 3 for SEL-212 (if at all), whether SEL-212 has the potential to change the treatment paradigm for patients with chronic severe gout and address the unmet needs of these patients, the company's ability to unlock the full potential of biologic therapies by mitigating unwanted immunogenicity, the ability of the company's SVP platform, including SVP-Rapamycin, to induce immune tolerance and its potential for combination with other immunogenic biologic therapies, the company's plan to apply its SVP platform to a range of biologics and rare diseases, the potential treatment applications for products utilizing the SVP platform in areas such as enzyme therapy, gene therapy, oncology therapy, vaccines and treatments for allergies and autoimmune diseases, statements regarding the progress of the Phase 1 trial for SEL-403, the potential of the company's gene therapy product candidates to treat rare inborn errors of metabolism and enable repeat administration, the potential of the SVP-Rapamycin platform generally, 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 their 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 unproven approach of the company's SVP 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 or licenses, 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, substantial fluctuation in the price of its common stock, a significant portion of the company's total outstanding shares have recently become eligible to be sold into the market, and other important factors discussed in the "Risk Factors" section of the company's Annual Report on Form 10-K filed with the Securities and Exchange Commission, or SEC, on March 15, 2018, and in other filings that the company makes with the SEC. 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 obligation to update any forward-looking statements included in this press release.

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