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 6, 2022

SELECTA BIOSCIENCES, INC.
(Exact name of registrant as specified in its charter)

Delaware	001-37798	26-1622110
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

65 Grove Street, Watertown, MA 02472
(Address of principal executive offices)(Zip Code)

(617) 923-1400
Registrant's telephone number, including 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:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock (Par Value $0.0001)	**SELB**	**The Nasdaq Stock Market LLC**

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 ☐

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. ☐

Item 8.01. Other Events.

Selecta Biosciences, Inc. (the "Company") from time to time presents and/or distributes to the investment community at various industry and other conferences slide presentations to provide updates and summaries of its business. A copy of its current corporate slide presentation is attached to this Current Report on Form 8-K as Exhibit 99.1. The Company undertakes no obligation to update, supplement or amend the materials attached hereto as Exhibit 99.1.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Corporate slide presentation of Selecta Biosciences, Inc. dated April 2022
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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 6, 2022

By: /s/ Carsten Brunn, Ph.D.
Carsten Brunn, Ph.D.
President and Chief Executive Officer

Exhibit 99.1

Nasdaq | SELB

Selecta Biosciences

Selecta Biosciences Corporate Presentation

April 2022

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 Company's cash runway, 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, MMA, IgAN, other autoimmune diseases, lysosomal storage disorders, 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 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 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 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 its 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 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.


Pioneering Precision
Immune Tolerance

Company Highlights

ImmTOR™ platform has potentially broad applicability

- Precision immune tolerance platform has potential to restore self tolerance in autoimmune disease and overcome immunogenicity of gene therapies and biologics
- Preclinical data indicates potentially profound synergy of ImmTOR and engineered Treg-selective IL-2 to expand antigen-specific Tregs and improve durability of immune tolerance (ImmTOR-IL)

Human proof of concept in biologics and gene therapy

- SEL-212 in chronic refractory gout potentially serves as proof of concept for ImmTOR platform with over 400 patients dosed – Phase 3 DISSOLVE I expected read out in Q4 2022
- Empty AAV study data in healthy volunteers showed the potential ability of ImmTOR to inhibit the formation of neutralizing antibodies to AAV capsids

Diversified pipeline expanding to autoimmune disease

- SEL-302: IND for gene therapy program in methylmalonic acidemia (MMA) submitted in Q3 2021
- Plans to advance Xork IgG Protease to mitigate pre-existing anti-AAV antibodies through IND-enabling studies
- IgA nephropathy: clinical candidate selection & IND enabling studies in process
- Plans to advance the ImmTOR platform with IL-2 (ImmTOR-IL) for use in autoimmune disease
- Funding into Q4 2023

Targeted partnerships to maximize platform potential

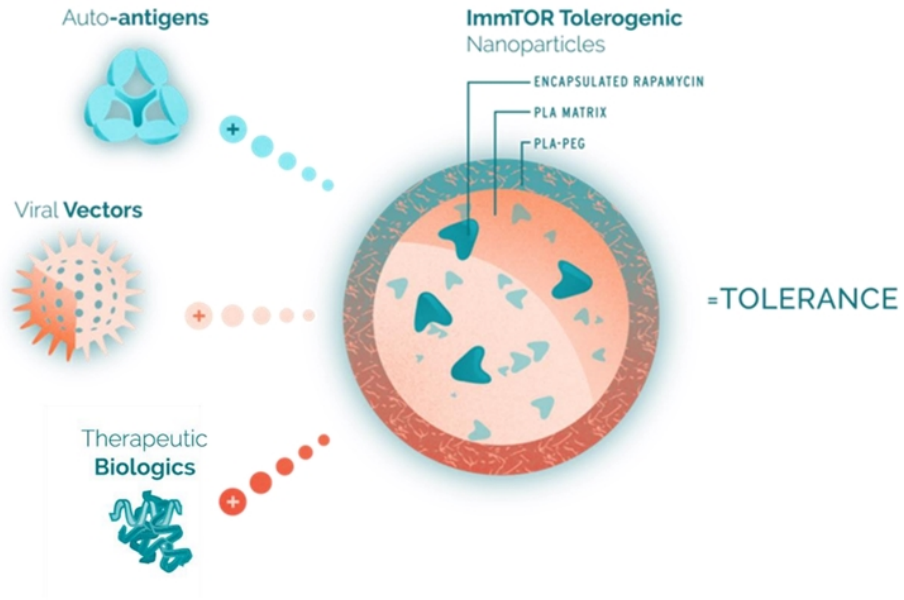
sobi rare strength · GENOVIS · AskBio · Takeda · SAREPTA THERAPEUTICS · GINKGO BIOWORKS THE ORGANISM COMPANY · CYRUS BIOTECHNOLOGY

ImmTOR Platform

Precision Immune Tolerance

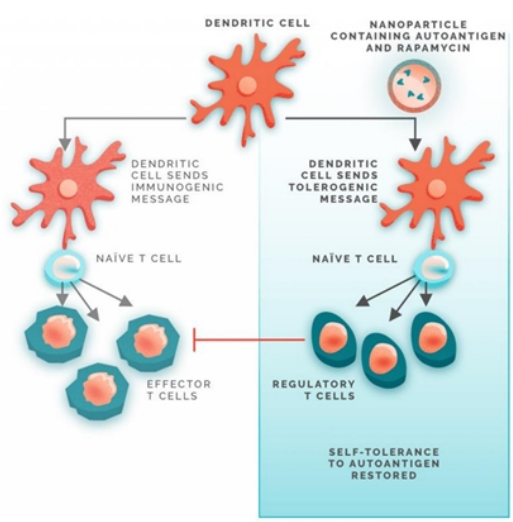
ImmTOR is a precision immune tolerance platform with potentially broad applicability

ImmTOR combines nanoparticle technology with an FDA approved anti-inflammatory and immunomodulatory drug, and is designed to generate antigen-specific immune tolerance when combined with an antigen of interest

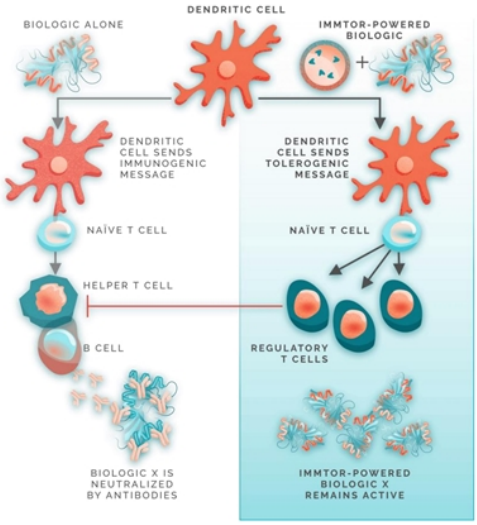


ImmTOR could potentially be applied to restore self tolerance in autoimmune disease and overcome immunogenicity of gene therapies and biologics

Autoimmune Disease



Gene Therapies/Biologics

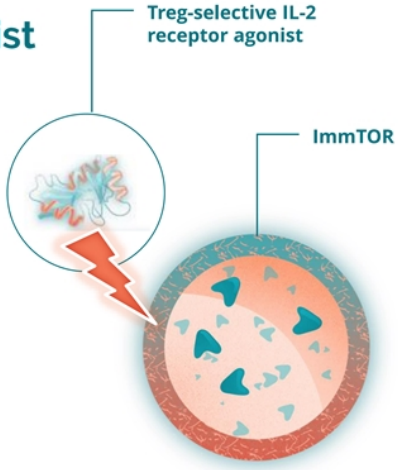


ImmTOR-IL : ImmTOR plus IL-2 receptor agonist

Evolution of the ImmTOR Platform

Synergistic mechanism of ImmTOR and a Treg-selective IL-2:

- 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, with applications across biologic therapies and autoimmune disease indications



	IL-2 mutein	ImmTOR	ImmTOR-IL
Induce Treg	✗	✓	✓
Expand existing Tregs	✓	✗	✓
Antigen-specific	✗	✓	✓
	Expansion of all pre-existing Tregs	Induction of target antigen-specific Tregs	Induction and expansion of antigen-specific Tregs

Aiming to restore self tolerance to auto antigens and power biologics

Tolerogenic Therapies

ImmTOR could provide targeted immune tolerance to auto antigens

Autoimmune disease affects more than 24M people in the US alone[6]

Gene Therapies

ImmTOR potentially enables redosing of transformative gene therapies

80% of rare disease has a known monogenic cause[5] and most gene therapy trials use AAV vectors

Biologic Therapies

ImmTOR is designed to address the immunogenicity of biologics

Over 160,000 patients between IgAN and chronic refractory gout in the US alone[1,2,3,4]

1. https://www.orpha.net/data/patho/Pro/en/Berger-FRenPro10331.pdf
2. Arthritis & Rheumatology Vol. 71, No. 6, June 2019 pp 991-999
3. ARTHRITIS & RHEUMATISM Vol. 63, No. 10, October 2011, pp 3136–3141
4. American journal of therapeutics, 2012-11, Vol.19 (6), p.e157-e166
5. https://ncats.nih.gov/trnd/projects/gene-therapy
6. https://www.niehs.nih.gov/health/topics/conditions/autoimmune/index.cfm

A diversified and growing wholly-owned pipeline

Unlocking the potential of our platform through collaborations

Selecta has entered strategic transactions to further optimize the potential of the ImmTOR platform

Collaboration	AskBio	sobi	SAREPTA	CYRUS	Takeda	GENOVIS	GINKGO BIOWORKS	GINKGO BIOWORKS
Year	2019	2020	2020	2021	2021	2021	2021	2022
ImmTOR Approach	Gene Therapy	Biologic	Gene Therapy	Autoimmune	Gene Therapy	Gene Therapy	Biologic	Gene Therapy
Agreement	Strategic Collaboration and License Agreement	License Agreement (Global, ex. China)	Research Option and License Agreement (Global)	Collaboration to engineer proprietary IL-2 protein agonists	Strategic licensing agreement to develop targeted, next-generation gene therapies	Strategic licensing agreement to enable the dosing of gene therapies	Strategic licensing agreement to develop targeted, next-generation enzyme therapies	Strategic licensing agreement to develop next-generation AAV Capsids
Indications	Pompe/ Undisclosed	Chronic refractory gout	DMD and certain LGMD subtypes	Autoimmune and deleterious immune indications	Lysosomal storage disorders	AAV mediated gene therapies	Undisclosed	Undisclosed

Indication	Antigen	Preclinical	Phase 1	Phase 2	Phase 3	Recent/Expected Upcoming Milestones	Commercial Rights
Chronic Refractory Gout	Pegadricase	SEL-212				DISSOLVE I topline data Q4 2022	sobi
Pompe disease	Undisclosed						AskBio
Duchenne muscular dystrophy (DMD)	Undisclosed						SAREPTA
Limb-girdle muscular dystrophy (LGMD)	Undisclosed						SAREPTA
Two indications for lysosomal storage disorders	Undisclosed						Takeda

Restoring Self-Tolerance in Autoimmune Disease

Striving to restore self-tolerance in autoimmune diseases

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

THE Challenges

- The current standard of care for autoimmune diseases 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.

THE Solution

- Our approach to autoimmune disease is designed to restore natural self-tolerance by administering ImmTOR with nanoparticle-encapsulated self-antigens thus avoiding the need for chronic and systemic immune suppression
- By developing a proprietary Treg-selective IL-2 to combine with ImmTOR and autoantigens we are advancing our precision immune tolerance platform with the aim of expanding antigen-specific Tregs and enhancing durability of tolerance

THE Opportunity

- There are roughly 80 autoimmune conditions that affect as much as 4.5% of the world's population*. 24M+ individuals in the US alone are affected by autoimmune diseases**

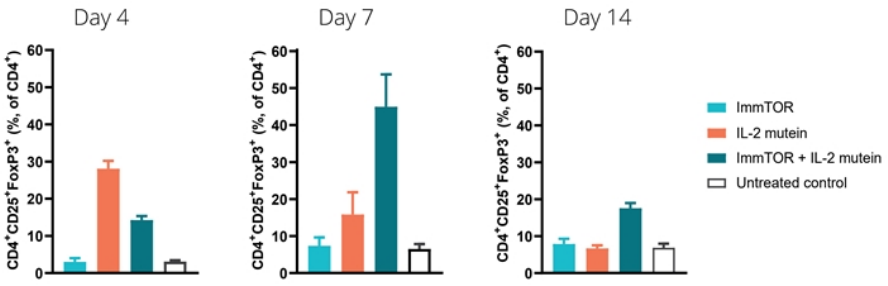
*"Autoimmune Disease, by the Numbers" in Scientific American 325, 3, 31-33 (September 2021), doi:10.1038/scientificamerican0921-31
**https://www.niehs.nih.gov/health/topics/conditions/autoimmune/index.cfm

Expanding the platform by amplifying the effect of ImmTOR with IL-2

ImmTOR was observed to increase the level and durability of Treg expansion

- Observed synergistic activity in increasing the percentage and durability of Treg expansion in the spleen
- Opportunity to restore tolerance in a wide range of autoimmune diseases
- Potential to create a "best in class" IL-2 therapy by combining it with ImmTOR

Splenic regulatory T cells



C57BL/6 mice (n=7/group) were untreated or were treated with ImmTOR alone, IL-2 mutein alone, or a combination of ImmTOR + IL-2 mutein.

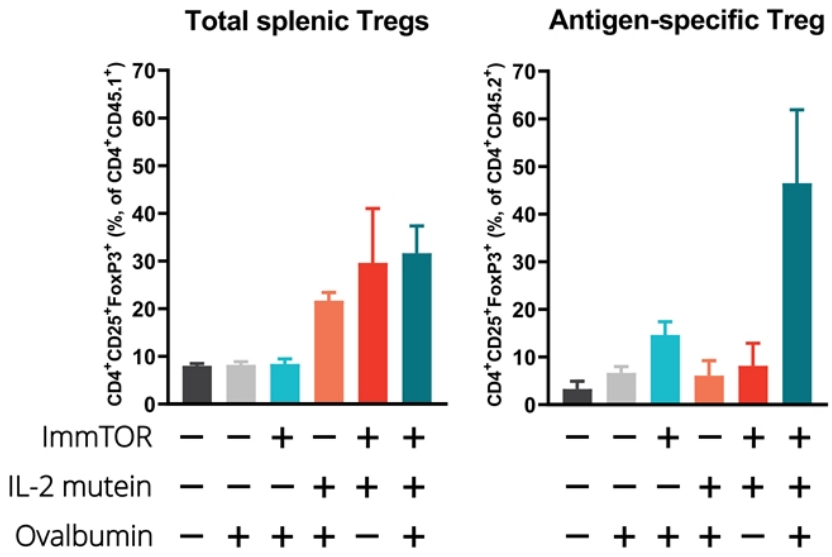
Expansion of CD4+, CD25+, FoxP3+ T regulatory cells in the spleen was assessed 4, 7 and 14 days after treatment.

Induction and expansion of antigen-specific Treg

Observed a significant expansion of **antigen-specific Treg*** with a single dose of ImmTOR in combination with an IL-2 mutein + antigen

With superior expansion and durability of total Tregs, Selecta potentially has a best in class IL-2 therapy.

However, with an approximately 3-fold increase in antigen-specific Tregs, this data shows the opportunity to enable a **"first in class" therapy for autoimmune disorders**

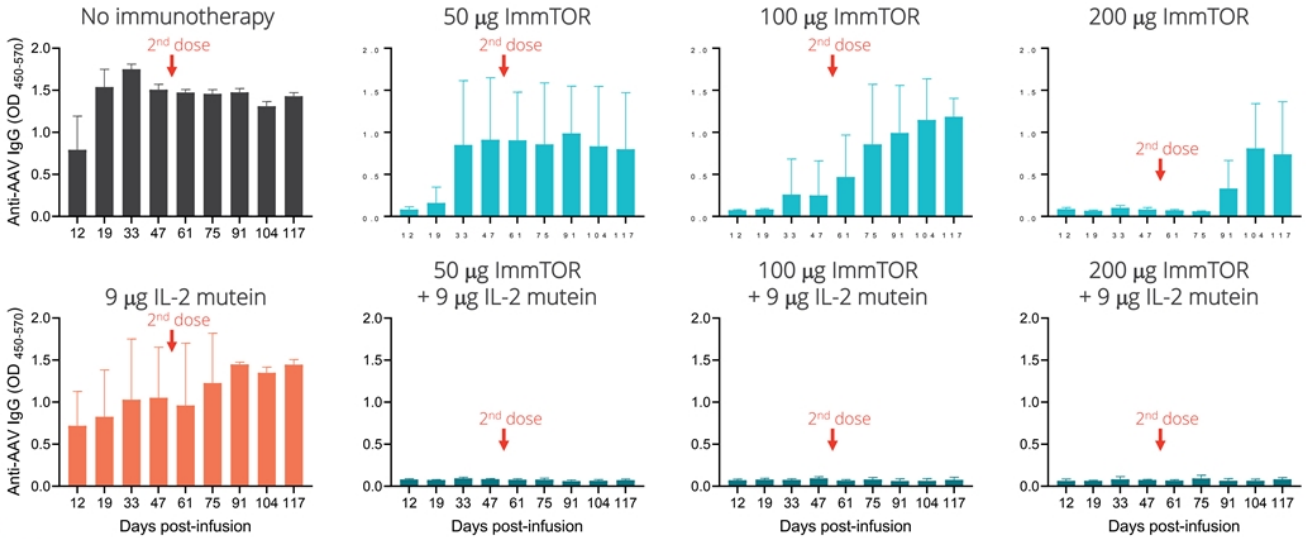


*study conducted in wildtype mice after adoptive transfer of ovalbumin specific transgenic T-cells

Superior anti-AAV antibody inhibition observed when IL-2 is combined with ImmTOR

Clear dose sparing effect seen 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



*study conducted in wildtype mice

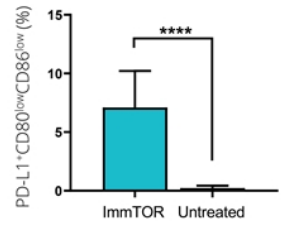
An ImmTOR-based approach to treating primary biliary cholangitis (PBC)

Selecta intends to co-administer ImmTOR with PDC-E2, the autoantigen implicated in PBC

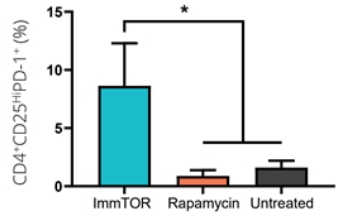
- Autoimmune disorder where the body mistakenly attacks tissue in the liver, leading to inflammation, damage and scarring of the small bile ducts
- More common in women, PBC is one of the most common autoimmune diseases affecting nearly 1:1000 women over the age of 40[1]
- Patients with PBC are desperately in need of a highly-targeted, liver-directed approach to treating the root cause of the disorder

We believe ImmTOR is ideally suited to address PBC

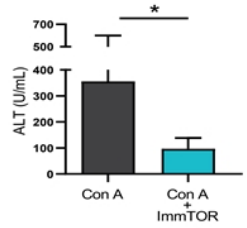
Tolerogenic liver sinusoidal endothelial cells



Hepatic regulatory T cells



Hepatoprotective in Con A liver inflammation model



* P=0.05, ****P=0.0001

PBC is a T-cell mediated disease driven by a well-defined antigen, ImmTOR biodistributes to the liver and induces a tolerogenic environment, ImmTOR shows hepatoprotective properties in liver injury models

1. https://rarediseases.org/rare-diseases/primary-biliary-cholangitis/

Gene Therapy

AAV gene therapies are coming of age but still have challenges

Selecta has platform technologies to potentially address many key challenges facing the modality

THE Challenges

- The formation of neutralizing antibodies (NAbs) after AAV vector administration prevents redosing due to the potentially dangerous immune response that would follow a second or third gene therapy administration. Adverse patient events related to high vector doses is inextricably linked to immunogenicity.*
- Pre-existing immunity to AAV vectors excludes significant numbers of patients who would potentially benefit from treatment by AAV gene therapies.

THE Solution

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

THE Opportunity

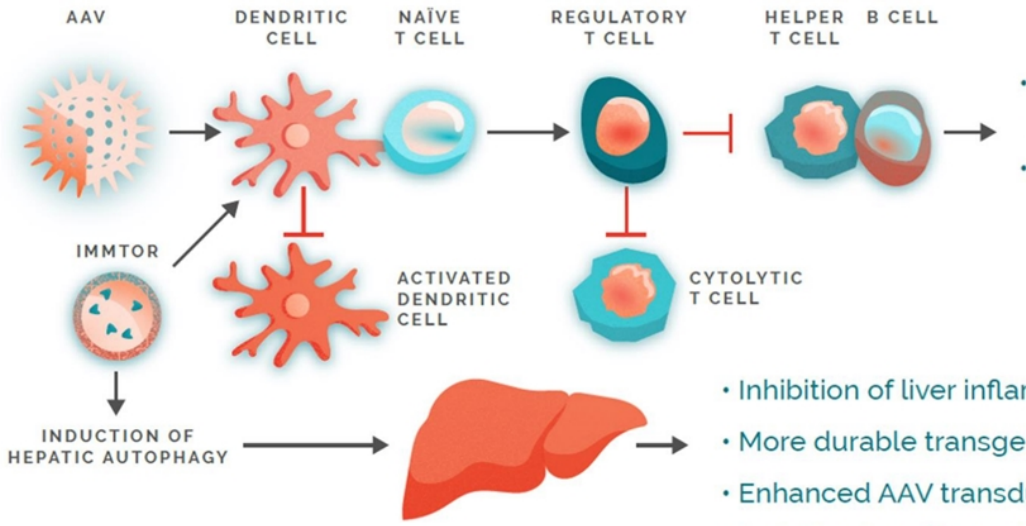
- Xork could potentially make patients with pre-existing immunity to AAV vectors eligible for treatment.
- ImmTOR, by inhibiting the formation of neutralizing antibodies, could make redosing of gene therapies possible. Functional benefit could be maintained or restored with additional doses. Safer and more efficacious dosing regimens could be implemented.
- Selecta has partnered its technologies with leading gene therapy companies.

Selecta Biosciences

*Flotte TR. 2020. Hum Gene Ther 31:398-399.

Potential for ImmTOR to enhance AAV gene therapies

Safer, more durable AAV gene therapy treatments are within reach



- Prevention of AAV antibody production
- Potential to re-dose

- Inhibition of liver inflammation
- More durable transgene expression
- Enhanced AAV transduction
- Stabilization of hepatic stress

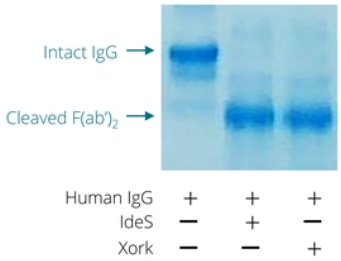
Aiming to simultaneously address two key challenges in AAV gene therapy

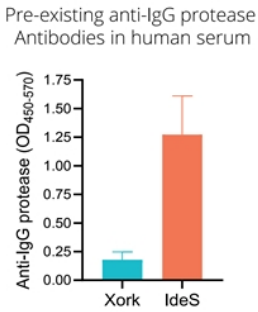
The combination of ImmTOR and Xork could make gene therapy both accessible and re-dosable

ImmTOR + Xork =

- Potential to increase the number of patients eligible for gene therapy by mitigating pre-existing anti-AAV antibodies
- Potential to enable re-dosing by mitigating the de novo formation of anti-AAV antibodies

- Xork is an IgG protease derived from a non-human pathogen
- Xork cleaves human IgG specifically and efficiently, but shows low cross reactivity to human sera compared to IdeS





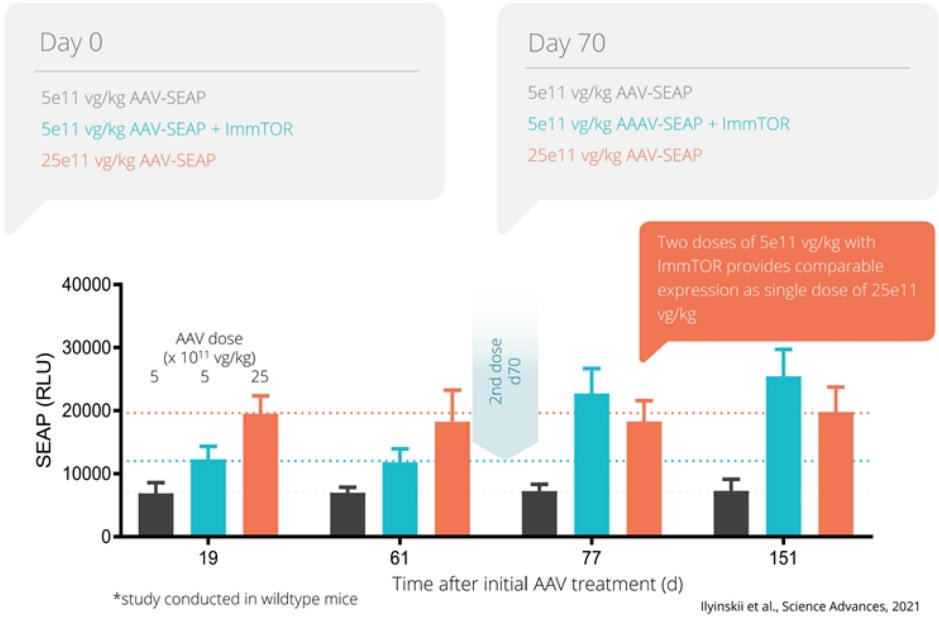
*IdeS is an IgG protease derived from the common human pathogen Streptococcus pyogenes

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



*study conducted in wildtype mice

Ilyinskii et al., Science Advances, 2021

SEL-399 Phase 1 dose-escalation study: subjects and design

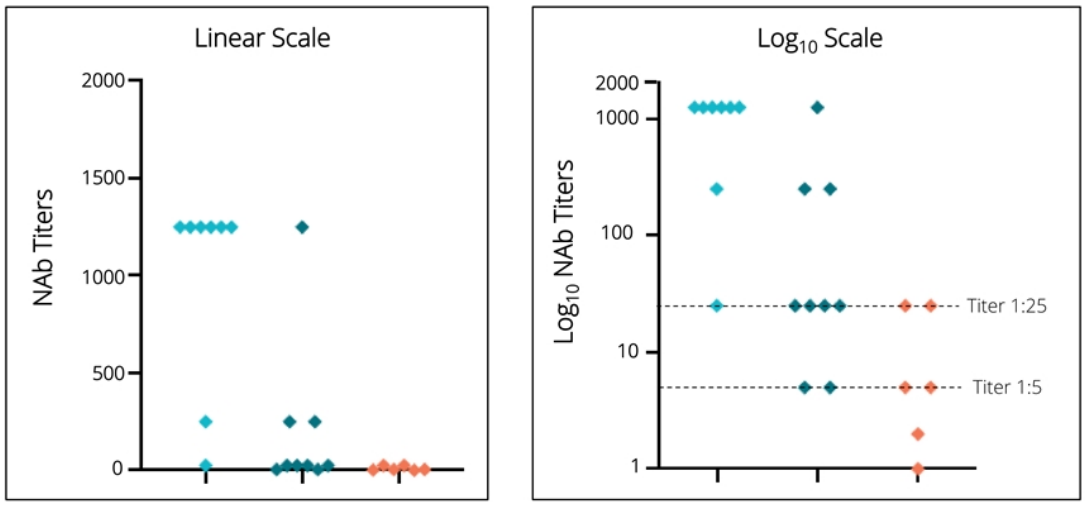
- Total healthy volunteers enrolled: 23 (14 males and 9 females)
- All subjects with anti-AAV8 NAb titers <1:5 at baseline
- Randomized, placebo controlled and double-blind study

* Placebo=saline infusion

** vp=viral particles

Single dose ImmTOR observed to inhibit formation of anti-AAV8 NAb at day 30

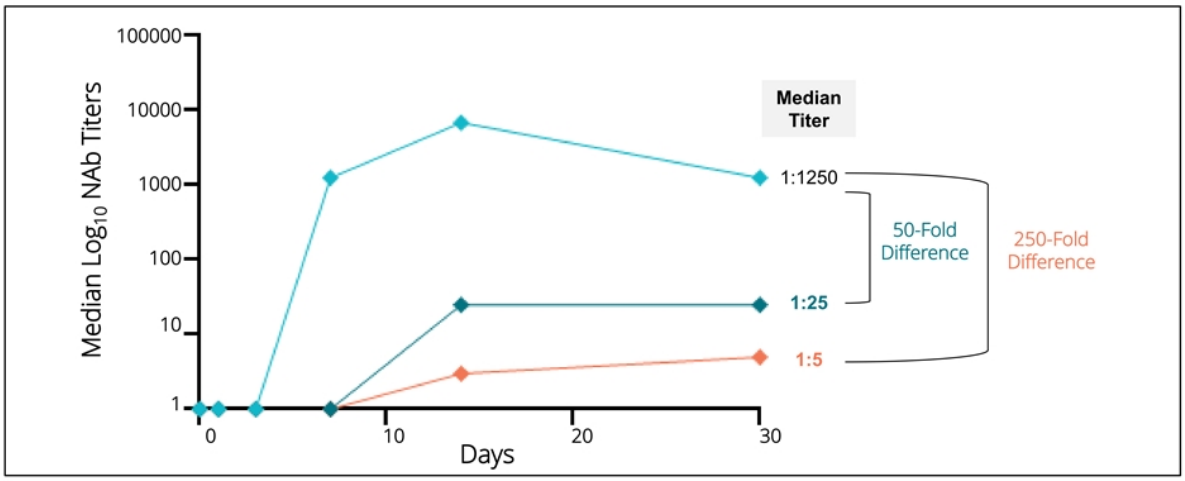
100% *of subjects dosed with 0.3 mg/kg ImmTOR had NAb titers ≤1:25 at Day 30*
67% *of subjects dosed with 0.3 mg/kg ImmTOR had NAb titers ≤1:5 at Day 30*



- Empty Capsid (n=8)
- Empty Capsid + 0.15 mg/kg ImmTOR (n=9)
- Empty Capsid + 0.3 mg/kg ImmTOR (n=6)

Single dose ImmTOR observed to inhibit formation of median anti-AAV8 NAb in a dose-dependent manner at day 30

1:5 *Median NAb titers in subjects dosed with 0.3 mg/kg ImmTOR at Day 30*
250-fold *lower median NAb titers in subjects dosed with 0.3 mg/kg ImmTOR at Day 30*

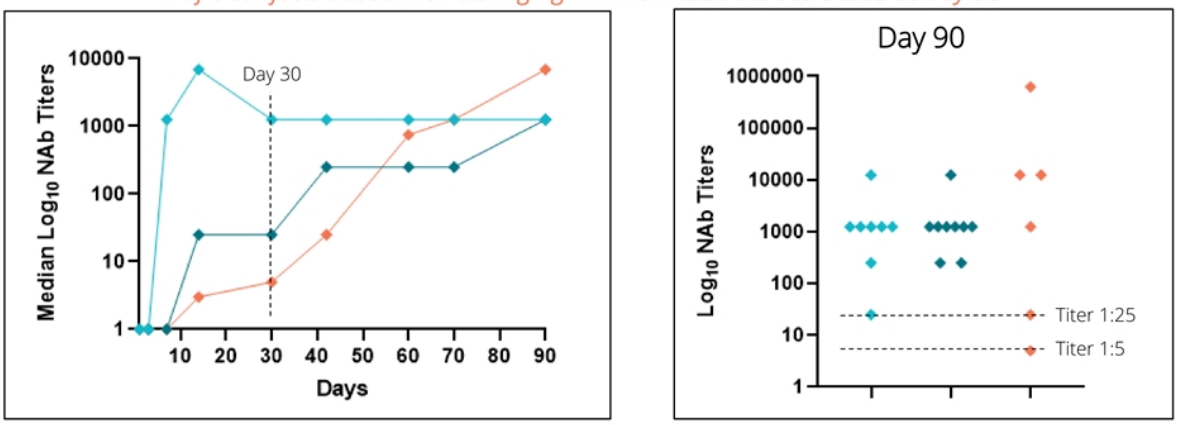


- Empty Capsid (n=8)
- Empty Capsid + 0.15 mg/kg ImmTOR (n=9)
- Empty Capsid + 0.3 mg/kg ImmTOR (n=6)

Subjects treated with a single dose of ImmTOR developed delayed NAb formation by day 90

Additional doses of ImmTOR may be required to maintain control beyond Day 30

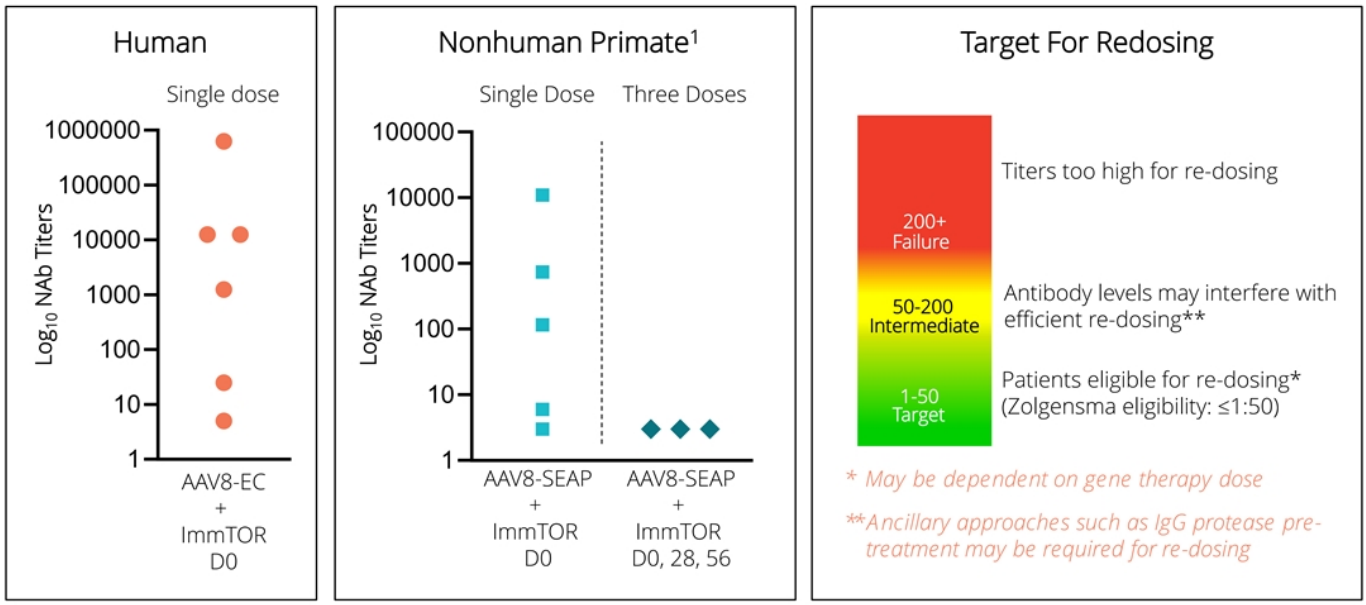
2 of 6 subjects dosed with 0.3 mg/kg ImmTOR had NAb titers ≤1:25 at Day 90
1 of 6 subjects dosed with 0.3 mg/kg ImmTOR had NAb titers ≤1:5 at Day 90



- Empty Capsid (n=8)
- Empty Capsid + 0.15 mg/kg ImmTOR (n=9)
- Empty Capsid + 0.3 mg/kg ImmTOR (n=6)

Empty capsid data in-line with single dose ImmTOR NHP data at day 90

Three monthly doses of ImmTOR provide inhibition of NAbs in NHP



[1]ESGCT 2021 Poster 003

Summary and conclusions

- We observed AAV8 empty capsids eliciting a strong immune response with peak median anti-AAV8 NAb titers of 1:6875
- We observed ImmTOR inhibiting the formation of anti-AAV8 NAb in a dose-dependent manner at Day 30

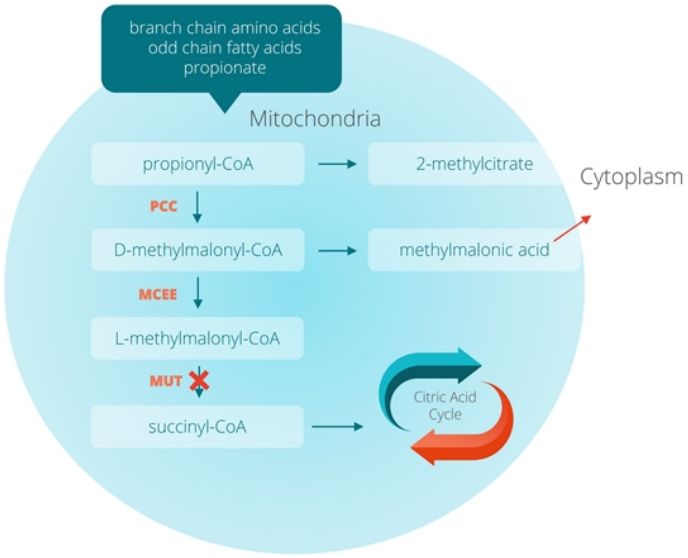
ImmTOR Dose	Subjects ≤ 1:5 NAb titer	Subjects ≤ 1:25 NAb titer	Median titers	Fold difference from control
0.15 mg/kg	22%	67%	1:25	50
0.30 mg/kg	**67%**	**100%**	**1:5**	**250**

- After Day 30, 2 of 6 subjects treated with 0.3 mg/kg ImmTOR maintained NAb titers ≤25, while remaining ImmTOR-treated subjects showed delayed formation of NAb reaching control levels by Day 90
- Animal studies suggest that if NAb are inhibited at Day 30, administration of two additional monthly doses of ImmTOR may maintain control of NAb beyond 90 days
- Safety findings included AEs previously observed with ImmTOR (Stomatitis & Rash). Asymptomatic and transient laboratory changes in subjects receiving ImmTOR were seen in 2 subjects with mild to moderate thrombocytopenia and 1 subject with grade 3 hypertriglyceridemia
- This promising study in healthy volunteers provides support for the potential use of ImmTOR for the inhibition of neutralizing antibodies to AAV8 in gene therapy clinical trials

SEL-302 - Gene therapy program for the treatment of MMA

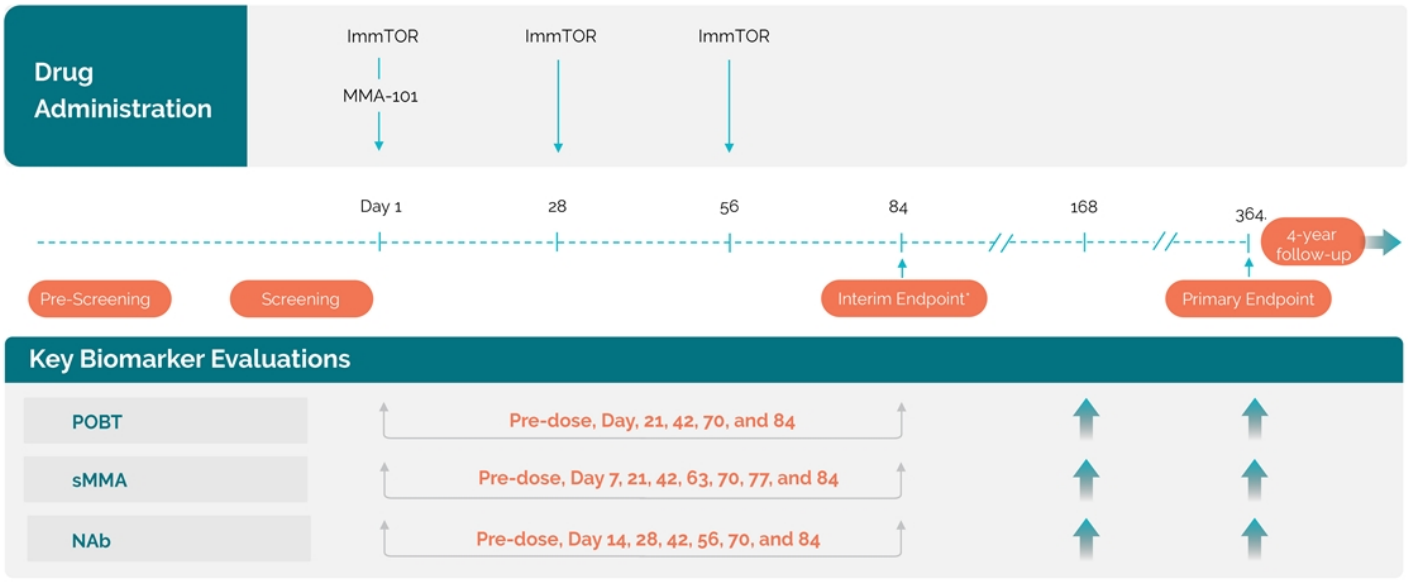
IND filed in Q3 2021

- Methylmalonic acidemia (MMA) is a rare monogenic metabolic disease with a potential live birth incidence of between 1:25,000 and 1:48,000 [1]
- Majority of patients have mutations in the mitochondrial methylmalonyl-CoA mutase (MUT) gene
- Metabolic instability, particularly in the liver, can cause hyperammonemia and production of other toxic metabolites
- Metabolic crisis can cause irreversible neurocognitive damage, stunted growth, chronic kidney disease and premature death
- Only effective treatment is liver transplantation at an early age
- Selecta is developing an AAV gene therapy combined with ImmTOR for the treatment of MMA (SEL-302)



1. https://www.genome.gov/Genetic-Disorders/MMA-Study-General-Information

MMA Clinical Trial Design: Schedule of Events for Individual Subjects



Key Biomarker Evaluations

POBT	Pre-dose, Day, 21, 42, 70, and 84
sMMA	Pre-dose, Day 7, 21, 42, 63, 70, 77, and 84
NAb	Pre-dose, Day 14, 28, 42, 56, 70, and 84

POBT=1-^{13}C -sodium propionate oxidative capacity using breath test; sMMA= serum methylmalonic acid levels; NAb=neutralizing anti-AAV8 antibodies
*Interim Endpoint= Data cutoff for Data Safety Monitoring Board evaluation

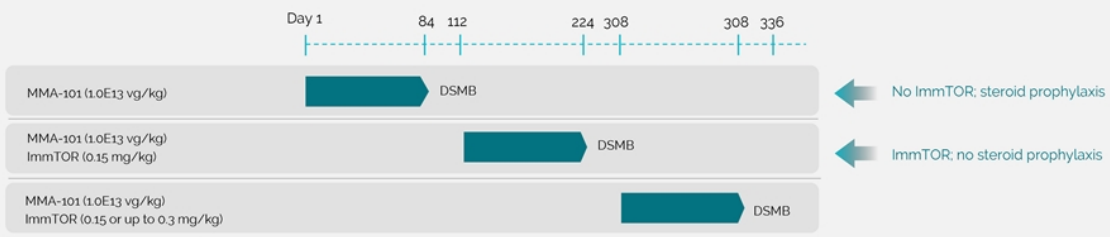
MMA Clinical Trial Design: Schedule of Events

Cohort 1

Adolescents

(low dose, n=3)

(ages ≥12 and <18)



Cohort 2

Children

(low dose, n=3)

(ages ≥ 2 and <12)

Assumes 1 month (28 days) between Day 84 cutoff and subsequent participant enrollment to allow for DSMB report generation and review.

Biologics

Biologic therapies potentially enhanced by ImmTOR

Unlocking their full potential by potentially ameliorating unwanted immune responses

THE Challenges

- Many biologics can be highly immunogenic resulting in suboptimal responses to the standard of care due to the development of anti-drug antibodies (ADAs) after multiple treatments
- Patients that develop an immune response to the current standard of care may be forced to discontinue treatment or experience adverse reactions

THE Solution

- ImmTOR, co-administered with immunogenic therapeutic enzymes, has the potential to ameliorate an immune response to the biologic treatment allowing patients to stay on therapy longer
- Human data in both immunogenic enzymes and gene therapy AAV empty capsids shows the promise of ImmTOR in enhancing biologics

THE Opportunity

- The use of ImmTOR as an adjunct to biologic therapies offers a promising approach to minimize the healthcare and economic burden of ADAs
- Extensive human data and significant safety data base across multiple biologics demonstrates the broad potential applicability of the technology in immunogenic biologics.

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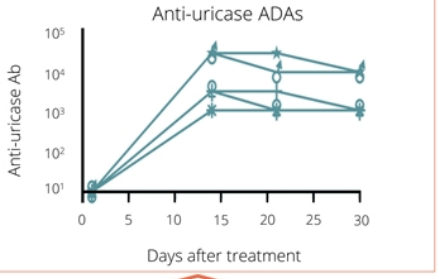
*Sands, E., Kivitz, A., DeHaan, W. et al. Tolerogenic nanoparticles mitigate the formation of anti-drug antibodies against pegylated uricase in patients with hyperuricemia. Nat Commun 13, 272 (2022). https://doi.org/10.1038/s41467-021-27945-7

SEL-212 is a late-stage enzyme therapy program in chronic refractory gout

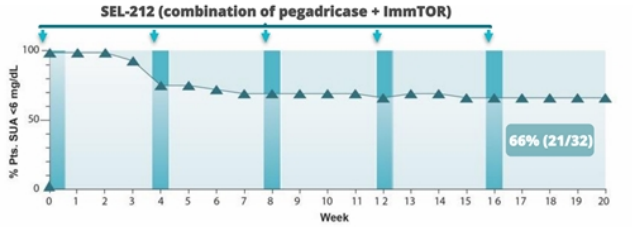
ImmTOR markedly improved patient response to the enzyme pegadricase in a Phase 2 trial

Pegadricase is highly immunogenic when given alone

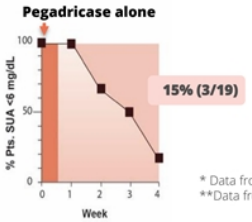


Pegadricase is a highly immunogenic enzyme with most patients treated with pegadricase alone developing anti-drug antibodies within 2 weeks after a single treatment

ImmTOR was observed to ameliorate the immune response to pegadricase and was generally well-tolerated resulting in sustained control of serum uric acid (SUA)



5 monthly doses SEL-212*
Pegadricase 0.2 mg/kg
ImmTOR 0.1 or 0.15 mg/kg



Pegadricase alone**
Pegadricase 0.2 or 0.4 mg/kg

Only 15% of patients treated with pegadricase alone maintain control of serum uric acid (SUA) after four weeks of therapy

* Data from 5 monthly dosing cohorts of the SEL-212/201 trial
**Data from pegadricase alone cohorts from the SEL-037/101, SEL-212/101, and SEL-212/201 trials

Patients most in need reaped greater benefits from our therapy

Observed a delta of 19% points for SEL-212 versus pegloticase for patients with visible tophi at baseline

Patients with tophi at baseline:

- Represent the most severely affected population of gout patients
- Are less likely to achieve target SUA levels on conventional oral lowering therapies and have increased gout-related emergency room visits, hospitalizations, gout-related surgeries, and co-morbidities
- Have increased prevalence of swollen and tender joints and chronic kidney disease
- Have increased risk of mortality

Evaluation Period (Month)	Data Set	SEL-212		pegloticase		Treatment Difference[2]
		n[1]	Responder Percent	n[1]	Responder Percent	Percentage pts
Month 3 and 6 combined	PP	26	58%	26	39%	19
	ITT	35	57%	34	42%	16

1. Number of patients with tophi with Responder Assessment
2. Treatment difference = SEL-212 percent responder - pegloticase percent responder. Rounded to nearest integer

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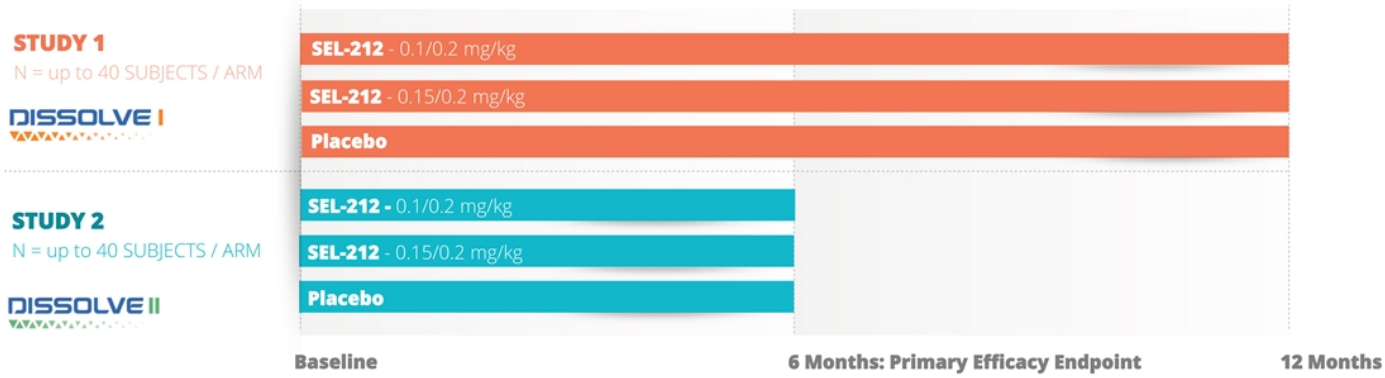
Sources: Khanna et al Arthr Rheumatol 2016, 68, suppl 10; Edwards et al, Rheumatol 2019; Vincent et al J Rheumatol 2017; Perez-Ruiz, Ann Rheum Dis 2014

SEL-212 phase 3 DISSOLVE program design

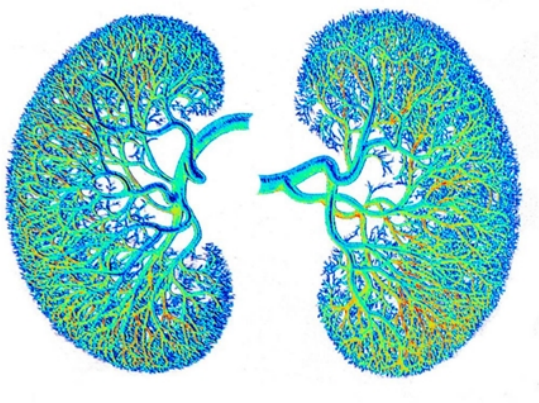
Evaluating SEL-212 in a pivotal phase 3 program versus placebo, with DISSOLVE I topline data expected in Q4 2022

- 2 double blinded placebo-controlled trials of SEL-212 (0.1 mg/kg & 0.15 mg/kg ImmTOR)
  - Both studies have a 6-month primary endpoint of serum uric acid (SUA) < 6 mg/dL at month 6, and DISSOLVE I has a 6-month safety extension; secondary endpoints include tender and swollen joint counts, tophus burden, patient reported outcomes of activity limitation and quality of life and gout flare incidence
- Randomized 1:1:1 against Placebo with between 210 and 240 treated subjects
- DISSOLVE I fully enrolled as of Q4 2021



Opportunity to address unmet medical needs for the treatment of IgAN

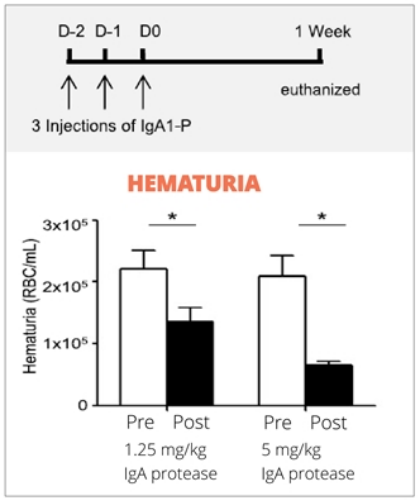
- Immunoglobulin A nephropathy (IgAN) is a leading cause of chronic kidney disease (CKD) and renal failure with 30-40% of patients reaching end-stage renal disease; approximately **100,000 patients in the U.S. and only one approved therapy**
- Caused by **deposits of the protein immunoglobulin A (IgA) inside the filters (glomeruli) in the kidney** which may lead to presence of blood (hematuria) and protein (proteinuria) in urine and progressive renal insufficiency/failure
- **Current treatments fail to address the root cause of the disease** and are focused on protecting the kidney from further damage by reducing IgA1 production, controlling blood pressure, cholesterol, and inflammation
- Selecta is developing a candidate for the treatment of IgAN combining **ImmTOR with an IgA protease** to remove injurious IgA from kidneys and improve markers of renal dysfunction



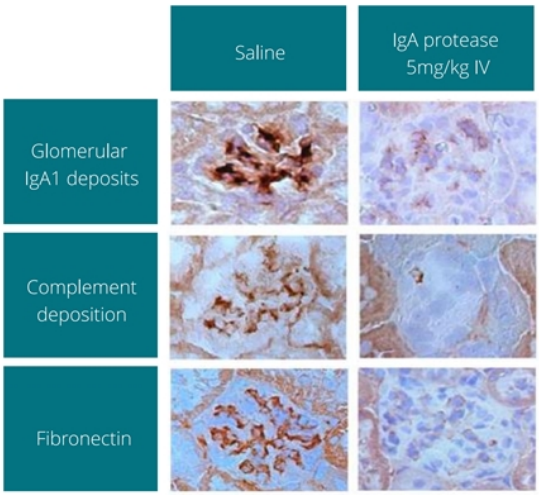
Combining ImmTOR with IgA protease for the treatment of IgAN

Building on the clinical data from the SEL-212 program and strong preclinical data in IgA

- Selecta intends to co-administer ImmTOR with its proprietary IgA protease to address IgA nephropathy
- Mice expressing human IgA1 and sCD89 develop spontaneous IgA nephropathy
- Treatment with IgA protease clears glomerular IgA1 deposits and associated inflammation and hematuria
- IgA Protease candidate selection and initiation of IND enabling studies in 2022



Adapted from Lechner et al., ***J Am Soc Nephrol***, 2016.



Corporate

Experienced management team positions Selecta for success

Carsten Brunn, Ph.D.
President and CEO

Kevin Tan
Chief Financial Officer

Lloyd Johnston, Ph.D.
Chief Operations Officer

Kei Kishimoto, Ph.D.
Chief Scientific Officer

Peter G. Traber, M.D.
Chief Medical Officer

Kristen Baldwin
Chief People Officer

Matthew Bartholomae
General Counsel

Bayer · Sarepta Therapeutics · Alkermes · Momenta · Galectin Therapeutics · LivKindly · Minerva Neurosciences

Novartis · CPP Investments · Massachusetts Institute of Technology · Millennium · GSK · Bayer · senet

Lilly · Macquarie · Boehringer Ingelheim · Penn Medicine · Otsuka

Financial information at-a-glance

Company has funding into the fourth quarter of 2023

~$129.4 MILLION

Cash on hand as of December 31, 2021[1]

Current funding expected to support development across pipeline programs including:

- Phase 1 clinical trial initiation and preliminary SEL-302 data in MMA
- Enzyme candidate selection and IND enabling studies in IgA Nephropathy
- Develop a proprietary IL-2 mutein to combine with ImmTOR. Advance and expand our immune tolerance platform into autoimmune disease
- Top-line data from Phase 3 DISSOLVE I program of SEL-212 in chronic refractory gout
- Advance autoimmune disease program in PBC

(1) Includes cash, cash equivalents, marketable securities and restricted cash.

Company Highlights

ImmTOR™ platform has potentially broad applicability

- Precision immune tolerance platform has potential to restore self tolerance in autoimmune disease and overcome immunogenicity of gene therapies and biologics
- Preclinical data indicates potentially profound synergy of ImmTOR and engineered Treg-selective IL-2 to expand antigen-specific Tregs and improve durability of immune tolerance (ImmTOR-IL)

Human proof of concept in biologics and gene therapy

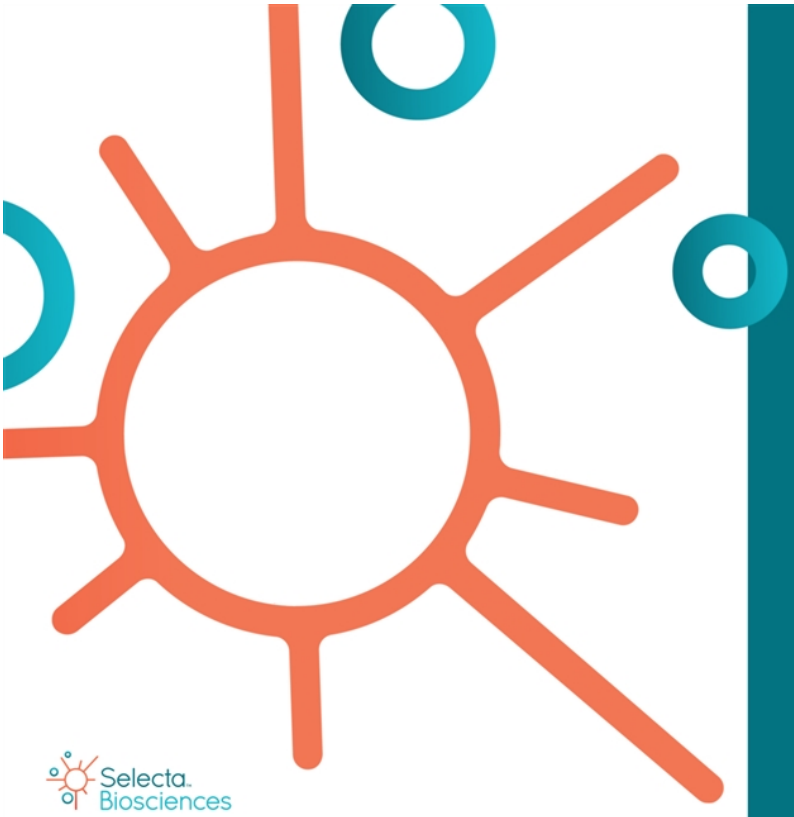
- SEL-212 in chronic refractory gout potentially serves as proof of concept for ImmTOR platform with over 400 patients dosed – Phase 3 DISSOLVE I expected read out in Q4 2022
- Empty AAV study data in healthy volunteers showed the potential ability of ImmTOR to inhibit the formation of neutralizing antibodies to AAV capsids

Diversified pipeline expanding to autoimmune disease

- SEL-302: IND for gene therapy program in methylmalonic acidemia (MMA) submitted in Q3 2021
- Plans to advance Xork IgG Protease to mitigate pre-existing anti-AAV antibodies through IND-enabling studies
- IgA nephropathy: clinical candidate selection & IND enabling studies in process
- Plans to advance the ImmTOR platform with IL-2 (ImmTOR-IL) for use in autoimmune disease
- Funding into Q4 2023

Targeted partnerships to maximize platform potential

sobi rare strength · GENOVIS · AskBio · Takeda · SAREPTA THERAPEUTICS · GINKGO BIOWORKS THE ORGANISM COMPANY · CYRUS BIOTECHNOLOGY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Biosciences