Any statements in this presentation about the future expectations, plans and prospects of Selecta Biosciences, Inc. (the "Company"), including without limitation, statements regarding the Company's cash runway, the Company's ability to execute its development plans and manage its operating expenses, 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 and to mitigate immunogenicity, the potential of ImmTOR and the Company's product pipeline to treat chronic refractory gout, IgAN, autoimmune diseases, or any other disease, the anticipated timing or the outcome of ongoing and planned clinical trials, studies and data readouts, the anticipated timing or the outcome of the FDA's review of the Company's regulatory filings, the Company's and its partners' ability to conduct its and their clinical trials and preclinical studies, the timing or making of any regulatory filings, the anticipated timing or outcome of selection of developmental product candidates, the potential treatment applications of product candidates utilizing the ImmTOR platform in areas such as gene therapy, gout and autoimmune disease, the ability of the Company and its partners where applicable to develop gene therapy products using ImmTOR, the novelty of treatment paradigms that the Company is able to develop, whether the observations made in non-human study subjects will translate to studies performed with human beings, the potential of any therapies developed by the Company 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 technology 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 enrollment in the Company's clinical trials 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 and 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 subjects, 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, substantial fluctuation in the price of the Company's common stock, risks related to geopolitical conflicts and pandemics and other important factors discussed in the "Risk Factors" section of the Company's most recent Annual Report on Form 10-K and subsequently filed Quarterly Reports 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 presentation 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 presentation, except as required by law.
<table>
<thead>
<tr>
<th>1</th>
<th>ImmTOR® and ImmTOR-IL™ immune tolerance platforms have potentially broad applicability to address the challenges of autoimmunity and immunogenicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>BLA submission for SEL-212 in chronic refractory gout expected in first half of 2024</td>
</tr>
<tr>
<td>3</td>
<td>ImmTOR-IL IND-enabling studies expected to commence in 2023; initial focus on liver disease while also exploring multiple autoimmune indications</td>
</tr>
<tr>
<td>4</td>
<td>Leveraging strategic partnerships to maximize the potential of gene therapy programs</td>
</tr>
<tr>
<td>5</td>
<td>Strong balance sheet with expected runway into 2H-2025</td>
</tr>
</tbody>
</table>
Proprietary precision immune tolerance platform with potentially broad applicability

ImmTOR combines nanoparticle technology with an FDA approved anti-inflammatory and immunomodulatory drug

Designed to generate antigen-specific immune tolerance when combined with an antigen of interest
Pipeline of candidates powered by our ImmTOR technology

<table>
<thead>
<tr>
<th>Indication</th>
<th>Preclinical</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Reg Filing</th>
<th>Rights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BIOLOGIC THERAPIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Refractory Gout</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IgA nephropathy (IgAN)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOLEROGENIC THERAPIES – ImmTOR + IL-2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoimmune liver diseases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other autoimmune diseases</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>PARTNERED GENE THERAPY PROGRAM</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Pompe disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Option & License Agreement with IGAN Biosciences

Pegadricase

IgA protease*

IgG protease (Xork)

*Option & License Agreement with IGAN Biosciences

Selecta Biosciences
SEL-212 in Patients with Chronic Refractory Gout
SEL-212 is a combination of pegadricase plus ImmTOR for treatment of chronic refractory gout

- Pegadricase is a novel and potent yeast uricase enzyme that converts serum urate (SU) into a highly water-soluble molecule that is readily excreted in the urine.

- While pegadricase markedly reduces SU, it also elicits a vigorous immune response with anti-drug antibodies in all individuals following a single dose.

- A single dose of ImmTOR™, an immune-tolerizing nanoencapsulated rapamycin (sirolimus), followed by pegadricase was observed to result in a dose-dependent inhibition of anti-uricase antibodies\(^1\)

---

\(^1\) Sands et al. Nature Communications 2022. 13:272 – Figure 4
Selecta and Sobi® Selecta advancing SEL-212 through strategic licensing collaboration

- In June 2020, Selecta and Sobi entered into a strategic licensing agreement to develop SEL-212 for the treatment of chronic refractory gout.

- Sobi responsible for development, regulatory and commercial activities in all markets outside China; Selecta responsible for running Phase 3 study on behalf of Sobi.

- Under the original terms of the agreement:
  - Sobi made initial payments to Selecta of USD 100 million, which included USD 75 million up-front license fee and USD 25 million in a private placement of shares of Selecta common stock.
  - Selecta eligible to receive potential milestone payments of up to USD 630 million from Sobi, dependent upon meeting specific regulatory and development targets, as well as sales thresholds.
  - Selecta eligible to receive tiered double-digit royalties on net sales.
Phase 3 DISSOLVE Program: SEL-212 in Patients with Chronic Refractory Gout
Phase 3 DISSOLVE program of SEL-212 versus placebo in patients with chronic refractory gout

Both studies had three arms, randomized 1:1:1 to a single dose in each 28-day treatment period (TP):

<table>
<thead>
<tr>
<th>High dose - 0.15 SEL-212</th>
<th>Low dose - 0.1 SEL-212</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV infusion of 0.15mg/kg ImmTOR followed by IV infusion of 0.2mg/kg pegadricase</td>
<td>IV infusion of 0.1mg/kg ImmTOR followed by IV infusion of 0.2mg/kg pegadricase</td>
<td>IV infusion of saline followed by IV infusion of saline</td>
</tr>
</tbody>
</table>

**Primary Efficacy Endpoint During Treatment Period 6**

SU at 0h, ~4.5h, and days 7, 14, 21 and 28

Responders = SU levels < 6 mg/dL for 80% of Time in TP6

<table>
<thead>
<tr>
<th>US Study</th>
<th>Global Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISSOLVE I</td>
<td>DISSOLVE II</td>
</tr>
</tbody>
</table>

--29 enrolling sites in US

--37 enrolling sites in US, Russia, Ukraine, Georgia, and Serbia

**Selecta Biosciences**
Both studies and tested doses met primary efficacy endpoints

- Percent responders in the high dose group was 56% and 47% for US & Global Studies, respectively
- Percent responders in the low dose group was 48% and 41% for US & Global Studies, respectively
- Results are consistent across multiple modified ITT and per protocol population groups

<table>
<thead>
<tr>
<th>Responders</th>
<th>US Study (DISSOLVE I)</th>
<th>Global Study (DISSOLVE II)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ITT Set</td>
<td>High dose (38)</td>
</tr>
<tr>
<td>Risk Difference</td>
<td>53</td>
<td>44</td>
</tr>
<tr>
<td>97.5% CI 2</td>
<td>[32, 73]</td>
<td>[23, 64]</td>
</tr>
<tr>
<td>p-value 3</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

1 Responders were defined as subjects with SU levels < 6mg/mL for at least 80% of time during month 6 of therapy (TP6). Subjects who dropped from study due to stopping rule, AE, and COVID were considered non-responders. Percentages shown are averaged over multiple imputed datasets for missing SU for withdrawal of consent, lost to follow-up, and other as per FDA guidance.

2 Confidence interval of the risk difference

3 p-value versus placebo group for each treatment group. Mantel-Haenszel test was used for a pooled estimate derived after multiple imputation. Risk difference considered randomization stratum of tophus presence (Y/N) with a two-sided type 1 error rate of $\alpha = 2.5\%$ to adjust for the two comparisons of study drug against placebo.
Responders in patients ≥ 50 years old

- Pre-determined endpoint for largest age group population
- Percent responders in the high dose group was 65% and 48% for US & Global Studies, respectively

<table>
<thead>
<tr>
<th></th>
<th>US Study (DISSOLVE I)</th>
<th>Global Study (DISSOLVE II)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITT Set</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responders 2</td>
<td>% [97.5% CI]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>65 [64, 66]</td>
<td>48 [47, 49]</td>
</tr>
<tr>
<td></td>
<td>47 [46, 48]</td>
<td>45 [44, 45]</td>
</tr>
<tr>
<td></td>
<td>5 [5,6]</td>
<td>14 [13, 15]</td>
</tr>
<tr>
<td>Risk Difference</td>
<td>51</td>
<td>33</td>
</tr>
<tr>
<td>97.5% CI 3</td>
<td>[22, 79]</td>
<td>[10, 57]</td>
</tr>
<tr>
<td>p-value 4</td>
<td>&lt;0.0001</td>
<td>0.0017</td>
</tr>
<tr>
<td></td>
<td>&lt;0.0001</td>
<td>0.0044</td>
</tr>
</tbody>
</table>

1 Topline data suggest consistent results in other key subgroups of interest

2 Responders were defined as subjects with SU levels < 6mg/mL for at least 80% of time during month 6 of therapy (TP6). Subjects who dropped from study due to stopping rule, AE, and COVID were considered non-responders. Percentages shown are averaged over multiple imputed datasets for missing SU for withdrawal of consent, lost to follow-up, and other as per FDA guidance.

3 Confidence interval of the risk difference

4 p-value versus placebo group for each treatment group. Mantel-Haenszel test was used for a pooled estimate derived after multiple imputation. Risk difference considered randomization stratum of tophus presence (Y/N) with a two-sided type 1 error rate of $\alpha = 2.5\%$ to adjust for the two comparisons of study drug against placebo.
All adverse events of special interest (AESI)¹

- No difference in gout flares between treatment groups and placebo
- Stomatitis in treatment groups (3.4-9.2%), all mild to moderate intensity
- Low incidence of infusion reactions (3.4%-4.5%) in high and low dose groups, respectively

### Pooled Studies at 6-Month Primary Endpoint

<table>
<thead>
<tr>
<th>Safety Set</th>
<th>High dose (87) n (%)</th>
<th>Low dose (88) n (%)</th>
<th>Placebo (90) n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥1 Treatment-emergent AESI</td>
<td>55 (63.2)</td>
<td>60 (68.2)</td>
<td>49 (54.4)</td>
</tr>
<tr>
<td>Gout Flares</td>
<td>38 (43.7)</td>
<td>40 (45.5)</td>
<td>39 (43.3)</td>
</tr>
<tr>
<td>Infections (including viral)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVID-19²</td>
<td>6 (6.9)</td>
<td>5 (5.7)</td>
<td>6 (6.7)</td>
</tr>
<tr>
<td>Infusion-related AEs (24h)</td>
<td>6 (6.9)</td>
<td>6 (6.8)</td>
<td>2 (2.2)</td>
</tr>
<tr>
<td>Infusion reactions (1h) incl.anaphylaxis</td>
<td>3 (3.4)</td>
<td>4 (4.5)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Hypertriglyceridemia³</td>
<td>7 (8.0)</td>
<td>8 (9.1)</td>
<td>6 (6.7)</td>
</tr>
<tr>
<td>Stomatitis⁴</td>
<td>8 (9.2)</td>
<td>3 (3.4)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Proteinuria/renal impairment/↑ creatinine</td>
<td>1 (1.1)</td>
<td>2 (2.3)</td>
<td>3 (3.3)</td>
</tr>
<tr>
<td>Thromboembolism</td>
<td>0 (0)</td>
<td>1 (1.1)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Leukopenia</td>
<td>0 (0)</td>
<td>2 (2.3)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Miscellaneous⁵</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>2 (2.2)</td>
</tr>
</tbody>
</table>

1 AESIs included in protocol as agreed with FDA; No other TEAEs ≥5%
2 There were no other individual infections >2%
3 Dyslipidemia/hypertriglyceridemia/hyperlipidemia
4 Stomatitis/oral ulcer/aphthous ulcer; 67% mild, 33% moderate
5 Influenza-like (1), ↑LDL (1)
## Serious adverse events (SAEs)

Six subjects (3.4%) in the pooled active treatment groups had an SAE related to treatment

<table>
<thead>
<tr>
<th>Safety Set</th>
<th>High dose (87) n (%)</th>
<th>Low dose (88) n (%)</th>
<th>Placebo (90) n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subjects with at least 1 SAE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 (6.9)</td>
<td>13 (14.8)</td>
<td>2 (2.2)</td>
</tr>
<tr>
<td><strong>Subjects with treatment-related SAE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 (3.4)</td>
<td>3 (3.4)</td>
<td>0 (0)</td>
</tr>
<tr>
<td><strong>Total number of SAEs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 (6.9)</td>
<td>16 (18.2)</td>
<td>2 (2.2)</td>
</tr>
</tbody>
</table>

### Primary per Subject

- **Infections**
  - 0 (0)
  - 4 (4.5)
  - 1 (1.1)
- **Anaphylaxis**
  - 2 (2.3)
  - 2 (2.3)
  - 0 (0)
- **Gout Flare**
  - 1 (1.1)
  - 1 (1.1)
  - 0 (0)
- **GI, Renal, Liver, & Neuro**
  - 2 (2.3)
  - 4 (4.5)
  - 1 (1.1)
- **Resp, Card, & Vascular**
  - 1 (1.1)
  - 2 (2.3)
  - 0 (0)

1 US: Gout flare (1), Global: Anaphylaxis (2);
2 US: Anaphylaxis (2), Gout Flare (1);
3 US: Periodontal infection/cellulitis (1), C. diff colitis (1);
4 Global: Pneumonia/Resp Failure/Sepsis (1), infected tophus (1);
5 US: COVID-19 (1), Global: Acute Renal Injury (1);
6 US: Presyncope (1), Cholelithiasis (1), Subarachnoid Hemorrhage (1), Global: Enteritis (1);
7 Global: Diverticular Hemorrhage (1);
8 Global: Angina Pectoris (1);
9 Global: Pulmonary Embolism (1), Acute myocardial infarction (1)
Majority (75%) of those who entered the 6-month extension phase on active treatment were responders at 12 months with no new safety signals

100% of patients who received dose 12 of active drug were responders in TP12

No new safety signals in the 6-month extension phase

- No Infusion Reactions, new AESIs, or additional safety signals
- 9 SAE events reported in 7 subjects with none related to study drug (see below table)

<table>
<thead>
<tr>
<th>High Dose (0.15 SEL-212)</th>
<th>Low Dose (0.1 SEL-212)</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor vehicle accident--death</td>
<td>COVID-19</td>
<td>COVID-19 Pneumonia</td>
</tr>
<tr>
<td>Sepsis</td>
<td>Pulmonary embolism/pneumonia/sepsis (3 events)</td>
<td>Deep venous thrombosis</td>
</tr>
<tr>
<td>Pneumonia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Both Phase 3 Studies and both tested doses met primary efficacy endpoints, achieving a statistically significant response rate with SEL-212 versus placebo

- The response rate in the high dose group was 56% in DISSOLVE I (the "US Study") and 47% in DISSOLVE II (the "Global Study")
- The response rate in the high dose group for patients ≥50 years old was 65% and 48% in the US and Global Studies, respectively
- Majority (75%) of those who entered the 6-month extension phase on active treatment were responders at 12 months with no new safety signals
- Infusion reaction\(^1\) incidence was 3.4% in the high dose group
- There was no increase in gout flare adverse events in SEL-212-treated groups versus placebo
- We believe the observations of efficacy and safety of SEL-212 in these two Phase 3 trials suggest the potential to provide a new treatment solution with once monthly dosing
- Selecta is eligible to receive up to an additional $65 million in regulatory milestones, up to $550 million in commercial milestones and tiered double-digit royalties on net sales

\(^1\) Defined by Rheumatology Common Toxicity Criteria, ver. 2.0. occurring during or 1 hour after completion of study drug infusion

Biologics License Application by Sobi expected in 1H24
Restoring Self-Tolerance in Autoimmune Disease
ImmTOR + IL-2
Striving to restore self-tolerance in autoimmune diseases

ImmTOR + IL-2 has the potential to be a best-in-class approach

Roughly 80 autoimmune conditions affect as much as 4.5% of the world's population*; 24M+ individuals in the US alone are affected by autoimmune diseases**

The current standard of care is broad immunosuppression, which is associated with side effects and leaves patients vulnerable to serious infection and malignancies

There is a significant need for antigen-specific therapies that can induce immune tolerance to pathogenic autoantigens without the need for chronic and systemic immune suppression

Approach: restore natural self-tolerance by administering ImmTOR with nanoparticle-encapsulated self-antigens and avoid the need for chronic and systemic immune suppression

Aiming to expand antigen-specific Tregs and enhance durability of tolerance by developing a proprietary Treg-selective IL-2 to combine with ImmTOR and autoantigens

*Autoimmune Disease, by the Numbers* in Scientific American 325, 3, 31-33 (September 2021), doi:10.1038/scientificamerican0921-31

**https://www.niehs.nih.gov/health/topics/conditions/autoimmune/index.cfm
**ImmTOR-IL : ImmTOR plus IL-2 receptor agonist**

**Evolution of the ImmTOR Platform**

- Synergistic mechanism of ImmTOR and a Treg-selective IL-2
- Identified an *interleukin-2 (IL-2)* cytokine with plans to advance it through the next stage of development
- Observed to greatly increase the magnitude and durability of antigen-specific Treg expansion when compared to either ImmTOR or IL-2 alone
- Proof of concept human data in which we observed ImmTOR alone and IL-2 alone lowers the translational risk and provides further confidence in the clinical utility of this potentially synergistic approach
- Potential to enable lower and fewer doses of ImmTOR

<table>
<thead>
<tr>
<th>Feature</th>
<th>IL-2 mutein</th>
<th>ImmTOR</th>
<th>ImmTOR-IL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induce Treg</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Expand existing Tregs</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Antigen-specific</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Enhanced therapeutic window</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Expansion of all pre-existing Tregs
Induction of target antigen-specific Tregs
Induction and expansion of antigen-specific Tregs
Engineered, Treg selective IL-2 can be a game changing targeted immunotherapy for autoimmune diseases, but some limitations exist.

**LD-IL-2 therapy pursues two main targets:**
- IL-2 deficiency compensation to restore a physiological state
- The Treg population strengthening to be more effective in counter-regulating inflammation while avoiding global immunosuppression

**An appropriate dose of IL-2 to optimize clinical efficacy remains a challenge:**
- Short half-life leads to some limitations:
  - Potentially toxic dosing levels
  - An inconvenient dosing schedule
- IL-2 activates other T cells and natural killer (NK) cells in a dose-dependent manner
- Only pre-existing Tregs expansion while autoantigen-specific Tregs are deficient

ImmTOR plus IL-2 receptor agonist: Synergistic approach to autoimmunity

Evolution of the ImmTOR Platform

- Treg-selective agonist IL-2 receptor
- ImmTOR
- ImmTOR-IL

- Potentially a “first in class” IL-2 therapy for autoimmune disorders
- Designed to be combined with exogenous and endogenous antigens to induce and expand pre-existing and antigen-specific Tregs
- A proprietary engineered IL-2 immunocytokine, which is designed to induce biased activation and expansion of Treg cells
- Proof of concept human data and preclinical observations in multiple autoimmune indications
- Broad commercial opportunity in autoimmune disorders with initial focus on autoimmune liver diseases

IND-enabling studies expected to commence in 2023 with initial focus on liver diseases
Synergistic mechanism of ImmTOR and a Treg-selective IL-2

Potentially a “first in class” IL-2 therapy for autoimmune disorders:
- Superior expansion and durability of total Tregs
- Approximately 3-fold increase in antigen-specific Tregs observed in preclinical study

ImmTOR observed to increase the therapeutic window of engineered IL-2 in preclinical study

*study conducted in wildtype mice after adoptive transfer of ovalbumin specific transgenic T-cells
Superior anti-AAV antibody inhibition when IL-2 is combined with ImmTOR

Clear dose sparing effect seen in preclinical mouse model when IL-2 mutein is combined with ImmTOR

Day 0  2.7E12 vg/kg AAV8-SEAP +/- ImmTOR +/- IL-2 mutein
Day 56  5.0E12 vg/kg AAV8-SEAP +/- ImmTOR +/- IL-2 mutein

Day 0    2.7E12 vg/kg AAV8-SEAP +/- ImmTOR +/- IL-2 mutein
Day 56   5.0E12 vg/kg AAV8-SEAP +/- ImmTOR +/- IL-2 mutein
Autoimmune liver diseases have a significant unmet need and opportunity

<table>
<thead>
<tr>
<th>Primary biliary cholangitis</th>
<th>Autoimmune hepatitis</th>
<th>Primary sclerosing cholangitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>~285,000 patients in the U.S.</td>
<td>~145,000&lt;sup&gt;1&lt;/sup&gt;</td>
<td>~115,000&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>No treatments targeting underlying immunopathology</td>
<td>Ursodeoxycholic acid</td>
<td>Glucocorticoids</td>
</tr>
<tr>
<td></td>
<td>Obeticholic acid</td>
<td>Immunosuppressives</td>
</tr>
<tr>
<td>~100,000 patients remain at high risk of progression...</td>
<td>~50,000&lt;sup&gt;2&lt;/sup&gt; (~35% non-responsive to UDCA)</td>
<td>~24,000&lt;sup&gt;4&lt;/sup&gt; (~20% non-responsive to the standard of care)</td>
</tr>
<tr>
<td>...suffering severe disease burden...</td>
<td>45% progress to liver transplant at 15 years</td>
<td>Complications from long-term steroid use</td>
</tr>
<tr>
<td></td>
<td>Significant effect on quality of life</td>
<td>Significant effect on quality of life</td>
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<td>...and causing 25% of liver transplantations in the U.S.</td>
<td>~12%&lt;sup&gt;3&lt;/sup&gt;</td>
<td>~4%&lt;sup&gt;3&lt;/sup&gt;</td>
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Partnered Programs in Gene Therapy
AAV gene therapies are coming of age but still have challenges
Selecta has platform technologies designed to address many key challenges facing the modality

THE Challenges

While most gene therapy trials use AAV vectors, the formation of neutralizing antibodies (NAbs) after AAV vector administration prevents redosing

- Adverse patient events related to high vector doses is inextricably linked to immunogenicity*
- Pre-existing immunity to AAV vectors excludes significant numbers of patients

THE Solution

- ImmTOR and Xork offer independent value creation opportunities with existing and new partners
  - ImmTOR – Human proof of concept shows the possibility for ImmTOR to inhibit the formation of NAbs to AAV vectors. Extensive preclinical work shows the potential for improved and more durable transgene expression upon the first dose and potential hepatoprotective benefits
  - Xork – Cleaves human IgG specifically, efficiently and shows low cross reactivity to human sera opening a potential treatment window for those with pre-existing immunity to AAV vectors

Aiming to have the leading toolkit to power AAV gene therapies

“Gene therapy is a one time only treatment”

The ImmTOR platform has shown the ability to **mitigate the formation neutralizing antibodies (NAbS)** to empty capsids in humans

Preventing the formation of NAbs could enable redosing of gene therapies

“Patient eligibility is limited”

Xork can cleave IgG potentially opening a therapeutic window for gene therapy treatment and **enable redosing**

Increasing patients eligible for gene therapies can bring hope to those without treatment alternatives and make programs more commercially viable

“High doses are needed to ensure therapeutic benefit”

Low transduction efficiency and lack of organ specificity requires higher doses to ensure therapeutic benefit

Selecta has partnered with a leading synthetic biology company to engineer next generation capsids with improved transduction and organ specificity
ImmTOR could enable safer, more efficacious gene therapy treatments

ImmTOR is designed to be dose sparing – a key safety consideration and manufacturing benefit

ImmTOR has been observed to enhance transgene expression after first and second doses of AAV

Repeat dosing enabled by ImmTOR is dose sparing

Two doses of 5e11 vg/kg with ImmTOR provides comparable expression as single dose of 25e11 vg/kg

*study conducted in wildtype mice

Ilyinskii et al., Science Advances, 2021
Aiming to simultaneously address two key challenges in AAV gene therapy
The combination of ImmTOR and Xork could make gene therapy both accessible and re-dosable

Xork is an IgG protease derived from a non-human pathogen

<table>
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<tr>
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<th>Intact IgG</th>
<th>Cleaved F(ab')2</th>
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<tbody>
<tr>
<td>Human IgG</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>IdeS</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Xork</td>
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</table>

Cleavage of human IgG

Pre-existing anti-IgG protease Antibodies in human serum

*IdeS is an IgG protease derived from the common human pathogen Streptococcus pyogenes

ImmTOR

- Mitigate NAb formation
- Address re-dosing issues
- Enhance expression

Xork

- Cleave pre-existing IgG

Potential to make gene therapy both accessible & re-dosable
Corporate
Positioned for success with experienced management team and strong cash position

$127.5 MILLION
Cash on hand as of March 31, 2023(1)

Expected to fund operating requirements into 2H-2025(2)

1. Includes cash, cash equivalents, marketable securities and restricted cash.
2. Includes next anticipated milestone payment related to SEL-212 development activities
Selecta Biosciences

Pioneering Precision Immune Tolerance

1. ImmTOR® and ImmTOR-IL™ immune tolerance platforms have potentially broad applicability to address the challenges of autoimmunity and immunogenicity

2. BLA submission for SEL-212 in chronic refractory gout expected in first half of 2024

3. ImmTOR-IL IND-enabling studies expected to commence in 2023; initial focus on liver disease while also exploring multiple autoimmune indications

4. Leveraging strategic partnerships to maximize the potential of gene therapy programs

5. Strong balance sheet with expected runway into 2H-2025
Thank you.