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): September 27, 2018

SELECTA BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Delaware	**001-37798**	**26-1622110**
(State or other jurisdiction of incorporation or organization)	(Commission File Number)	(I.R.S. Employer Identification No.)

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.

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 focused on gene therapy matters (the "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.

The information in Item 7.01 of this Form 8-K, including Exhibit 99.1 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.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Corporate slide presentation of Selecta Biosciences, Inc. dated September 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: September 27, 2018

By: /s/ Werner Cautreels, Ph.D.
Werner Cautreels, Ph.D.
President and Chief Executive Officer

SELECTA Biosciences

Jefferies
Gene Therapy Summit
Nasdaq: SELB

27 September 2018

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 potential impact of adaptive immunity on AAV gene therapy, the potential benefits of re-dosing AAV gene therapy, the *company's* potential to enable new therapies and improve efficacy and safety of existing biologics, the *company's* opportunities for clinical proof of concept in gene therapy, the potential treatment applications for products utilizing the SVP platform in areas such as enzyme therapy, gene therapy, oncology therapy, vaccines and treatments for allergies and autoimmune diseases, the *company's* plan to apply its SVP platform to a range of biologics for rare and serious diseases, statements regarding the potential of the company to enter into collaborations and licenses in a range of therapeutic areas, the potential of the *company's* two gene therapy product candidates to enable repeat administration, and other statements containing the words *"anticipate," "believe," "continue," "could," "estimate," "expect," "hypothesize," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "would,"* and similar expressions, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including, but not limited to, the following: the uncertainties inherent in the initiation, completion and cost of clinical trials including their uncertain outcomes, the availability and timing of data from ongoing and future clinical trials and the results of such trials, whether preliminary results from a particular clinical trial will be predictive of the final results of that trial or whether results of early clinical trials will be indicative of the results of later clinical trials, the unproven approach of the *company's* SVP technology, potential delays in enrollment of patients, undesirable side effects of the *company's* product candidates, its reliance on third parties to manufacture its product candidates and to conduct its clinical trials, the *company's* inability to maintain its existing or future collaborations or licenses, its inability to protect its proprietary technology and intellectual property, potential delays in regulatory approvals, the availability of funding sufficient for its foreseeable and unforeseeable operating expenses and capital expenditure requirements, substantial fluctuation in the price of its common stock, and other important factors discussed in the *"Risk Factors"* section of the *company's* Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission, or SEC, on August 8, 2018, and in other filings that the company makes with the SEC. 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 obligation to update any forward-looking statements included in this presentation.

Immunogenicity is Now Recognized as a Serious Challenge for Biologic Therapies

IMMUNOGENICITY'S IMPACT

COMPROMISED EFFICACY
Anti-drug antibodies (ADAs) neutralize therapeutic benefit

SAFETY RISK
Hypersensitivity reactions can impact patients

UNPREDICTABLE RESPONSE
Changed PK/PD through drug-ADA interaction

"With the explosion of biologic products on the market and in *research pipelines, we've* become very concerned about the effectiveness and safety of *these drugs."*

– Amy Rosenberg, MD, Director, Division of Biotechnology Products Review and Research, FDA

The Promise of Gene Therapy

The NEW ENGLAND JOURNAL of MEDICINE

A Cure for Hemophilia within Reach

H. Marijke van den Berg, M.D., Ph.D.

NCM

Gene Therapy:
The Promise of a Permanent Cure

Christopher D. Porada, Christopher Stem, Graça Almeida-Porada

Molecular Therapy

Moving Forward Toward a Cure for Hemophilia B

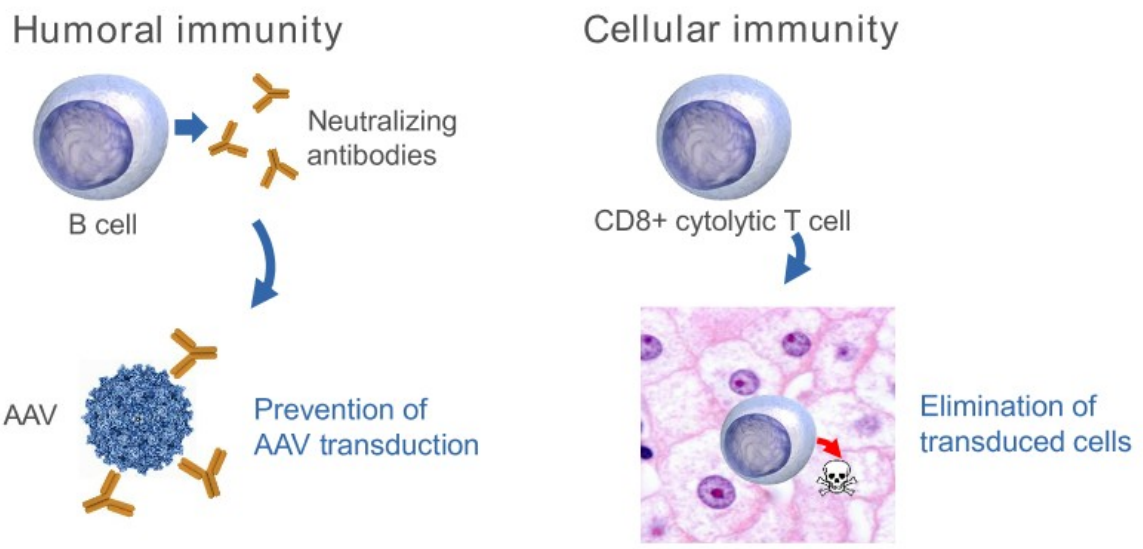
Thierry VandenDriessche[1,2] and Marinee K Chuah[1,2]

Molecular Therapy

Hemophilia Gene Therapy: Caught Between a Cure and an Immune Response

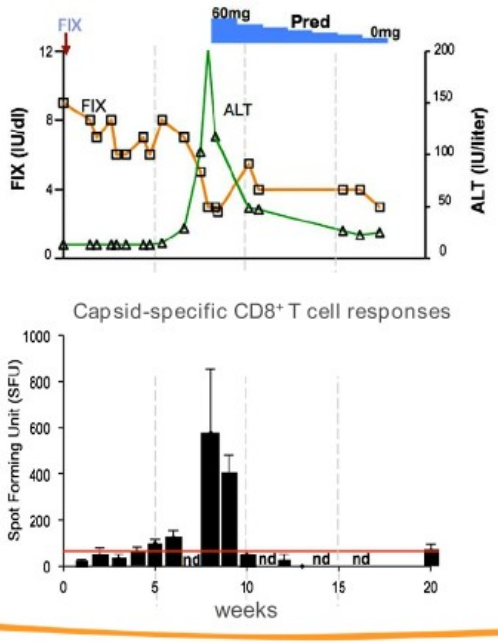
Roland W. Herzog

Potential Impact of Adaptive Immunity on AAV Gene Therapy



Appearance of AAV-Specific CD8 T Cells Correlates with Liver Enzyme Elevation and Loss of Transgene Expression in Humans

Hemophilia B patient administered AAV-Factor IX gene therapy



Nathwani et al., N Engl J Med. 2011

Neutralizing Antibodies Inhibit AAV Transduction

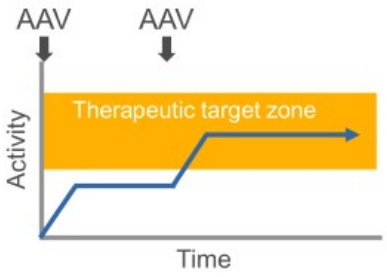
- Neutralizing antibodies
  - Form after first exposure to AAV
  - Titers as low as 1:5 can inhibit AAV transduction
  - Persist for years after exposure
  - Cross react with other AAV serotypes
  - Prevent re-dosing

Subject ID	Baseline AAV2 Nab titer (reciprocal dilution)	Follow-up (years)	AAV2 Nab titer (reciprocal dilution)	AAV8 Nab titer (reciprocal dilution)
A	1:2	9	>1:3160	1:1000
B	1:11	9	1:3160	1:1000
C	1:2	7	>1:3160	1:100
D	<1:2	2	>1:3160	1:100

Mingozzi and High, Ann Rev Immunol, 2017

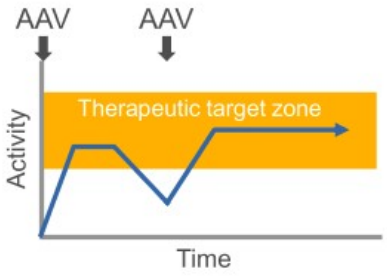
Potential Benefits of Re-dosing AAV Gene Therapy

Dose titration



- Increase percentage of patients that achieve therapeutic benefit without risk of over-dosing
- Improve enrollment in clinical trials

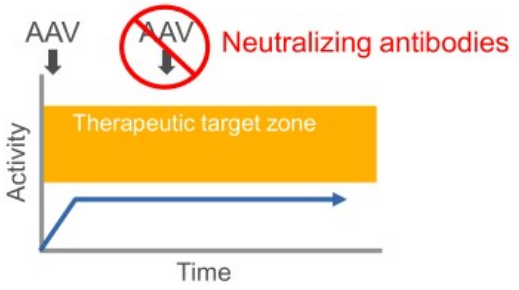
Rescue of expression



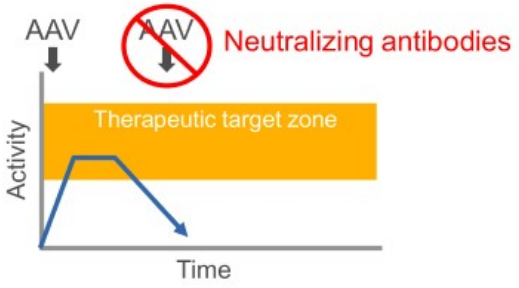
- Restore therapeutic expression in patients that experience liver inflammation or damage
- Restore therapeutic expression in pediatric patients as they grow

Potential Benefits of Re-dosing AAV Gene Therapy

Dose titration



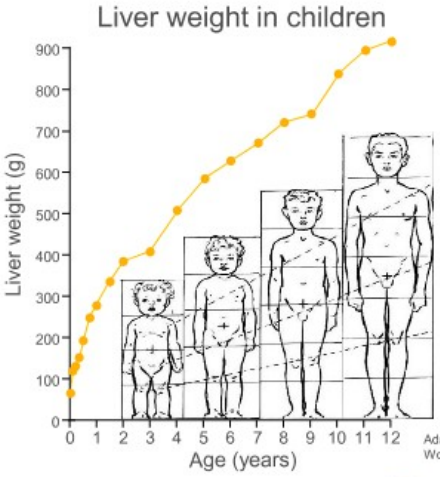
Rescue of expression



Formation of neutralizing antibodies after first administration of AAV gene therapy may prevent re-dosing

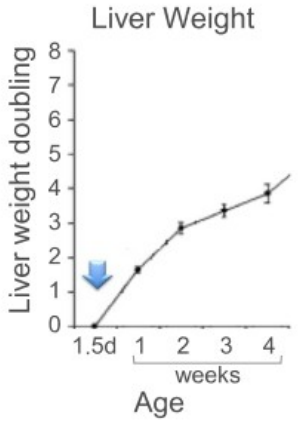
Need for Repeat Dosing of Systemic Gene Therapy in Pediatric Patients

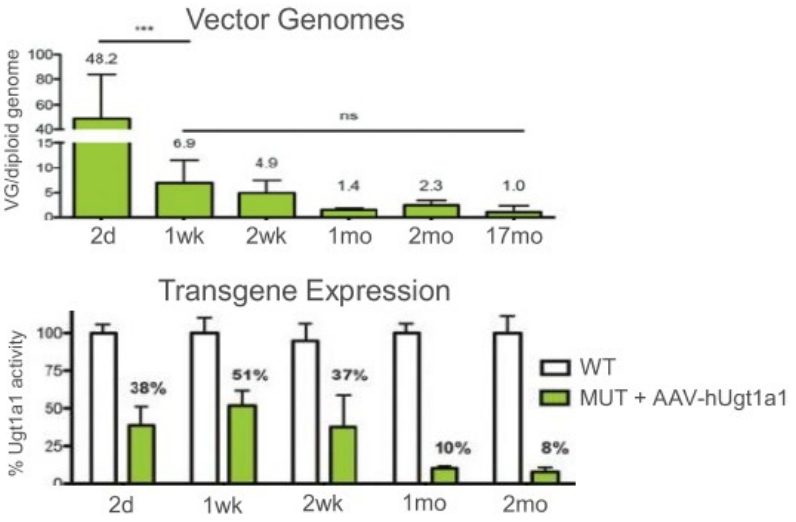
- Genetic metabolic diseases often manifest early in childhood
- Gene therapy would benefit children the most, as irreversible damage can occur if disease is not controlled
- However AAV vectors are non-replicating, so transgene expression is expected to wane over time as children grow
- The formation of neutralizing antibodies prevents the ability to re-dose AAV



Adapted from Coppoletta and Wolbach, Am J Pathol, 1933

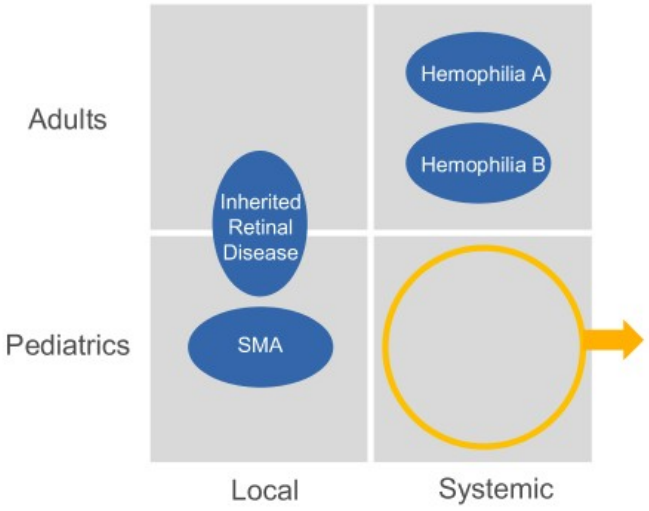
Vector Dilution and Loss of Transgene Expression after AAV Gene Therapy in Neonatal Mice





Bortolussi et al., Hum Gene Ther 2014

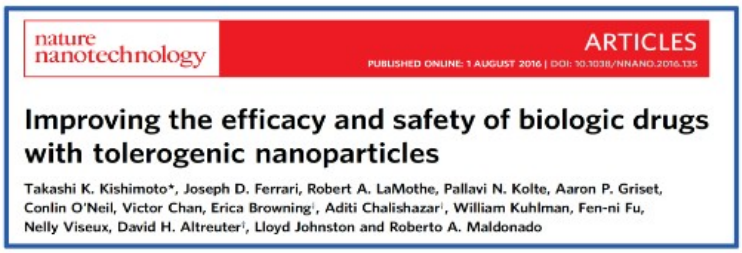
Notable Early Successes in AAV Gene Therapy

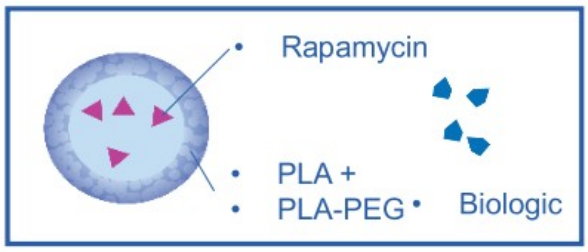


Liver-targeted gene therapy indications

- Hemophilia A
- Hemophilia B
- Methylmalonic acidemia
- Ornithine transcarbamylase disease
- Crigler Najjar
- Primary hyperoxaluria type 1
- Wilson disease
- Citrullinemia
- Proprionic acidemia
- Familial hypercholesterolemia
- Phenylketonuria
- Acute intermittent porphyria
- Tyrosinemia
- α-1-antitrypsin deficiency
- Maple syrup urine disease
- Glycogen storage disease type 1

ImmTOR Technology for Mitigating Immunogenicity

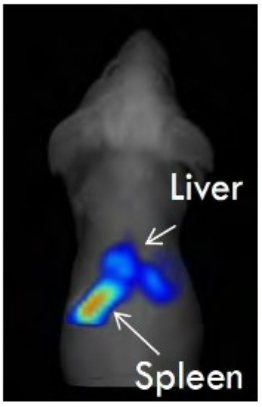




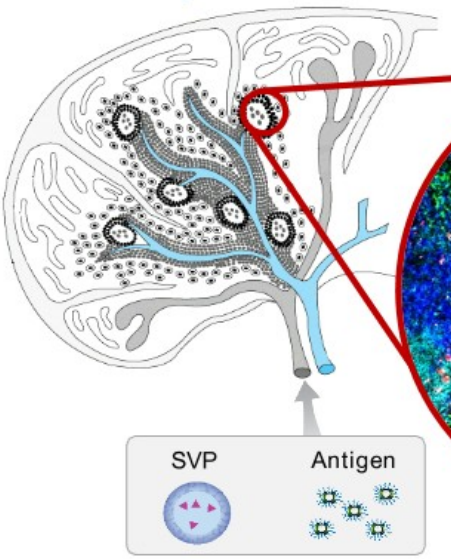
- Induction of tolerogenic dendritic cells and antigen-specific regulatory cells
- Mitigation of anti-drug antibodies
- Robust and scalable GMP manufacturing

Leveraging Natural Disposition of Nanoparticles to Deliver Instructions to the Immune System

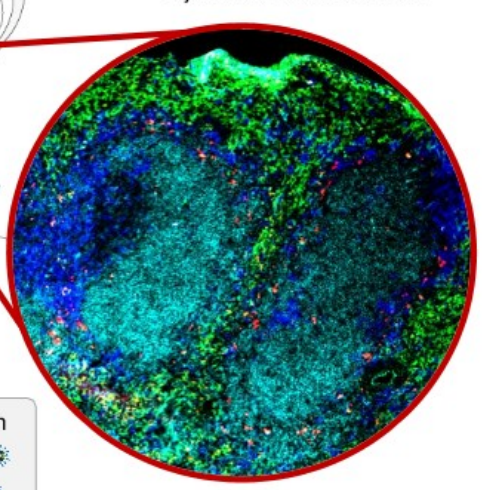
I.V. Injection
(6hr post-injection)



Spleen

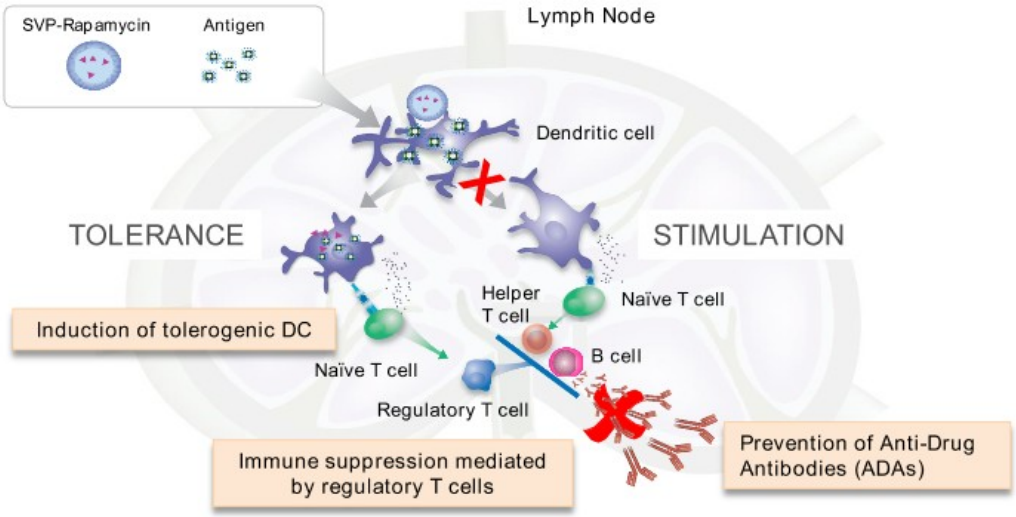


Spleen harvested 24 hr after I.V. Injection of fluorescent NPs



- SVP
- Macrophages
- Dendritic cells
- B cells

Dendritic Cells at the Crossroads of Immune Stimulation and Immune Tolerance



Potential to enable new therapies and improve efficacy/safety of existing biologics

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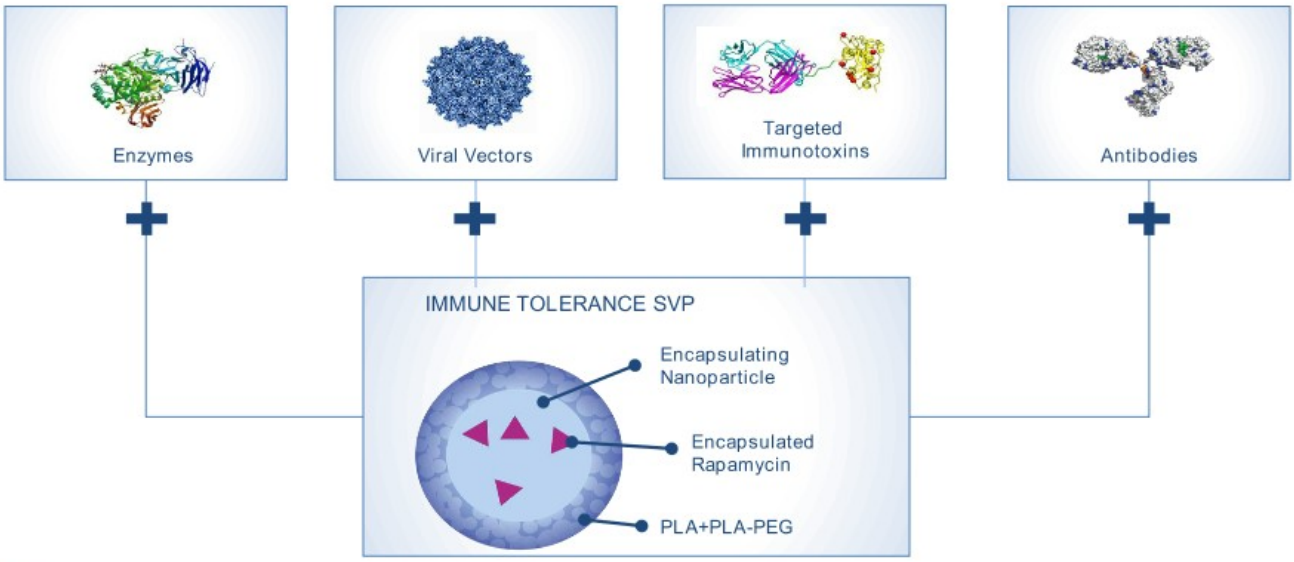
Kishimoto et al., Improving the efficacy and safety of biologic drugs with tolerogenic nanoparticles, Nature Nanotechnology, Aug. 2016

SVP Technology for ADA Mitigation

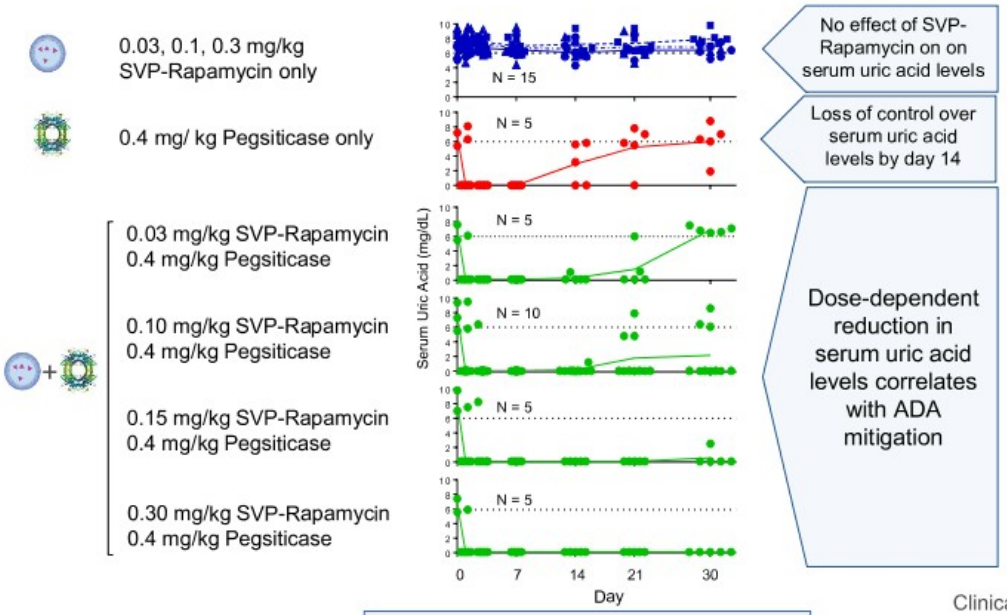


SVP Technology for ADA Mitigation

Biologic	Citation	Status
Pegsiticase	Kishimoto et al., 2016, Nature Nanotech	Phase 2 clinical trial
LMB-100	Mazor et al., 2018, PNAS	Phase 1 clinical trial
AAV	Meliani et al., Nature Commun, in press	Preclinical development
Humira	Kishimoto et al., 2016, Nature Nanotech	Research
Factor VIII	Zhang et al., 2016, Cell Immunol	Research
Myozyme	Lim et al., 2017, Mol Genet Metab Rep	Research

Tolerogenic activity confirmed in multiple independent laboratories

SEL-212 Phase 1b Trial of SVP-Rapamycin Combined with Pegsiticase in Patients with Hyperuricemia



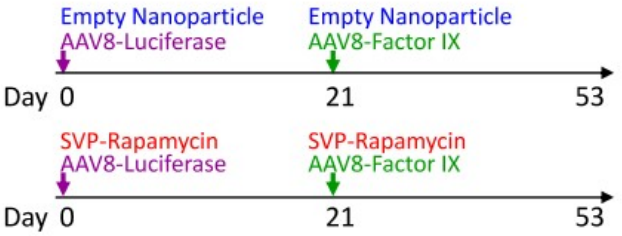
Clinicaltrials.gov NCT02648269

Currently in a Phase 2 multidose trial

Gene Therapy

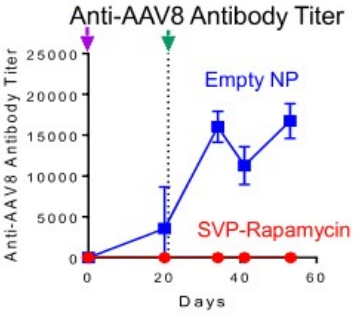
SELECTA

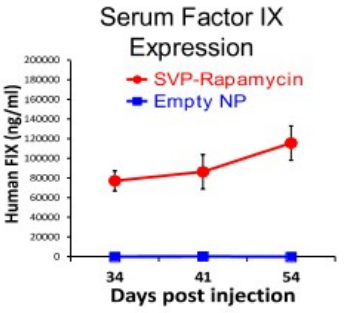
SVP-Rapamycin Enables Successful Vector Re-Administration of AAV Gene Therapy Vector

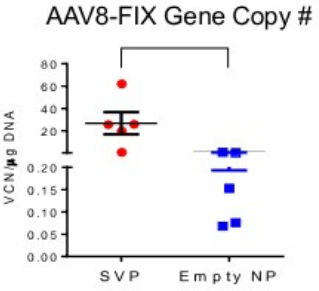


Federico Mingozzi, Ph.D.
Head of Immunology and Liver Gene Transfer Unit
Genethon, France

Currently CSO of Spark Therapeutics





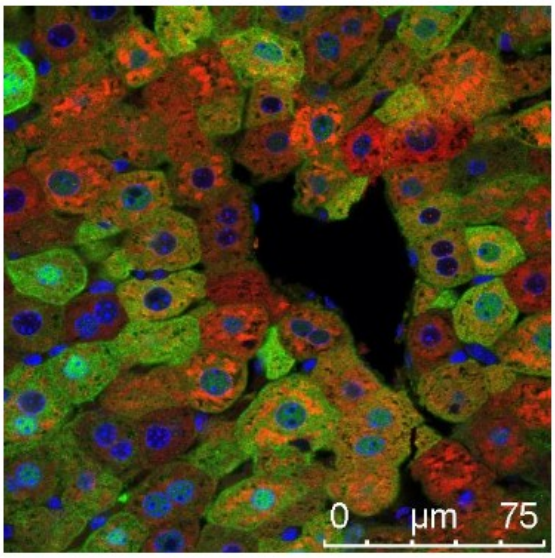


C57BL/6 n=5/group, 4E12vg/kg

Repeat Administration of AAV Targets Additional Hepatocytes in the Liver

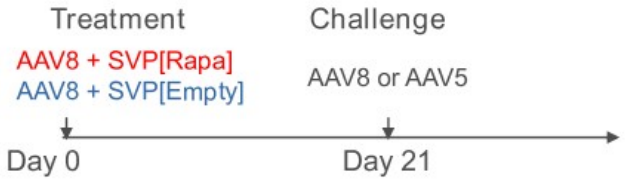
Repeat administration of AAV with SVP-Rapamycin can target different hepatocytes

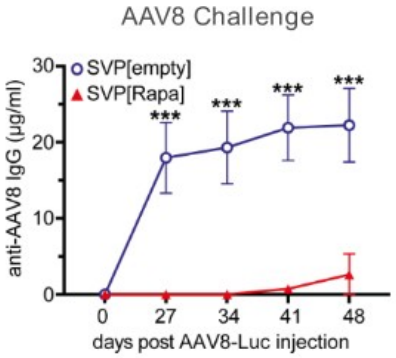
- 1st dose: AAV8-GFP + SVP
- 2nd dose: AAV8-UGT1A1 + SVP

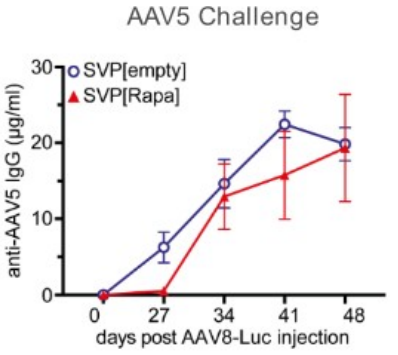


Data generated in collaboration with Dr. Federico Mingozzi, Genethon

Antigen-specificity of SVP-Rapamycin Effects

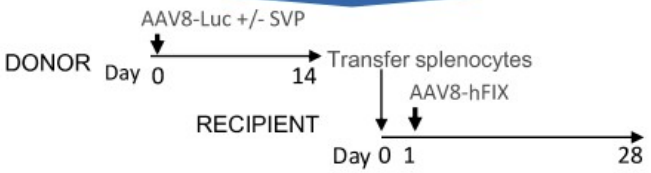




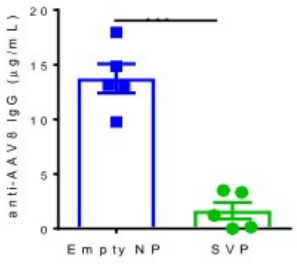


Demonstration of the Role of Regulatory T Cells

Effect can be Transferred to a Recipient

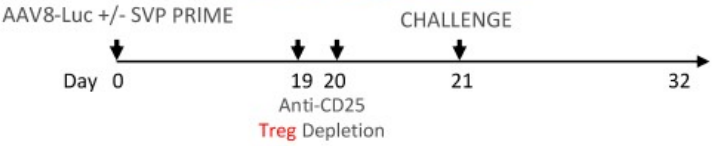


Anti-AAV8 IgG levels in recipient mice (Day +14)

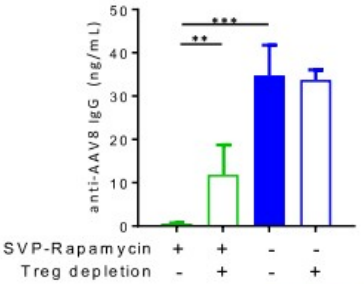


** P < 0.01, *** P < 0.001

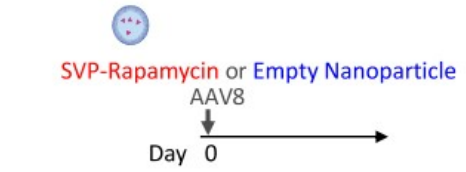
T Reg Depletion Negates Effect

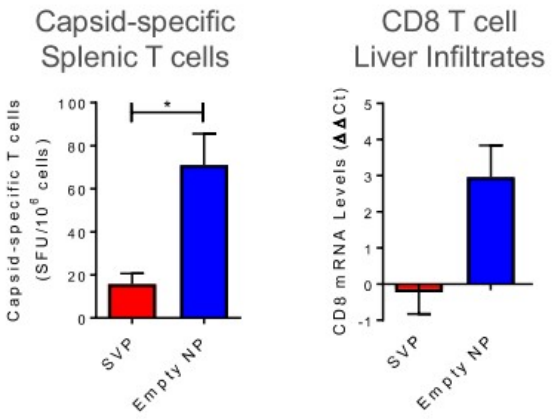


Anti-AAV8 IgG levels (Day 32)



SVP-Rapamycin Inhibits T Cell Responses





Opportunities for Clinical POC in Gene Therapy

- Proprietary programs
  - Methylmalonic acidemia
  - Ornithine transcarbamylase deficiency
- Spark Therapeutics
  - Licensed SVP-Rapamycin for hemophilia A, as well as exclusive options for up to four additional undisclosed genetic targets
- Genethon and the CureCN consortium
  - AAV gene therapy program for treatment of Crigler Najjar
  - Funding for CureCN from EU Horizon 2020 grant

Immune Tolerance Pipeline

Indication	Description	Preclinical	Phase 1	Phase 2
Proprietary ADA Mitigation Programs				
Chronic Severe Gout	SVP-Rapamycin co-administered with pegsiticase (SEL-212)			
Mesothelioma & Pancreatic Cancer	SVP-Rapamycin co-administered with LMB-100			
Methylmalonic Acidemia (MMA)	SVP-Rapamycin co-administered with Anc80 vector			
Ornithine Transcarbamylase Deficiency (OTC)	SVP-Rapamycin co-administered with AAV vector			
ADA Mitigation Program License				
Hemophilia A	SVP-Rapamycin licensed for FVIII gene therapy		Spark THERAPEUTICS	

SELECTA Biosciences

Thank You