UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of report (Date of earliest event reported): April 10, 2018

SELECTA BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

001-37798 (Commission File Number) **26-1622110** (I.R.S. Employer Identification No.)

Delaware (State or other jurisdiction of incorporation or organization)

> 480 Arsenal Way Watertown, MA 02472 (Address of principal executive offices) (Zip Code)

> > (617) 923-1400

(Registrant's telephone number, include area code)

N/A (Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions

- o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company x

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. x

Item 7.01. Regulation FD Disclosure.

On April 10, 2018, Selecta Biosciences, Inc. (the "Company") announced new data from its ongoing Phase 2 Company-sponsored trial of SEL-212, for the treatment of chronic severe gout, which is assessing single ascending dose safety, pharmacokinetic and pharmacodynamics of SEL-212 in patients with elevated uric acid levels. The full text of the press release issued in connection with the announcement is furnished as Exhibit 99.1 to this Current Report on Form 8-K.

The Company will present the presentation poster furnished as Exhibit 99.2 to this Current Report on Form 8-K, which contains new data from patients receiving up to 0.15 mg/kg of SVP-Rapamycin with 0.2 or 0.4 mg/kg of pegsiticase from the Phase 2 trial at the Pan American League of Associations for Rheumatology (PANLAR) 2018 Congress in Buenos Aires, Argentina on April 10, 2018.

In connection with the issuance of the press release, the Company is holding a public conference call and webcast on April 10, 2018, at 8:30 a.m. ET, during which the Company will provide the investor presentation attached as Exhibit 99.3 to this Current Report on Form 8-K. The Company undertakes no obligation to update, supplement or amend the materials attached hereto as Exhibit 99.3.

The information furnished under this Item 7.01, including Exhibits 99.1, 99.2 and 99.3 attached hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such a filing.

Description

Item 9.01. Financial Statements and Exhibits.

<u>99.1</u> <u>99.2</u> <u>99.3</u>

(d) Exhibits

Exhibit	No

Press Release issued on April 10, 2018
Pan American League of Associations for Rheumatology (PANLAR) 2018 Congress Presentation Poster
Corporate Presentation of Selecta Biosciences, Inc. dated April 10, 2018

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

SELECTA BIOSCIENCES, INC.

Date: April 10, 2018

By: /s/ Werner Cautreels, Ph.D.

Werner Cautreels, Ph.D. President and Chief Executive Officer

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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 avoiding unwanted immune responses, 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 (SVPT^M) 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 platients 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 a low 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 uil 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 of the soft products utilizing the SVP platform in areas such as enzyme therapy, gene 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," "eliver," "could," "estimate," "expect," "hypothesize," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "would," and similar expressions, constitute 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, the tonpany's Plate statement such as a result of various important factors, including batter to is product

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New SEL-212 Phase 2 Data Presented at PANLAR



Safe Harbor / Disclaimer

Any statements in this presentation 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 miligate immunogolicity, the ability of SEL-212 to improve acute symptoms during a short induction cycle, whether the company participates in an End-of-Phase 2 meeting for SEL-212 in mid-2018 or at all, the ability of SEL-212 to immune tolerance gouts the ability of SEL-212 with provide combination for a provide control and reduce gout flares, the ability of SEL-212 to be re-administered if severe gout symptoms recur, 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, whether the FDA approves the company will advance to a Phase 3 for SEL-212 for the entire treatment period, whether the data from the Phase 2 trial, whether SEL-212 holds billion dollar potential, the ability of the company's SVP platform, including SVP-Rapamycin, to mitigate immune response and induce immune tolerance, 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," "project, "shoud," target, "would," and similar expressions, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1955. Actual results may differ materially from those indicated by such forward-looking statements within the realing of the private Securities Litigation of data from ongoing and future clinical trials will be indicaive of the ecompany's SVP technology, potential delays



SEL-212 Phase 2 Overview and Summary of New Data Presented at PANLAR

Phase 2 Trial Overview for new data presented at PANLAR

Enrollment Criteria: Patients with symptomatic gout and serum uric acid (sUA) >6 mg/dl

Primary/Secondary Endpoints:

- Safety, tolerability and pharmacokinetics of multiple doses of SEL-212 (SVP-Rapamycin + pegsiticase) and pegsiticase alone •
- Control of sUA levels
- . Reduction in anti-drug antibody (ADA) levels
- Dosing (Cohort 10,11,12): SEL-212 every 28 days for three doses (months 0, 1 and 2) followed by two doses of pegsiticase . alone (months 3 and 4)

Summary of new data presented at PANLAR

- 3-month data show SEL-212 product profile provides:
 - Mitigation of ADAs enabling repeat dosing and sustained serum uric acid control: ~74% of patients with sUA <6 ma/dl
 - Low flare rate in the first month : 37% for new SEL-212 Cohorts; 26% for all SEL-212 Cohorts in the trial
- Less frequent dosing: Monthly compared to weekly/bi-weekly dosing for FDA-approved uricase 4-month data, of evaluable patients dosed at month 3 with pegsiticase alone, provide evidence for the ability of the
 - SVP platform to induce immune tolerance in a clinical setting with a highly immunogenic enzyme

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SEL-212 Clinical Development Plan

Pha Dose Peg (N Pha Dose SVP-F +/- pe (N	ase 1 a printing gsiticase N= 22) ase 1 b printing Rapamycin egsiticase N= 63)	Phase 2 Dose Ranging Five monthly injections Matrix approach to find best doses of the two components: • SVP-Rapamycin • Pegsiticase (Planned N ~ 140)	6 Monthly Combination Injections of SEL-212 Primary Clinical Endpoint: Serum uric acid < 6 mg/dl measured at month 3 and 6	
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New Phase 2 Data at 3 Months Show 74% of Patients With Control of SUA <6 mg/dl



Patients Dosed With 0.125 mg/kg of SVP-Rapamycin + 0.4 mg/kg of Pegsiticase



Patients Dosed With 0.15 mg/kg of SVP-Rapamycin + 0.2 mg/kg of Pegsiticase



Patients Dosed With 0.15 mg/kg of SVP-Rapamycin + 0.4 mg/kg of Pegsiticase



New PANLAR Data Continue to Show Low Overall Incidence of Gout Flares



Percent patients with gout flare by treatment month

SEL-212 Continues to Show Low Overall Incidence of Gout Flares In Total Phase 2 Patient Population



Percent patients with gout flare by treatment month

SEL-212 Safety For the Total Phase 2 Patient Population

• SEL-212 has been generally well tolerated at clinically active doses following >300 administrations

• Fifteen SAEs reported in the ongoing Phase 2 trial:

- · Seven were reported not to be or unlikely to be related to study drug
- · Eight infusion reactions:
 - Four in cohorts receiving pegsiticase alone or pegsiticase in combination with the lowest dose of SVP-Rapamycin, as anticipated
 - Two due to protocol deviations related to dosing errors
 - \bullet Two during a repeat dose of SEL-212 in higher (0.1 0.15 mg/kg) dose cohorts
 - None occurred after treatment period 2

All SAEs were successfully treated without further issues

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Unaudited data reported as of April 02, 2018 | Clinicaltrials.gov NCT02959918

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SEL-212 PANLAR Data Compared to KRYSTEXXA® Data+

Category	SEL-212 (12 weeks)	KRYSTEXXA® (16 weeks)
sUA control	74%**	44%
Gout flare %	42%	52%
Dosing regimen	3 monthly injections	3 weekly followed by 7 bi-weekly injections

+Krystexxa results from "Initial Clinical Study to determine whether a tolerizing regimen of pegloticase can increase frequency of subjects having sustained lowering of serum urate." Kenneth E. Saag, Mitchell Finemann, Alan Kivitz, Herbert Baraf, Roy Fleishmann, Arthur Kavanaugh, and Peter Lipsky; ACR Poster 2017 ++ Defined as % of evaluable patients at 12 weeks with sUA <6 mg/dl who received a full first dose and completed treatment cycle 1

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Unaudited SEL-212 data reported as of April 02. 2018 | Clinicaltrials.gov NCT02959918

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Phase 3 Initiation Expected in 2018



Preclinical Studies Demonstrate Induction of Antigen-Specific Immune Tolerance by SVP-Rapamycin



Transfer of Tolerance from Treated Mice to Naïve Mice





Current Phase 2 Data Provides Evidence for Immune Tolerance Induction



We thank all of the patients that participated in our clinical trials. We are very grateful to the clinical trial site investigators and their staff.



Phase 2 Clinical Data of SEL-Monthly Dosing of a Pegylate Rapamycin Enables Sustaine Levels by Mitigating Formatic Earl Sands¹, Alan Kivitz², Wesley DeHaan¹, ¹Selecta Biosciences, Watertown, MA USA;

Abstract

Introduction: Pegylated uricases are a promising but highly immunogenic therapy for severe gout. Preclinical studies have shown the ability of synthetic vaccine particles containing rapamycin (SVP-R) to inhibit the formation of ADAs against pegsiticase, a pegylated uricase¹. Here we report data on the safety, immunogenicity and activity of SEL-212, a novel combination therapy consisting of

a pegsiticase and SVP-Rapamycin, in an ongoing Phase 2 trial.

Objectives: Evaluate the ability of repeated monthly doses of SEL-212 to mitigate the immunogenicity of pegsiticase and enable sustained control of serum uric acid (sUA) levels in gout patients.

Methods: Patients with symptomatic gout and elevated sUA (\geq 6mg/dL) were treated with fixed doses of pegsiticase (0.2mg/kg or 0.4mg/kg) alone or co-administered with SVP-Rapamycin (0.05 to 0.15mg/kg). SEL-212 was infused in 28-day cycles x3 doses followed by challenge with pegsiticase alone on 28-day cycles x2 doses. Safety, tolerability, sUA, and ADAs were monitored.

Results: In the ongoing Phase 2 study, the majority of patients receiving 0.1-0.15 mg/kg SVP-Rapamycin administered with either 0.2 or 0.4 mg/kg pegsiticase showed low or no ADAs and maintained low sUA levels after 3 monthly doses of SEL-212, indicating sustained activity with repeated doses of SEL-212. Currently patients are being dosed with 0.15 mg/kg SVP-Rapamycin, a dose level which enabled control of sUA levels in patients in Phase 1b. SEL-212 was generally well tolerated and associated with a low rate of gout flare rates compared to those treated with pegsiticase alone.

Conclusion: SVP-Rapamycin showed a dose-dependent reduction in ADAs and enabled sustained control of sUA with repeated dosing of SEL-212. SVP-Rapamycin is a promising approach to prevent the formation of ADAs against immunogenic biologic therapies.

References: ¹Kishimoto TK, et al., Nature Nanotechnol. (2016) 11:890-899.

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Patient 107-0017 106-0073 111-0012



• The co-administration of SVP-Rapamycin and pegsiticase is designed to induce the formation of regulatory T cells that prevent the formation of ADAs against pegsiticase and enable sustained reduction of serum uric acid (sUA) levels





We thank all of the patients that participated in these c