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): **January 9, 2017**

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))

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 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 January 2017

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.

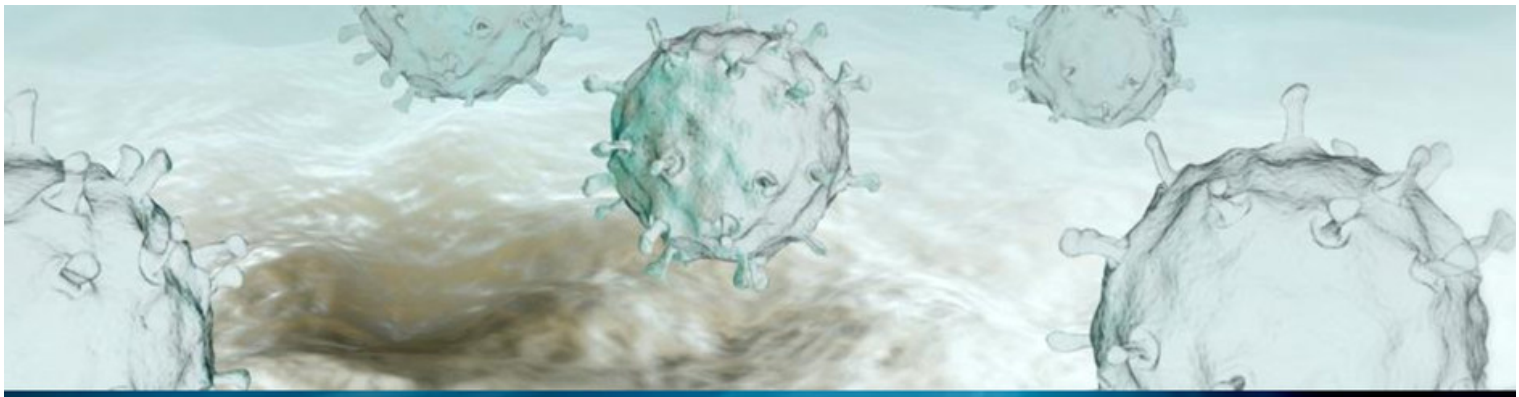
SELECTA BIOSCIENCES, INC.

Date: January 9, 2017

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

EXHIBIT INDEX

Exhibit No.	Description
99.1	Corporate slide presentation of Selecta Biosciences, Inc. dated January 2017



Corporate Presentation

SELECTA Biosciences

January 2017

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 development of its pipeline, the company's expectations about receiving payments from Spark Therapeutics, Inc. under the license agreement, the progress of the Phase 1/2 clinical program of SEL-212 including the number of centers in the Phase 2 clinical trial of SEL-212 and the announcement of data, conference *presentations, the ability of the company's SVP platform, including SVP*-Rapamycin, to mitigate immune response and create better therapeutic outcomes, the potential treatment applications for products utilizing the SVP platform in areas such as gene therapy and oncology, *any future development of the company's discovery programs in peanut allergy and celiac disease, the sufficiency of the company's cash, cash equivalents, investments, and restricted cash and other statements containing the words "anticipate," "believe," "continue," "could," "estimate," "expect," "hypothesize," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "would," and similar expressions, constitute forward*-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including, but not limited to, the following: the uncertainties inherent in the initiation, completion and cost of clinical trials including their uncertain outcomes, the availability and timing of data from ongoing and future clinical trials and the results of such trials, whether preliminary results from a particular clinical trial will be predictive of the final results of that trial or whether results of early clinical trials will be indicative of the results of later clinical *trials, the unproven approach of the company's SVP technology, potential delays in enrollment of patients, undesirable side effects of the company's product candidates, its reliance on third parties to manufacture its product candidates and to conduct its clinical trials, the company's inability to maintain its existing or future collaborations or licenses, its inability to* protect its proprietary technology and intellectual property, potential delays in regulatory approvals, the availability of funding sufficient for its foreseeable and unforeseeable operating expenses and capital expenditure requirements, substantial fluctuation in the price *of its common stock, a significant portion of the company's total outstanding shares* have recently become eligible to be sold into the market, *and other important factors discussed in the "Risk Factors" section of the company's Quarterly Report on Form* 10-Q filed with the Securities and Exchange Commission, or SEC, on November 10, 2016, 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.

SELECTA Biosciences

Pioneering Precision Immune System Communication for Rare and Serious Diseases

SELECTA Biosciences

Clinical-Stage Company focused on addressing the immunogenicity caused by biologic treatments

Proprietary Product Pipeline based on antigen-specific immune modulating technology platform

Lead Program in Phase 2 with initial data expected in the first half of 2017

Significant Partnership & Licensing Potential for enzyme therapies, gene therapies, oncology, etc.

Upside Potential with immune stimulating programs being developed via non-dilutive funding

The Experts Agree Immunogenicity is a Serious Challenge to Biologic Therapy Development

IMMUNOGENICITY'S IMPACT

COMPROMISED EFFICACY
Anti-drug antibody (ADA) formation neutralizes therapeutic benefits

SAFETY RISK
Hypersensitivity reactions can impact patients

UNPREDICTABLE RESPONSE
Changed PK/PD through drug-ADA interaction

"For the gene therapies today in clinical development that apply AAV-vectors systemically, no repeat dose is possible due to neutralizing *antibodies."*

– **Federico Mingozzi, PhD**
INSERM, France

"Immunological responses are a significant risk in CRIM-negative infantile Pompe disease; thus induction of immune tolerance in the naive setting should *strongly be considered."*

– **Priya Kishnani, MD ea**
Duke University

"Hemophilia A patients with inhibitors to Factor VIII replacement therapy are the hardest and most expensive patient *group to treat."*

– **David Scott, PhD**
Uniformed Services University

"Clinical trial results point to a direction in targeted cancer therapy, whereby improved clinical responses might occur through combining immunotoxin therapy with *immune modulation."*

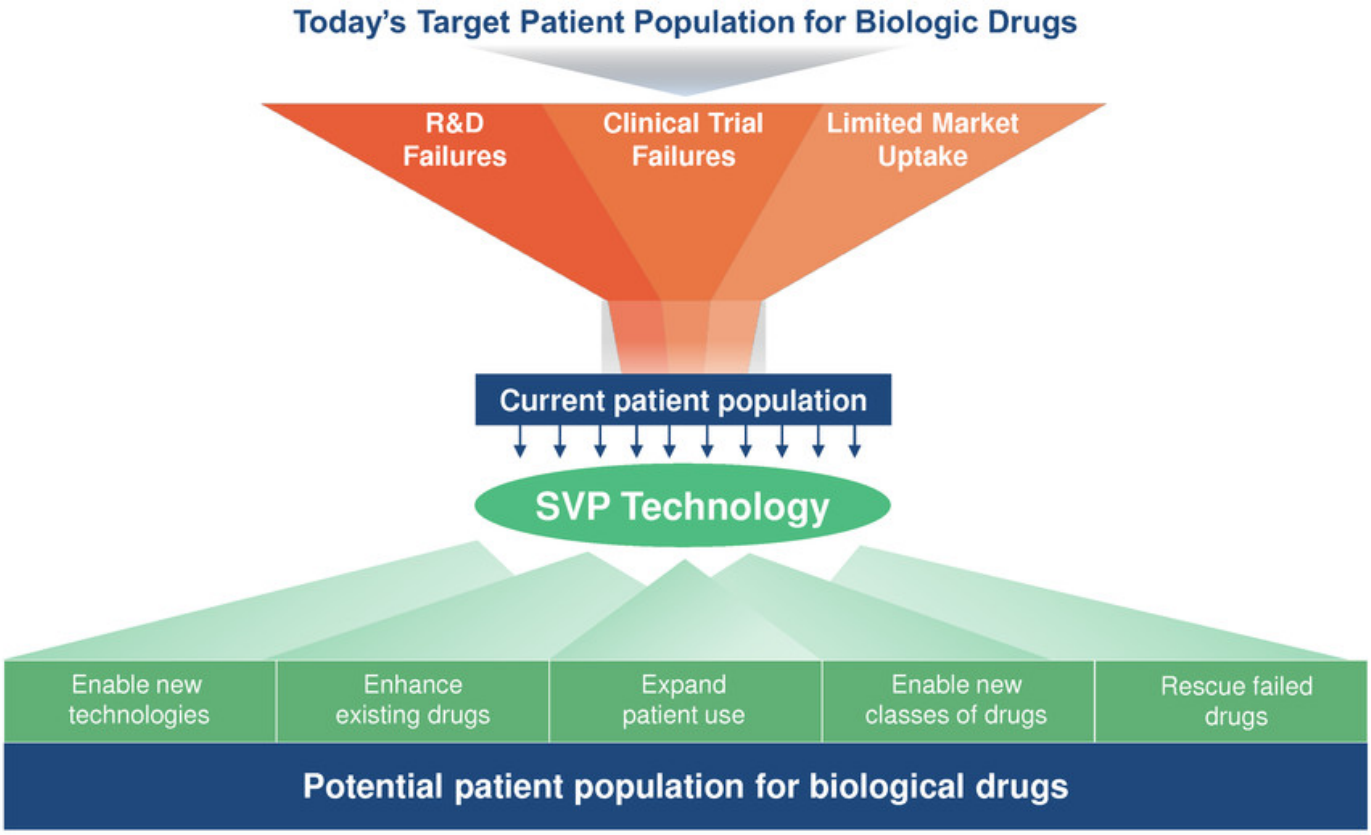
– **Raffit Hassan, MD ea**
Uniformed Services University

"Prophylactic immune tolerance induction should be strongly considered in patients who are at risk of developing immune *responses to ERT."*

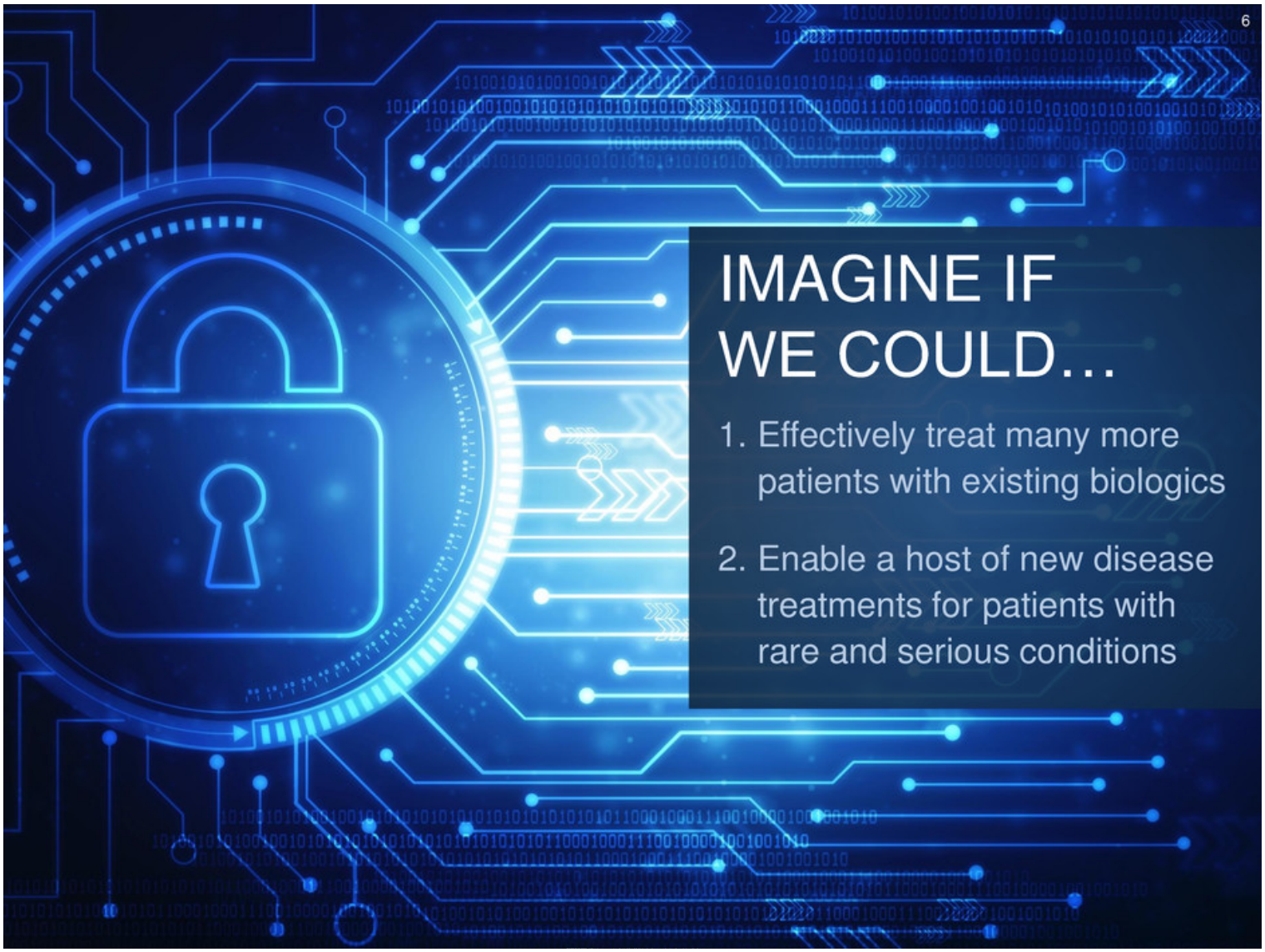
– **Amy Rosenberg, MD**, *Director of the FDA's Office of Biotechnology Products*

SELECTA Biosciences

Our Mission: Unlocking the Full Potential of Biologics



SELECTA Biosciences


IMAGINE IF
WE COULD…
1. Effectively treat many more patients with existing biologics
2. Enable a host of new disease treatments for patients with rare and serious conditions

The Key: Precise Communication with the Immune System

Targeting immune cells

Taken up by dendritic cells, which initiate and regulate immune responses

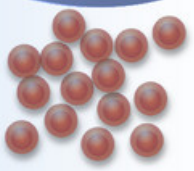
Sending precise instructions

Deliver a message of immune tolerance or activation by controlled release of immunomodulator inside the immune cell

Implementing the message

Activate antigen-specific T cells

Eliciting an amplified response



Induce regulatory T cells to mitigate undesired immune responses

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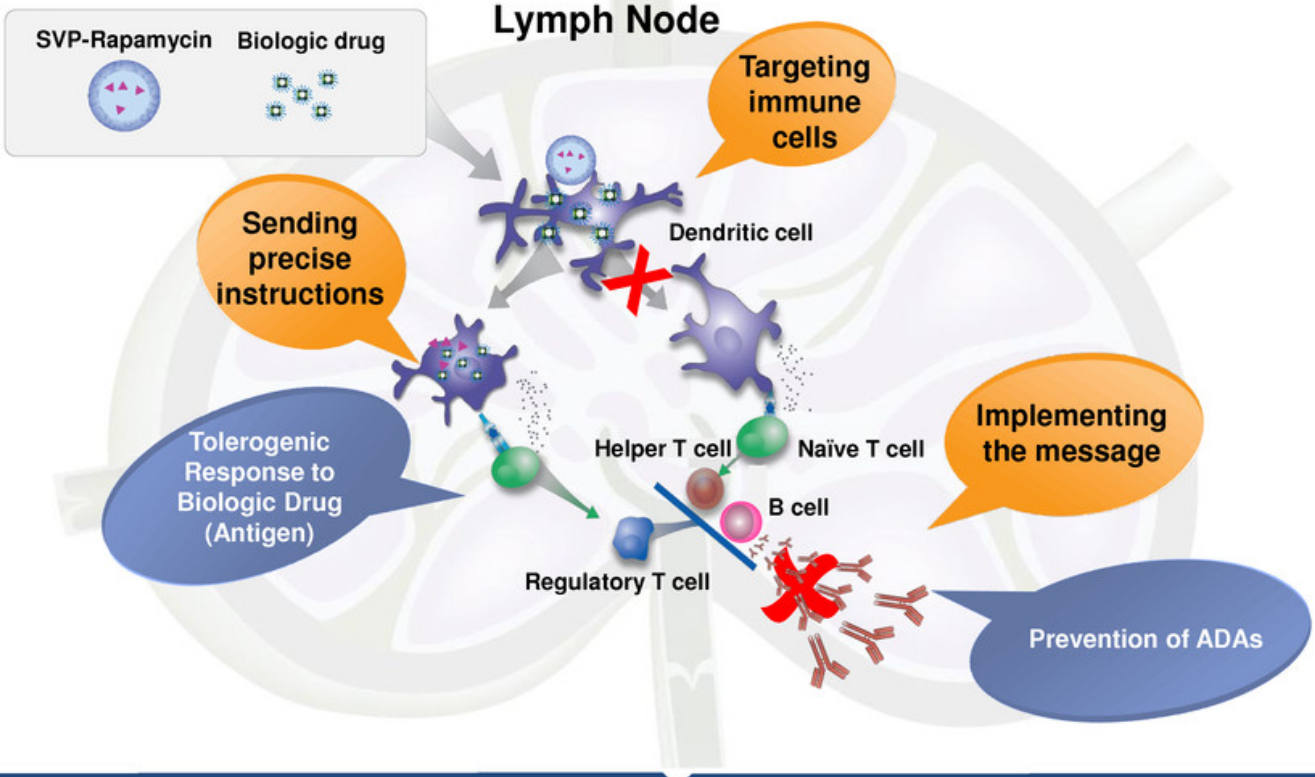
Mitigating the Formation of Anti-Drug Antibodies by Inducing Regulatory T Cells



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

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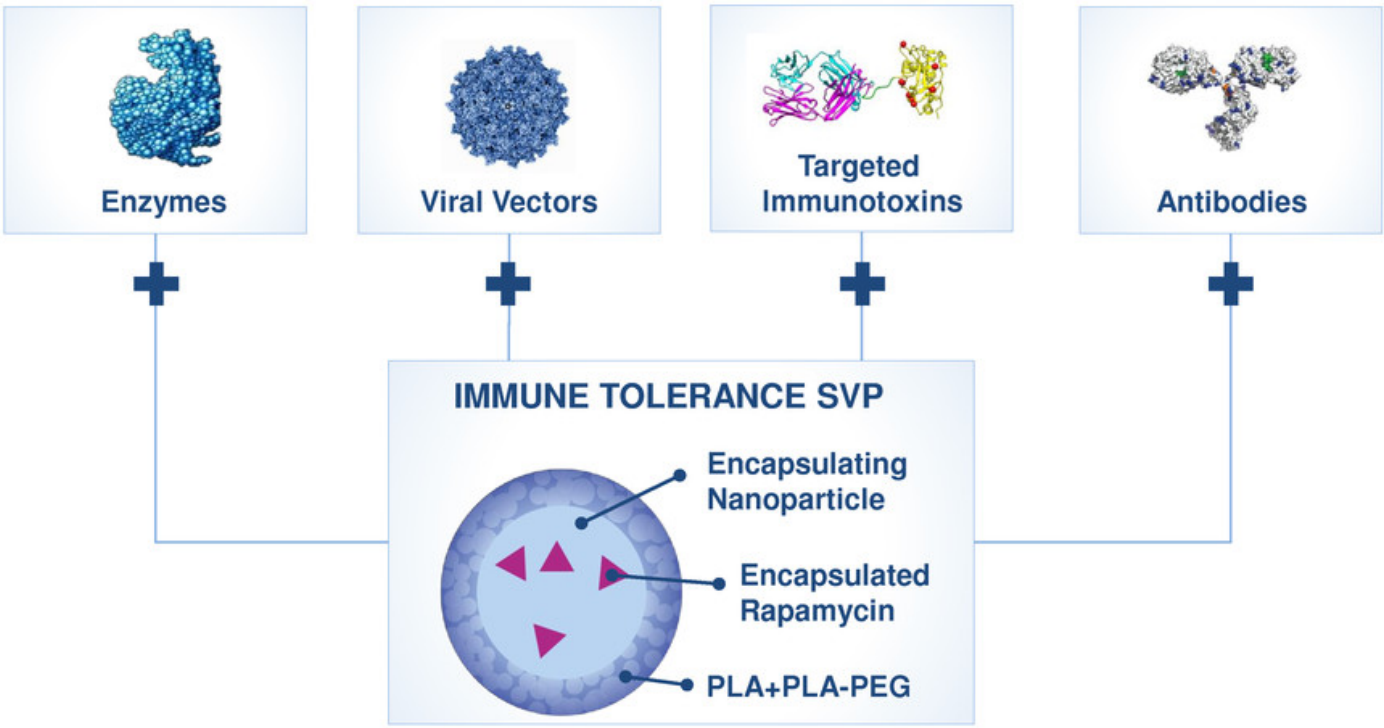
Platform Designed to be Utilized Broadly



SVP-Rapamycin's preclinical, clinical and manufacturing data can be applied across a broad range of product candidates

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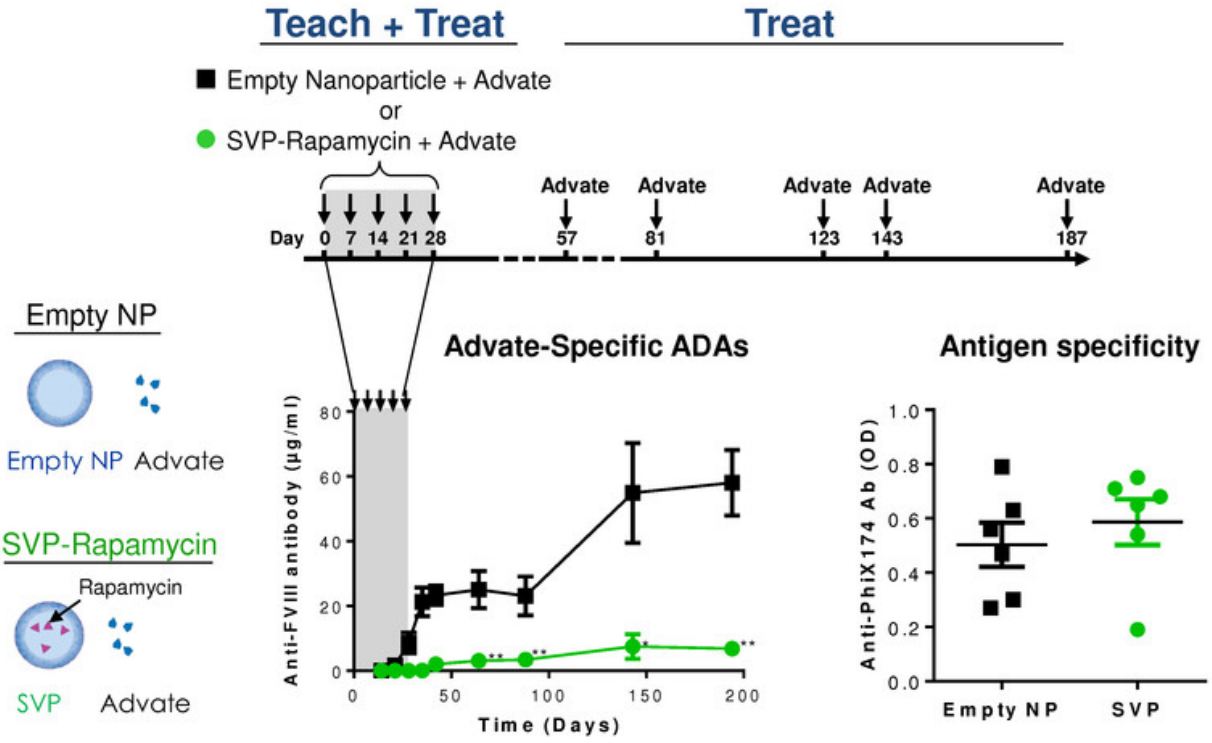
Example of Immune System Education

Antigen-Specific Tolerance Maintained for Over Five Months in Hemophilia A Mice



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Significant Platform Building Opportunity

CURRENT PROPRIETARY PIPELINE

Therapeutic Enzymes	Gene Therapy	Oncology	Other Biologics
SEL-212 Refractory and chronic tophaceous gout	**Methylmalonic Acidemia (MMA) - Anc80 Vector** **Ornithine Transcarbamylase (OTC) Deficiency – AAV Vector**		

POTENTIAL EXPANSION

(proprietary, collaborations and/or licenses)

• Myozyme (Pompe) • IgA Protease • Other ERT	• Additional Anc80 programs • Other gene therapies • Gene editing	• Immunotoxins • Antibody drug conjugates	• Factor VIII • Anti-TNF antibodies • Bispecific antibodies

Proprietary programs accelerate development, increase value, enable expansion

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Product Candidate Selection Framework

Ownership of a biologic product/candidate that can be combined with SVP to generate a solid ROI

Rare and Serious Disease with a high unmet need

Immunogenicity Barrier for target drug/candidate that has underlying potential for efficacy

Clear Clinical and Regulatory Path based upon the strength of pre-clinical data and established clinical endpoints

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Immune Tolerance Pipeline

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


Therapeutic Enzymes
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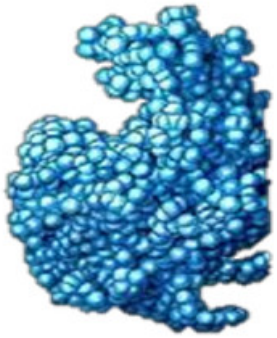
Enzyme Therapy's Immunogenicity Challenges



Potential to treat many rare and serious diseases with enzyme replacement and microbial enzyme therapies

Most are foreign to the patient's immune system and can provoke immune responses

High immunogenicity seen in response to virtually all enzyme replacements for lysosomal storage diseases

No alternative/rescue therapies for patients developing ADAs in most cases

ADAs known to negatively impact therapeutic half-life, activity, cellular localization and/or safety

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Developing SEL-212: The First Non-Immunogenic Uricase Enzyme Product Candidate

Ownership

- In-licensed pegsiticase in 2014; combined with SVP-Rapamycin to form SEL-212

Rare and Serious Disease

- ~160,000 adults with severe gout treated by U.S. rheumatologists
- Debilitating flares and joint-damaging arthritis caused by uric acid deposits; risk of renal and cardiovascular disease

Immunogenicity Barrier

- Uricase is highly effective in breaking down uric acid deposits, but is foreign to the human immune system, causing immunogenicity
- Two approved products (Krystexxa and Elitek) cause neutralizing antibodies in ~60% of patients and carry risk for anaphylaxis

Clear Clinical Path

- Krystexxa approved with less than 500 patients dosed from phase 1-3
- Primary endpoint: serum uric acid level reduction – a robust FDA/EMA-approved biomarker endpoint – can be seen rapidly upon dosing, easy to measure, maintenance strongly correlated with low/negative ADA titers
- Adult patient population with rapid enrollment potential

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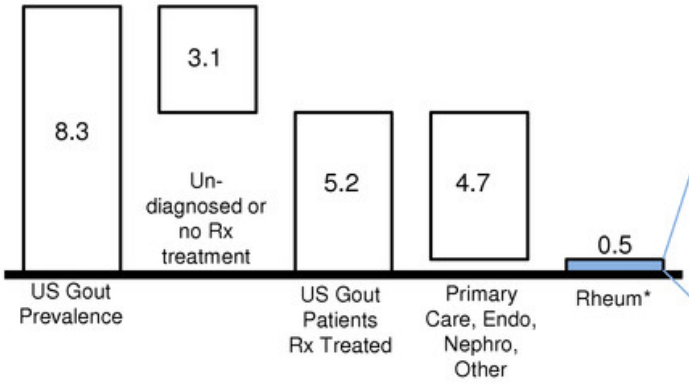
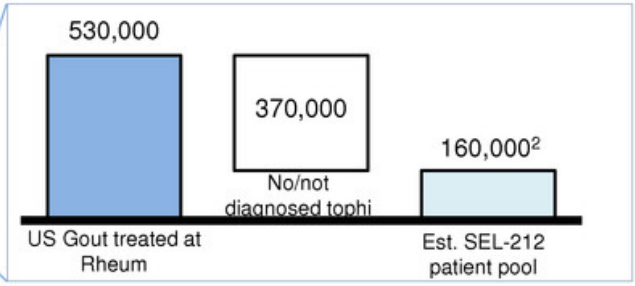
Severe Gout is a Rare and Serious Disease with Substantial Unmet Needs

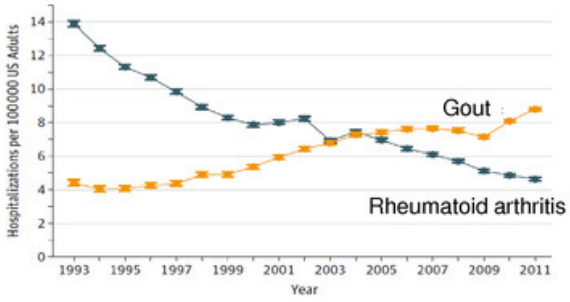
Gout Patient Stocks (million)[1]

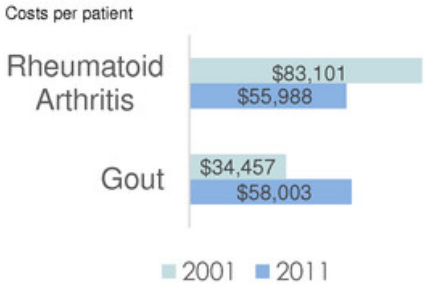


Estimated SEL-212 Target Patient Population[1]



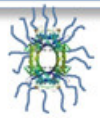
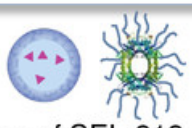
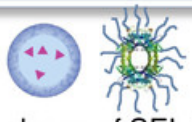
Gout Hospitalizations and Cost Per Patient Have Surpassed RA Hospitalizations[3]





* Rheumatologists see estimated 10% of treated gout patients
(1) Source: IMS, Desk Research, Selecta Rheum interviews, Crystal patient registry
(2) Includes an estimated 50,000 patients with chronic refractory gout
(3) Source: HK Choi JAMA 2016

SEL-212 Phase 1/2 Clinical Program

Trial	Design	Objective	Status
Phase 1a	 • n = 22 • Single dose of pegsiticase • Patients with hyperuricemia	✓ Define effective dose of pegsiticase ✓ Demonstrate formation of ADAs	Trial complete Both goals achieved
Phase 1b	 • n = 63 • Single dose of SEL-212 • Patients with hyperuricemia	Demonstrate that SEL 212: ✓ Mitigates ADAs ✓ Enables prolonged control of uric acid	Patient visits complete Data presented in December 2016
Phase 2	 • n = 36+ • 3 monthly doses of SEL-212; then 2 of pegsiticase alone • Symptomatic gout patients with hyperuricemia	Demonstrate safety, tolerability and ability to reduce serum uric acid after multiple doses of SEL-212	Patient dosing started in October 2016

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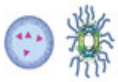
Phase 1b Multicenter U.S. Clinical Trial

Pegsiticase alone (0.4mg/kg)

Pegsiticase alone N=5

Single ascending dose of SVP-Rapamycin

- **0.5 mg/kg** SVP-Rapamycin N=7
- **0.3 mg/kg** SVP-Rapamycin N=7
- **0.1 mg/kg** SVP-Rapamycin N=7
- **0.03 mg/kg** SVP-Rapamycin N=7



Single ascending dose of SVP-Rapamycin combined with 0.4 mg/kg pegsiticase

- **0.3 mg/kg** SEL-212 N=5
- **0.15 mg/kg SEL-212** N=5
- **0.1 mg/kg SEL-212** N=5+5
- **0.03 mg/kg SEL-212** N=5*

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Clinicaltrials.gov NCT02648269

*Excludes exploratory group of 5 patients at 0.03 mg/kg SEL-212

Clinical Activity of SVP-Rapamycin + Pegsiticase

0.4 mg/ kg Pegsiticase only

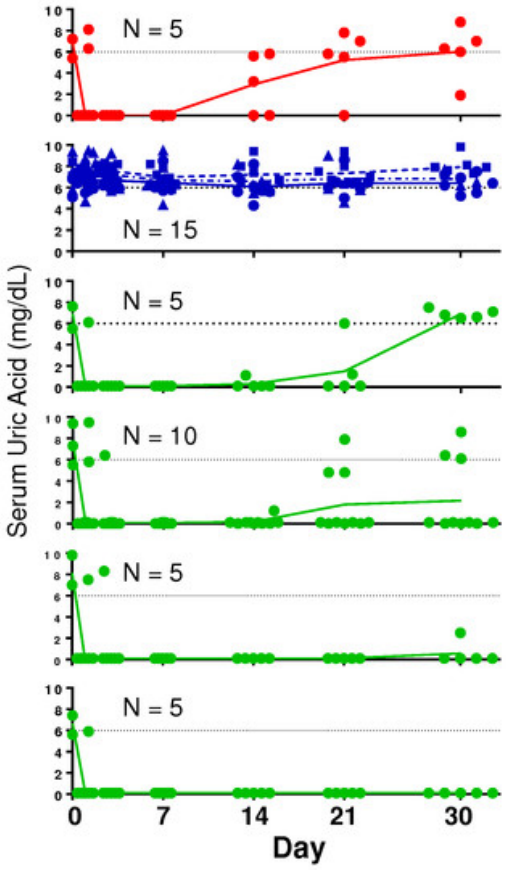
0.03, 0.1, 0.3 mg/kg SVP-Rapamycin only

0.03 mg/kg SVP-Rapamycin
0.4 mg/kg Pegsiticase

0.10 mg/kg SVP-Rapamycin
0.4 mg/kg Pegsiticase

0.15 mg/kg SVP-Rapamycin
0.4 mg/kg Pegsiticase

0.30 mg/kg SVP-Rapamycin
0.4 mg/kg Pegsiticase



Loss of control over serum uric acid levels by day 14

No effect on serum uric acid levels

Dose-dependent reduction in serum uric acid levels

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Current unaudited data

Clinical Activity of SVP-Rapamycin + Pegsiticase

0.4 mg/ kg Pegsiticase only

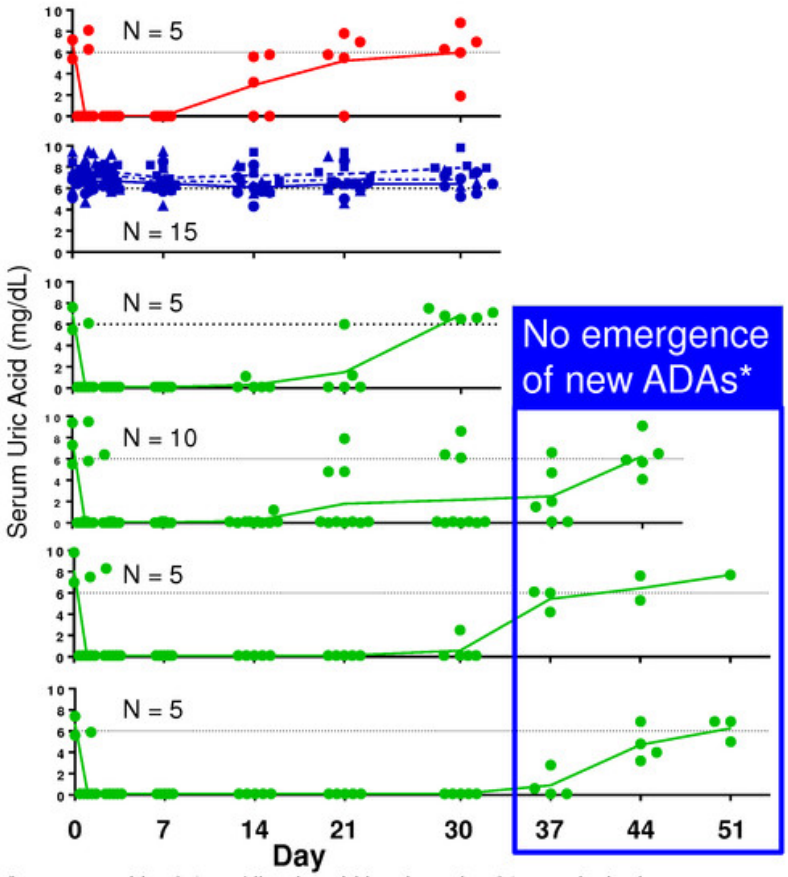
0.03, 0.1, 0.3 mg/kg
SVP-Rapamycin only

0.03 mg/kg SVP-Rapamycin
0.4 mg/kg Pegsiticase

0.10 mg/kg SVP-Rapamycin
0.4 mg/kg Pegsiticase

0.15 mg/kg SVP-Rapamycin
0.4 mg/kg Pegsiticase

0.30 mg/kg SVP-Rapamycin
0.4 mg/kg Pegsiticase



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* Patients in the 0.1, 0.15 and 0.3 mg/kg groups with <0.1 mg/dL uric acid levels at day 21 were invited on a voluntary basis to return for additional observations after 30 days.

Current unaudited data

Day 30 Anti-Uricase Antibody and Serum Uric Acid Levels

Pegsiticase alone

Subject number	Day 30	
	Uric acid (mg/dL)	ADA (Titer)
108-0010	7	1080
103-0015	6	9720
104-0032	1.9	1080
109-0012	6.3	1080
104-0036	8.8	9720

0.1 mg/kg SVP-Rapamycin + Pegsiticase

Subject number	Day 30	
	Uric acid (mg/dL)	ADA (Titer)
107-0018	<0.1	Neg
107-0021	<0.1	Neg
104-0027	6.1	29160
108-0008	<0.1	120
102-0005	<0.1	Neg
111-0018	<0.1	120
111-0022	8.6	360
111-0028	<0.1	Neg
111-0029	6.4	9720
106-0004	<0.1	Neg

0.15 mg/kg SVP-Rapamycin + Pegsiticase

Subject number	Day 30	
	Uric acid (mg/dL)	ADA (Titer)
111-0043	<0.1	Neg
111-0045	<0.1	Neg
104-0091	<0.1	Neg
104-0094	<0.1	Neg
111-0049	2.5	9720

0.3 mg/kg SVP-Rapamycin + Pegsiticase

Subject number	Day 30	
	Uric acid (mg/dL)	ADA (Titer)
107-0027	<0.1	Neg
107-0028	<0.1	Neg
104-0050	<0.1	Neg
104-0060	<0.1	120
103-0019	<0.1	Neg

Neg = Negative

SVP-Rapamycin-treated patients negative for anti-uricase IgG were also negative for anti-PEG antibodies

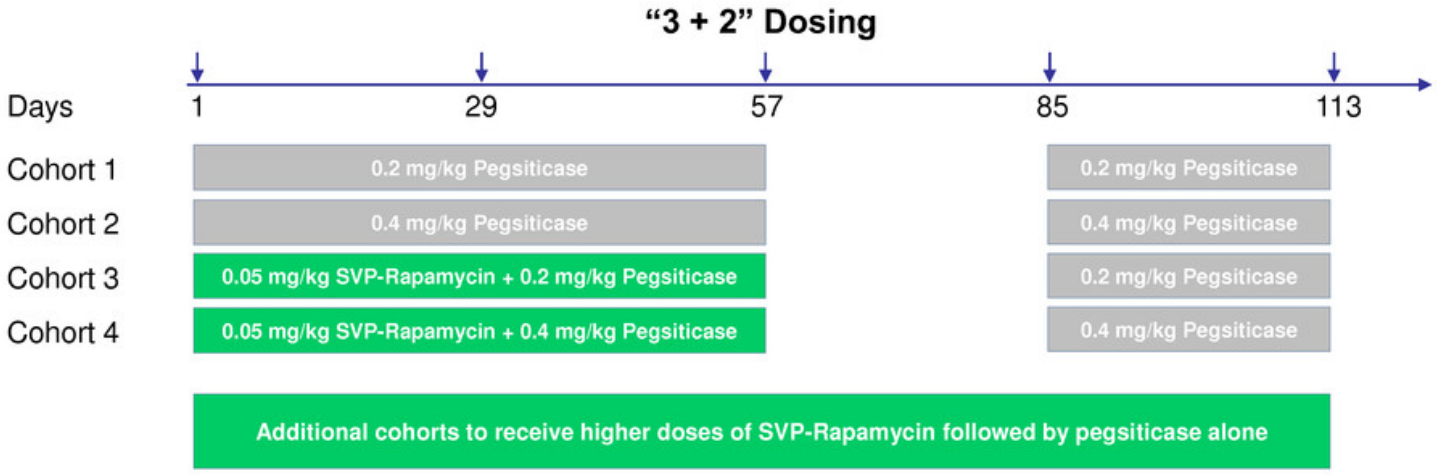
SELECTA Biosciences

Current unaudited data

Phase 1a and Phase 1b Safety Overview

- Pegsiticase only
  - Generally well tolerated at all dose levels
- SVP-Rapamycin alone
  - 17x dose range tested to determine maximum tolerated dose (MTD)
  - At 0.5 mg/kg, two SAEs (stomatitis)
    - Known side effect of rapamycin
    - Resolved without further issue
    - Set 0.3 mg/kg as MTD
- SEL-212 (combination of SVP-Rapamycin and pegsiticase)
  - Generally well tolerated at clinically active dose levels (0.1, 0.15 and 0.3 mg/kg)
    - At 0.1 mg/kg there were two SAEs
      - Patient with grade 2 rash led to classification of SAE due to ER visit; resolved without further issue
      - Second SAE classified as not related to study drug by medical monitor
  - No SAEs at 0.15 and 0.3 mg/kg

Phase 2 Trial Ongoing with Initial Data Expected in 1H17



Primary Endpoints:	Safety and tolerability of multiple doses of SEL-212 and pegsiticase alone Reduction of serum uric acid levels
Secondary Endpoints:	Reduction in uricase-specific ADAs and pegsiticase-specific ADAs
Exploratory Endpoints:	Change in tophi volume as measured by DECT imaging Gout flares

Enrolling 36+ Patients in up to 15 U.S. Centers

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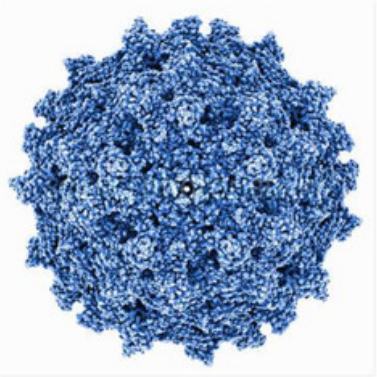
Gene Therapy
SELECTA

Gene Therapy's Immunogenicity Challenges

AAV-based gene therapy is maturing but restricted by several types of immunogenicity, limiting application breadth



1. **Pre-existing antibodies to AAV vector** are an exclusion criteria for up to 50% of patients in most trials

2. **Cellular immune responses** associated with loss of transgene expression observed in recently reported hemophilia B trials, limiting maximum tolerated dose

3. **Re-dosing is not possible** due to the formation of ADAs limiting the duration of treatment effect and the number of diseases with viable products

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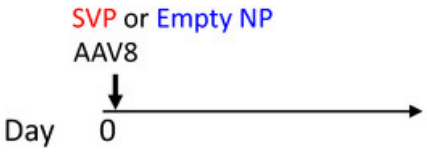
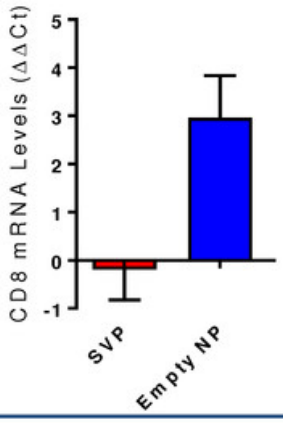
Mitigating AAV Immunogenicity and Enabling Repeat Dosing in Mice…

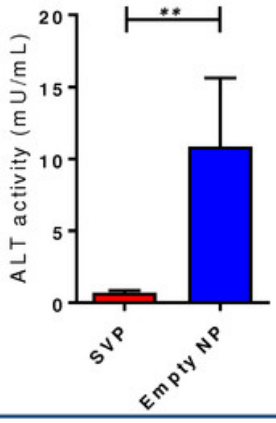
Inhibiting Liver Inflammation with First Dose

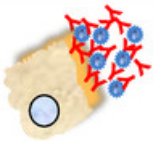


CD8 T cell Liver Infiltrates

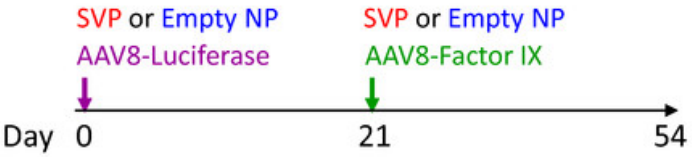


Serum ALT Enzyme Levels

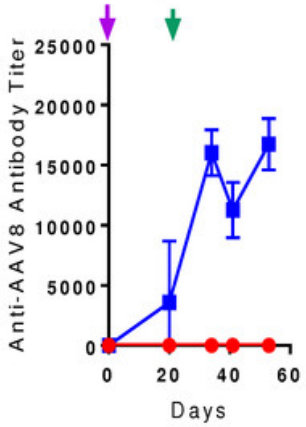




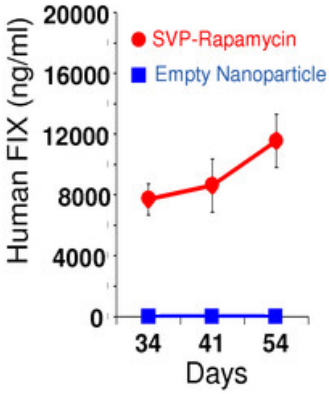
Enabling Repeat Dosing by Preventing ADAs



Anti-AAV8 Antibody Titer



Serum Factor IX Expression



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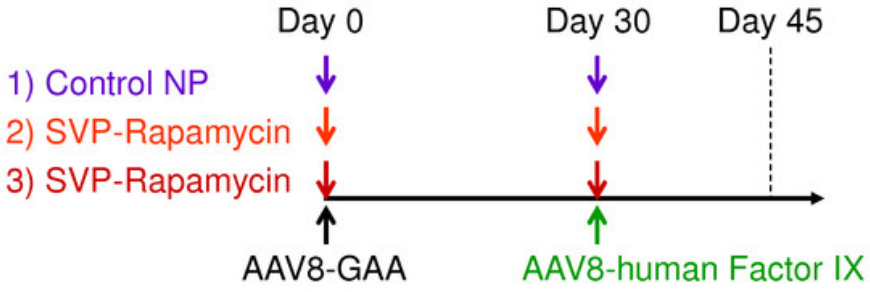
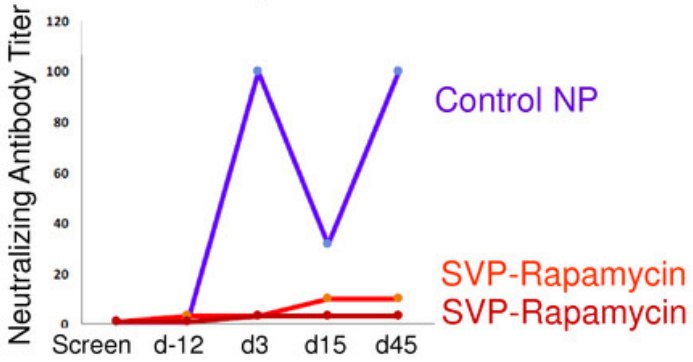
Data generated in collaboration with Dr. Federico Mingozzi

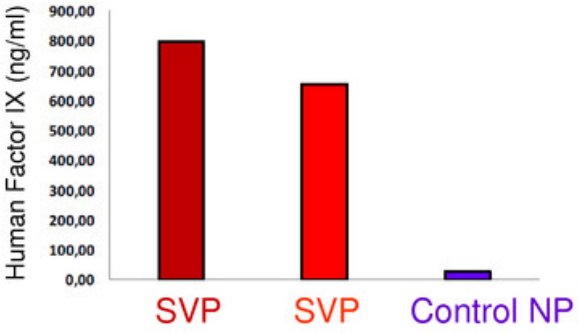
…and Non-Human Primates



AAV8-Specific ADAs



Day 45 Serum Human Factor IX



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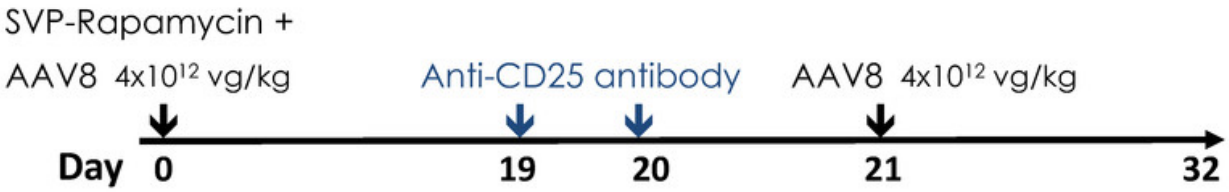
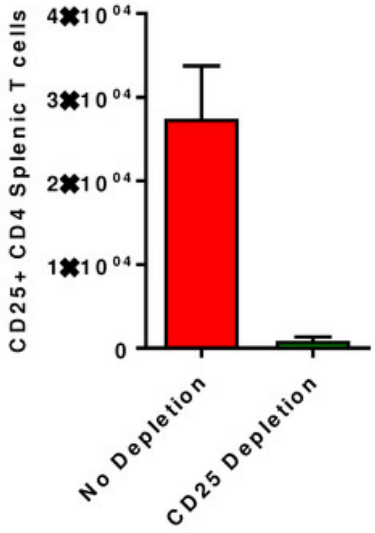
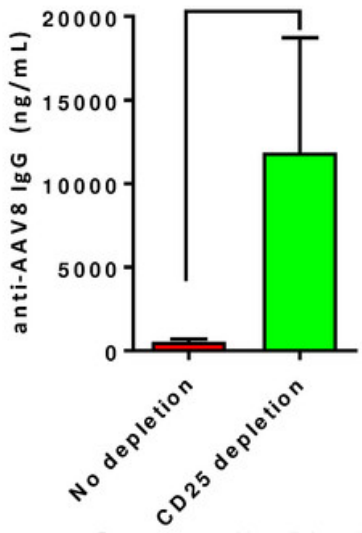
Depletion of Regulatory T Cells with Anti-CD25 Antibody Restores Anti-AAV8 Antibody Response



Splenic CD25+ CD4 T cells



Anti-AAV8 Antibody



Data generated in collaboration with Dr. Federico Mingozzi

Developing a Repeat Dose Gene Therapy for Ornithine Transcarbamylase (OTC) Deficiency

Ownership

- Proprietary AAV-based gene therapy combined with SVP-Rapamycin

Rare and Serious Disease

- Inborn error of metabolism; largest disease in urea cycle disorders
- No effective treatment today; causes accumulation of toxic ammonia levels in 1 in 15,000-60,000 worldwide[1]
- Onset in early infancy; significantly reduces life expectancy

Immunogenicity Barrier

- Infants require treatment prior to metabolic crisis to avoid CNS effects; retreatment likely needed as patients grow
- Repeat gene therapy dosing impossible due to neutralizing antibodies to viral capsid
- Cellular immune responses to the liver are an additional potential barrier

Clear Clinical Path

- Engineered AAV vector optimized for primates
- Contracted development with Genethon and Intl. Centre for Genetic Engineering and Biotech: animal models, transgene optimization and vector development expertise
- Clinical endpoints: OTC enzyme, ammonia and urea levels

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1. Source: NIH

Developing the Only Known Gene Therapy Candidate for Methylmalonic Acidemia (MMA)

Ownership

- Proprietary Anc80-based gene therapy combined with SVP-Rapamycin

Rare and Serious Disease

- Inborn error of metabolism; largest disease in family of acidemias
- No effective treatment today; causes methylmalonic acid accumulation in 1 in 25,000-48,000 worldwide[1]
- Onset in early infancy; significantly reduces life expectancy

Immunogenicity Barrier

- Infants require treatment prior to metabolic crisis to avoid CNS effects; retreatment likely needed as patients grow
- Repeat gene therapy dosing impossible due to neutralizing antibodies to viral capsid
- Cellular immune responses to the liver are an additional potential barrier

Clear Clinical Path

- Anc80 designed to have limited cross-reactivity with pre-existing AAV antibodies
- Collaboration with NIH and Mass Eye & Ear: Access to validated animal models, gene therapy development expertise and patients
- Clinical endpoints include: Methylmalonyl-CoA mutase and MMA levels

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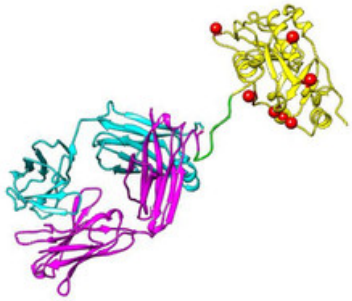
1. Source: NIH

License Agreement with Spark Therapeutics

- Announced in December 2016
- Provides Spark Therapeutics with exclusive worldwide rights to Selecta's SVP platform technology for up to five gene therapy targets.
- Initial focus on combination of SVP with SPK-8011, Spark's clinical Hemophilia A gene therapy program
- Among the largest gene therapy and SMID-cap to SMID-cap biotech deals announced to date
- Subject to the terms of the license agreement, Spark agreed to pay to Selecta:
  - $30 million of cash payments and investments in Selecta equity, of which $15 million has already been paid
  - Up to $430 million in milestone payments for each target
  - Mid-single to low-double-digit royalties on worldwide annual net sales of any resulting commercialized gene therapy


Oncology

Oncology's Immunogenicity Challenges



Biologic therapies required to target tumor cells and mount a strong attack

Several intermittent treatment cycles usually required to halt or reverse tumor growth

ADA issues common upon initial treatment cycle

Clinical trial use of global immunosuppressants may not be sufficiently effective to prevent ADAs

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Developing a Highly Potent Recombinant Pseudomonas Immunotoxin Targeting Mesothelin

Ownership

- Collaboration ongoing; now in licensing discussions

Rare and Serious Disease

- All mesotheliomas (~3,000 annual U.S. diagnoses[1]) and pancreatic cancers (~50,000) express mesothelin; high percentage of ovarian, lung, breast cancers
- Certain solid tumors remain hard to treat and have remained evasive to immunotherapy approaches

Benefit from Immunogenicity Removal

- LMB-100 induces neutralizing antibodies upon first dose in almost all patients, limiting dosing to one administration cycle; insufficient to control tumor
- Global immunosuppressants ineffective in vast majority of patients
- SVP allows 3+ treatment cycles in pre-clinical models, restoring LMB-100 benefits

Clear Clinical Path

- LMB-100 and SVP-Rapamycin both in the clinic today in separate trials
- LMB-100 in NCI-sponsored clinical trials of mesothelioma and pancreatic cancer
- Clinical studies combining LMB-100 and SVP-Rapamycin may focus on overall and progression free survival and anti-LMB-100 antibodies

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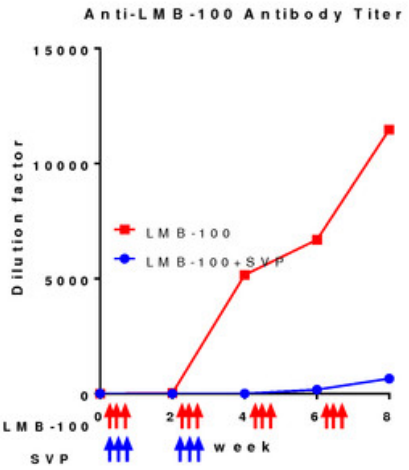
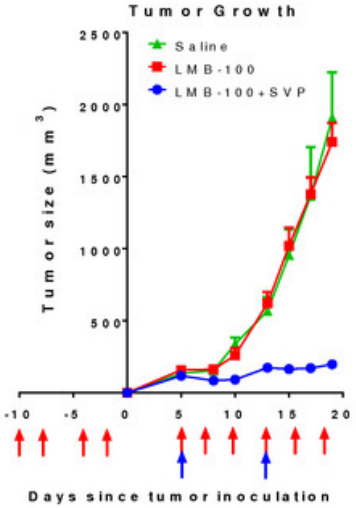
1. Source: American Cancer Society

Preclinical Data Supports the Benefits of SVP-Rapamycin + LMB-100 Combination Therapy

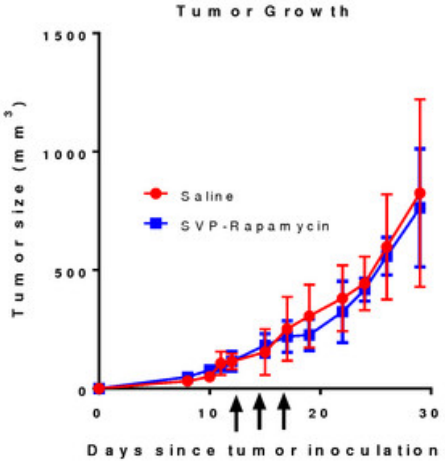
Prevents formation of anti-drug antibodies



Restores LMB-100's anti-tumor response



SVP alone does not accelerate tumor growth



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Immune Tolerance Pipeline

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

Upside Potential With Selecta's Allergy, Autoimmune and Immune Activation Pipeline

Indication	Description	Preclinical	Phase 1	Phase 2
Allergies and Autoimmune Programs				
Peanut Allergy	SVP-adjuvant and SVP-food allergen			
Celiac Disease	SVP-Rapamycin and SVP-gluten			
Type 1 Diabetes	SVP-Rapamycin and SVP-insulin			
Immune Activation Programs				
Smoking Cessation & Relapse Prevention	SVP-adjuvant and SVP-nicotine (SEL-070)			
HPV-associated Cancer	SVP-adjuvant and SVP-HPV antigen (SEL-701)			
Malaria	SVP-adjuvant and SVP-malaria antigens			

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Q3 Financial Overview

(In thousands, except share and per share data)	For the Quarter Ended	
	September 30, 2016	September 30, 2015
Grant & Collaboration Revenue	$1,048	$1,607
Research & Development Expenses	6,021	5,483
General & Administrative Expenses	2,495	2,195
Net Loss Attributable to Common Stockholders	($7,728)	($7,561)
Net Loss Per Basic Share	($0.43)	($3.50)
Wtd. Avg. Common Shares Outstanding – Basic & Diluted	18,108,014	2,159,658

(In thousands)	As of	
	September 30, 2016	June 30, 2016
Cash, Cash Equivalents, Marketable Securities, Restricted Cash	$79,927	$85,271

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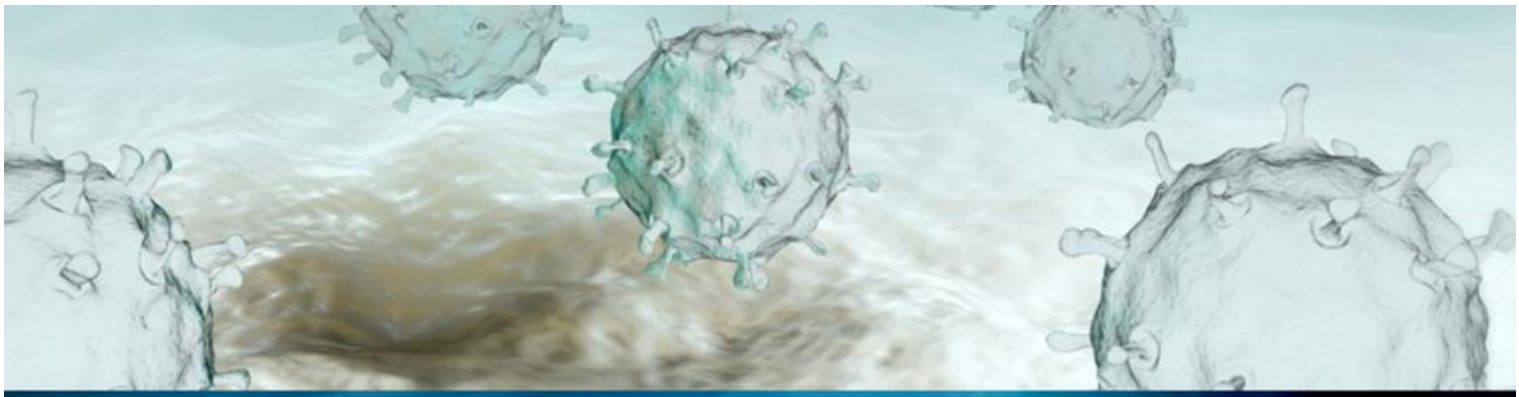
Biosciences



SVP Peanut Allergy Program

January 2017

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 development of its pipeline, the company's expectations about receiving payments from Spark Therapeutics, Inc. under the license agreement, the progress of the Phase 1/2 clinical program of SEL-212 including the number of centers in the Phase 2 clinical trial of SEL-212 and the announcement of data, conference *presentations, the ability of the company's SVP platform, including SVP*-Rapamycin, to mitigate immune response and create better therapeutic outcomes, the potential treatment applications for products utilizing the SVP platform in areas such as gene therapy and oncology, *any future development of the company's discovery programs in peanut allergy and celiac disease, the sufficiency of the company's cash, cash equivalents, investments, and restricted cash 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 conduc*t *its clinical trials, the company's inability to maintain its existing or future collaborations or licenses, its inability to* protect its proprietary technology and intellectual property, potential delays in regulatory approvals, the availability of funding sufficient for its foreseeable and unforeseeable operating expenses and capital expenditure requirements, substantial fluctuation in the price *of its common stock, a significant portion of the company's total outstanding shares* have recently become eligible to be sold into the market, *and other important factors discussed in the "Risk Factors" section of the company's Quarterly Report on Form* 10-Q filed with the Securities and Exchange Commission, or SEC, on November 10, 2016, 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.

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Rationale for Selecta's Peanut Allergy Program

Growing Unmet Need: Prevalence has increased ~4-fold over last 20 years, affecting 1.4% of children in US

Potential Life-Threatening Anaphylactic Responses

High Unmet Need: No available therapies; only approach today is peanut avoidance

Expansion Opportunities: Potential to address other allergies by combining SVP-Rapamycin with SVP-encapsulated allergens

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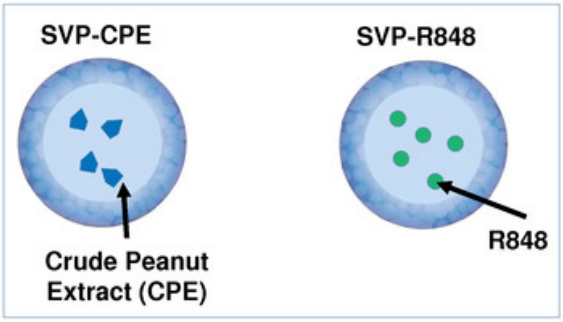
Treating Allergies with Synthetic Vaccine Particles (SVP) by Inducing Immune Switching

SVP Allergy Program*

- **Immunology of allergies**
  - Th2 effector T cell mediated disease with generation of allergen-specific IgE antibodies that cause mast cell activation
  - Th2 to Th1 switch mechanism promotes the formation of innocuous allergen-specific IgG antibodies while reducing IgE antibodies
- **SVP approach**
  - Robust switch mediated by SVP-R848, which encapsulates potent Th1 polarizing adjuvant R848 (Resiquimod) leading to a strong IgG response while minimizing off-target effects
  - Encapsulated Crude Peanut Extract (SVP-CPE) to elicit an antigen-specific response and shield patient from systemic exposure to peanut allergen
  - Approach could be replicated for other food and air-borne allergies

SVP-Immune Switching Particles SVP-CPE & SVP-R848



SVP-R848 was generally well tolerated in a phase 1 clinical nicotine vaccine trial for smoking cessation

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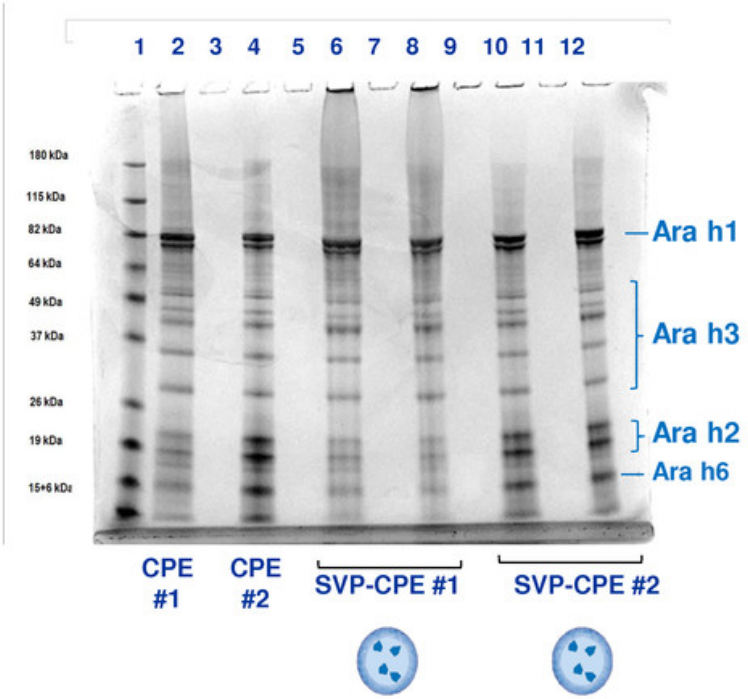
* Based on preclinical data

SVP Encapsulation of Crude Peanut Extract Reproducibly Maintains Representation of Major Allergens

Major peanut allergen proteins contained in Crude Peanut Extracts (CPE): Ara h1, Ara h2, Ara h3, and Ara h6



Lane	Sample
1	MW standards
2	CPE lot #1
4	CPE lot #2
6	SVP-CPE (lot #1)
8	SVP-CPE (lot #1)
10	SVP-CPE (lot #2)
12	SVP-CPE (lot #2)

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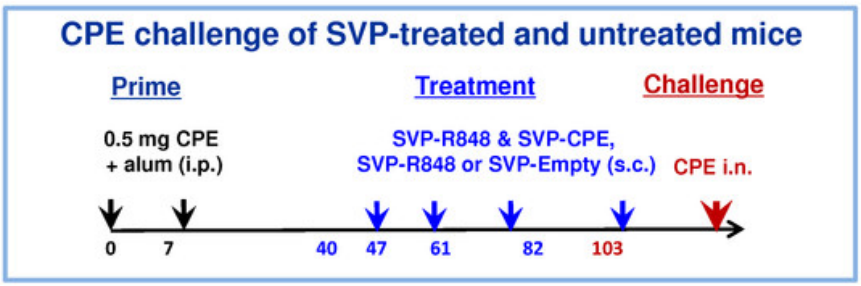
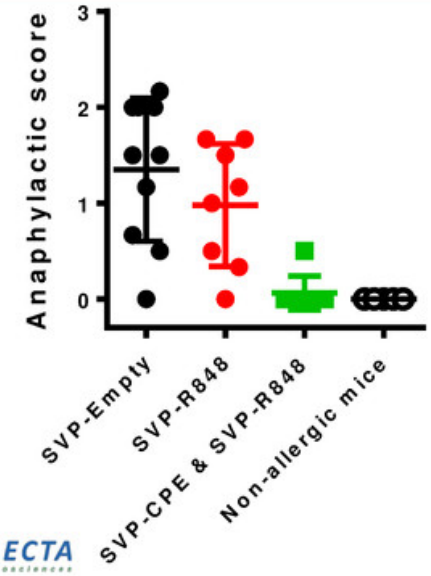
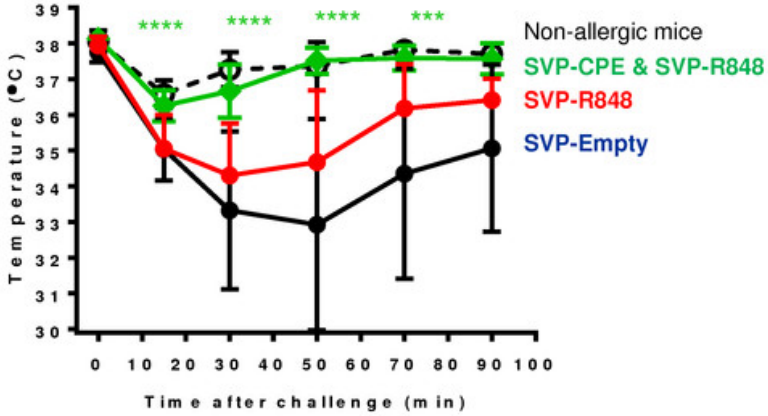
Therapeutic SVP Treatment Inhibits Systemic Anaphylaxis in Peanut Allergy Models



Systemic Anaphylaxis



Body Temperature



CPE dose: <1µg in SVP-CPE

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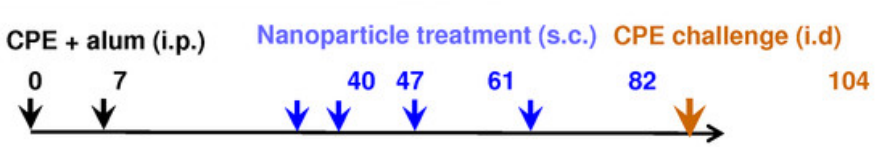
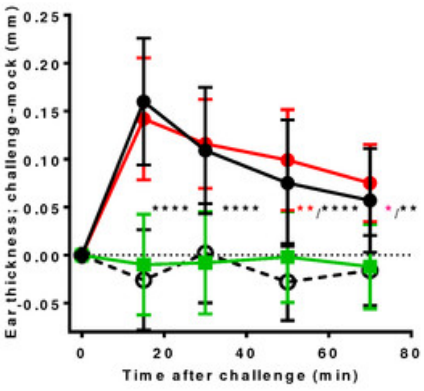
Activity of SVP in a Peanut-Specific Cutaneous Anaphylaxis Model

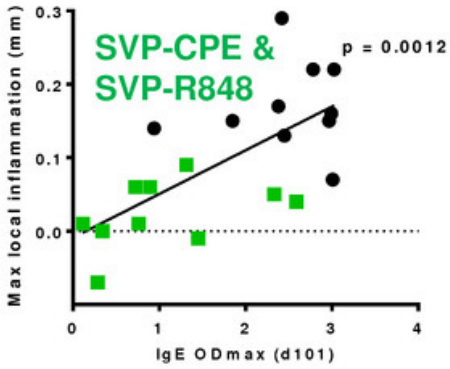


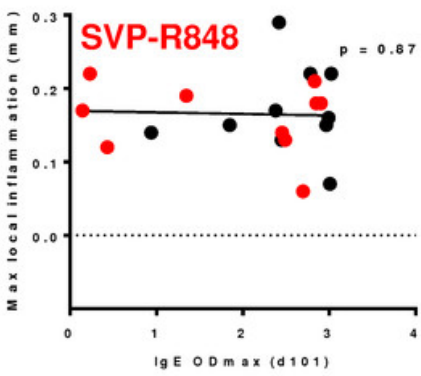
- No treatment
- SVP-R848
- SVP-CPE & SVP-848
- No sensitization

Peanut-specific cutaneous anaphylaxis



Correlation of cutaneous anaphylaxis and peanut-specific IgE





- SVP-CPE & SVP-R848 but not SVP-R848 inhibits peanut-specific cutaneous anaphylaxis and IgE
- <1µg of CPE encapsulated in SVP combined with SVP-R848 sufficient for therapeutic efficacy

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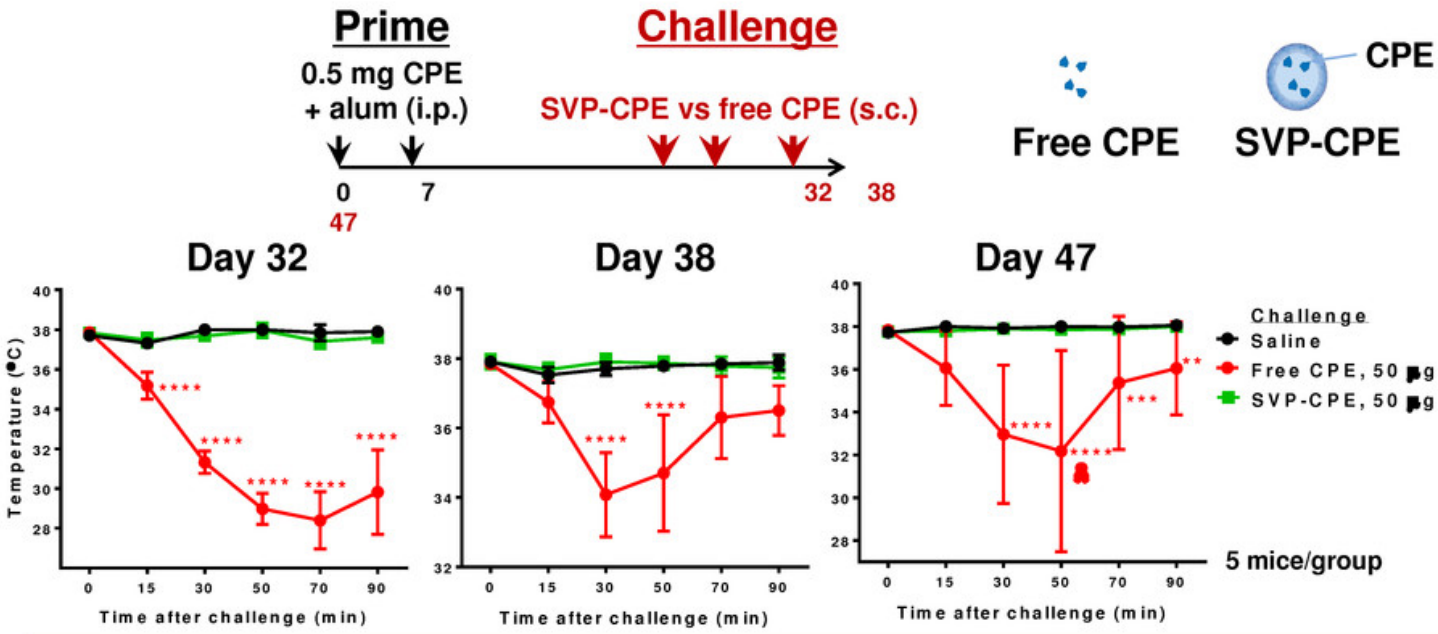
SVP-CPE Does Not Induce Anaphylaxis Even at >50x Higher Dose than Required for Efficacy

CPE-sensitized mice consecutively challenged with free CPE vs. SVP-CPE



- <1µg of CPE encapsulated in SVP was sufficient for therapeutic efficacy in peanut allergy models
- To demonstrate the safety of SVP-CPE, a >50 times higher dose of CPE (50µg) was administered
- SVP-CPE was safe at 50µg of CPE whereas 50µg of free CPE led to anaphylaxis in sensitized animals

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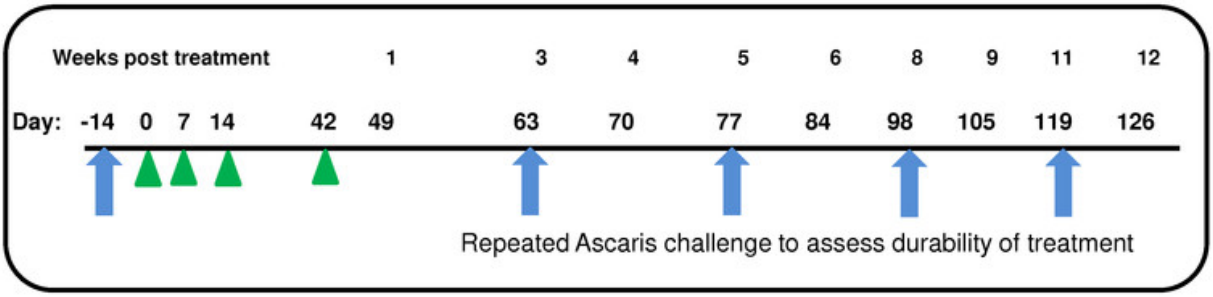
A Non-Human Primates (NHP) Model of Allergy: Background Information

- Goal to translate findings in rodents to non-human primates (NHP)
- No NHP peanut allergy available
- However, NHPs that are naturally allergic to Ascaris suum, a parasite, are available. The Ascaris model was used to validate findings of the work done in mice with peanut allergies
  - Encapsulation of Ascaris (SVP-Ascaris) using the same method as for SVP-CPE
  - Intranasal challenge with Ascaris results in constriction of nasal passage
  - Nasal constriction measured by acoustic rhinometry
  - NHPs have been used by Sanofi to test various therapeutics in multiple allergy studies over many years
  - After 8-11 weeks, NHPs are expected return to a baseline allergic state (~20-30% of normal rhinometry after i.n. challenge)
  - Once back at baseline, NHPs are made available for a new treatment cycle

Study Design for NHP Model of Ascaris-Mediated Allergic Rhinitis

Colony of 12 ascaris-allergic NHPs
Latin square design with 4 treatment groups. Each group of NHPs rotated through all treatments in successive cycles (4 cycles)

- High dose 60 µg SVP-R848
- High dose 60 µg SVP-R848 + nanoparticle-encapsulated Ascaris extract (SVP-Ascaris)
- Low dose 12µg SVP-R848
- Low dose 12 µg SVP-R848 + nanoparticle-encapsulated Ascaris extract (SVP-Ascaris)



Intranasal ascaris challenge followed by acoustic rhinometry. Measurements Days: -14, 63, 77, 98 & 119

Subcutaneous Treatment: (Days 0, 7, 14, & 42) with SVP-R848 or SVP-Ascaris & SVP-R848

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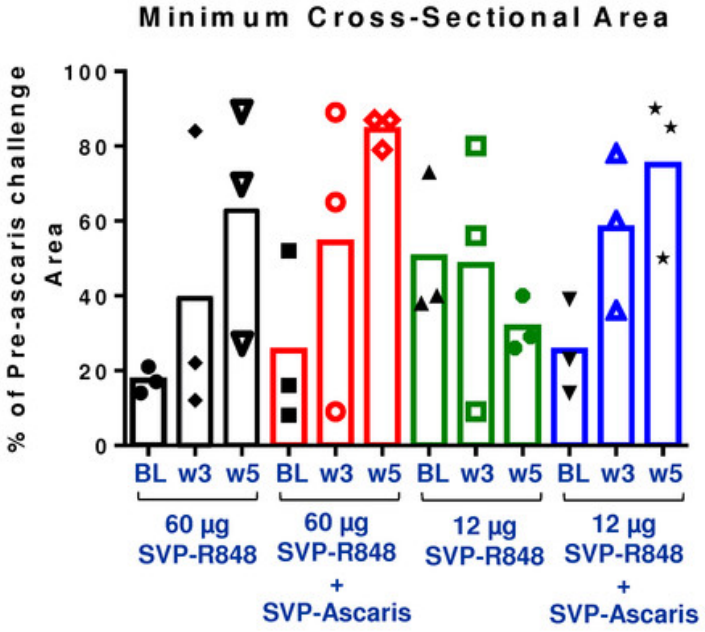
SVP-Treated NHPs Showed Improved Rhinometry Scores at 5 Weeks After Treatment



- Nasal airway constriction in response to intranasal ascaris challenge was measured at baseline (BL)
- NHPs received 4 treatments with nanoparticles and then challenged with ascaris i.n. at 3 weeks (3w) and 5 weeks (5w) after the last treatment

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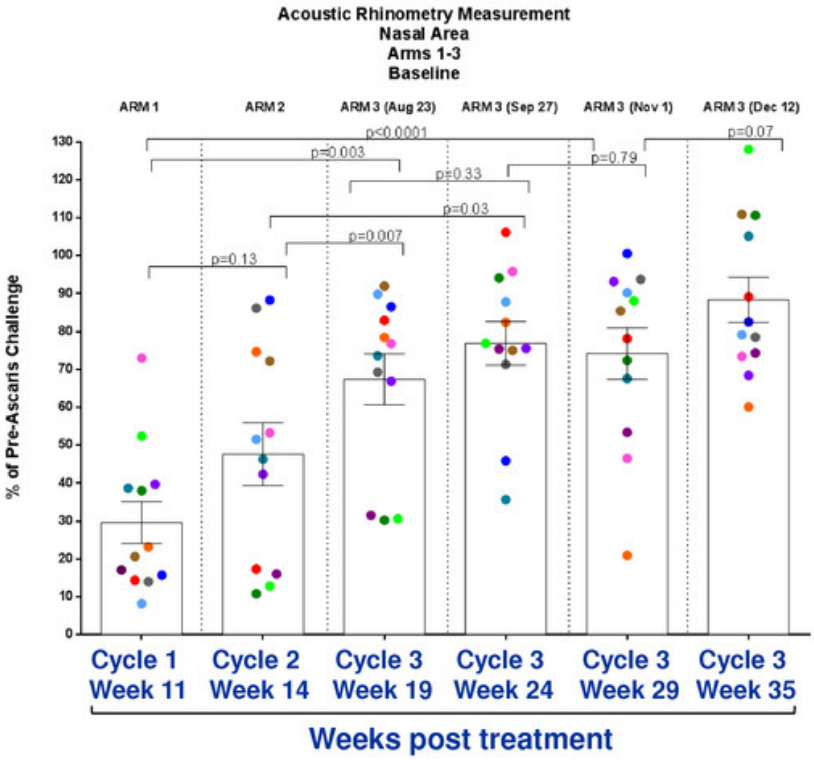
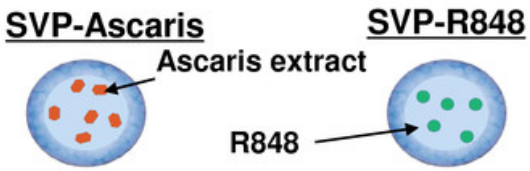
After 3 Cycles, SVP-Treated NHPs Remained Allergy Free for >8 Months





- In previous studies, NHPs typically returned to baseline levels (~20-30% of pre-ascaris challenge) by 8-11 weeks after treatment
- After Cycle 1, majority of NHPs returned to baseline levels
- After Cycle 2, NHPs only returned to 50% of pre-ascaris challenge levels at week 14, with considerable variability
- After Cycle 3, NHPs are refractory to repeated ascaris challenge, with 90% of normal nasal area measured after i.n.n ascaris challenge at 35 weeks after last treatment

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Target Profile and Differentiation of SVP in Peanut Allergies

	Selecta (SVP Immune Switching)	De-sensitization
Product	• Nanoparticle encapsulated with peanut antigen and adjuvant injected s.c. • Active switch from Th2 to Th1 response • Vaccine like prime + boost dosing	• Administration orally or via skin • Passive change in immune response • Daily dosing
Treatable population	• Moderate to severe cases • MoA has potential to reverse disease in all patients of children & adults (active immune modulation)	• Mild to moderate cases • Treatment success rate decreases with age of patients • Children preferred target group
Onset and duration of effect	• Designed for immediate onset after 3-5 s.c. injections • Potential medium to long duration as a result of prolonged switch of immune response	• ~12 months to onset—requiring daily application • Effects wears off after stopping treatment
Safety	• SVP-R848 well tolerated in clinical nicotine vaccine trial for smoking cessation • Short treatment period could lead to better compliance	• Anaphylaxis and patient drop out from some clinical trials observed

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