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Cell Therapies that cure

May 2021 (TASE: KDST)

Disclaimer

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In this presentation, the company included projections, estimates and assessments, as are known to the Company at the time of preparation of this presentation, referring to the Company and including, inter alia, forward-looking information as defined in the Securities Law, 5728 – 1968, based on subjective estimates on the part of the Company in respect of its development potential and based on initial information and documents the Company received from professional entities relevant to the Company's development plans.

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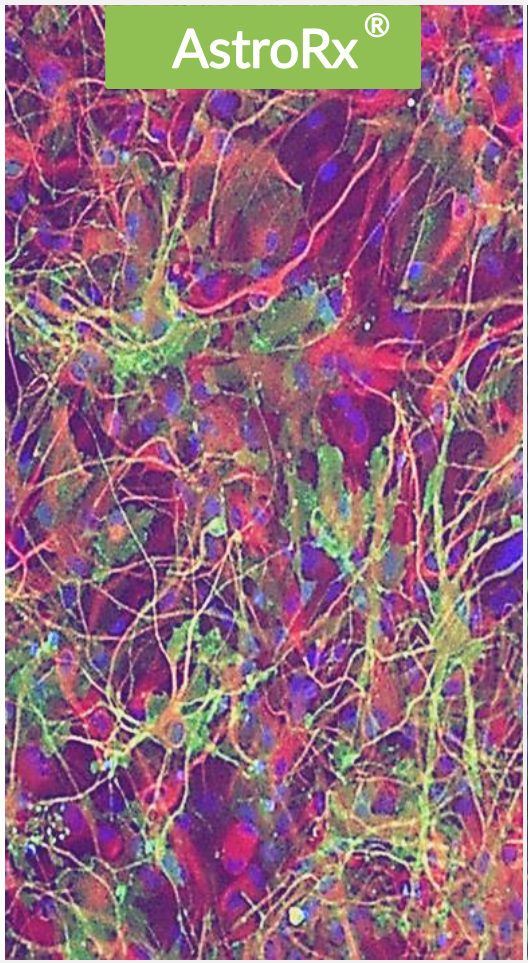
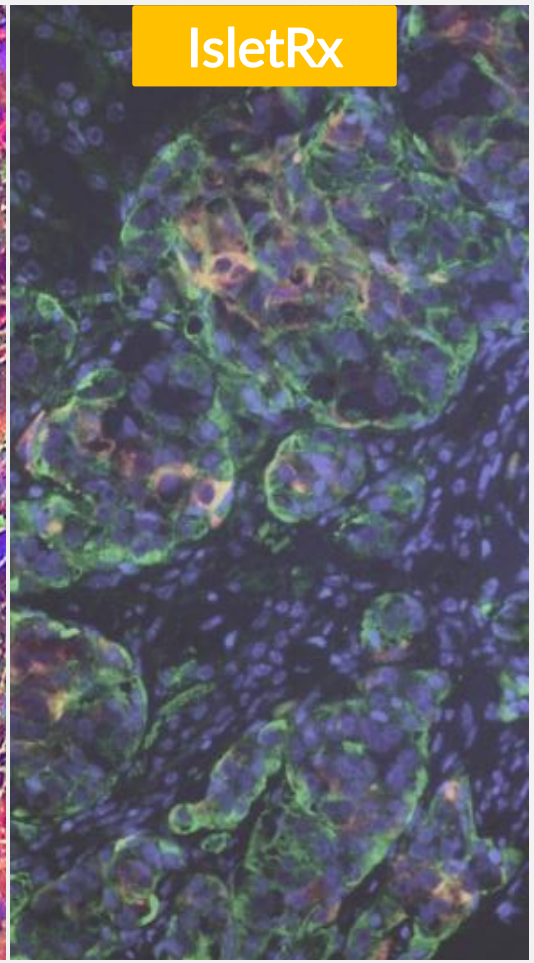
Vision – Stem Cell Derived Therapy

Replace, restore and repair the functionality of diseased and malfunctioning cells in various degenerative diseases by transplantation of our healthy and functional cells

Proprietary cell lines optimized for the cure of Diabetes and to treat ALS



GFAP/GLAST/DAPI



C-peptide/Glucagon/DAPI

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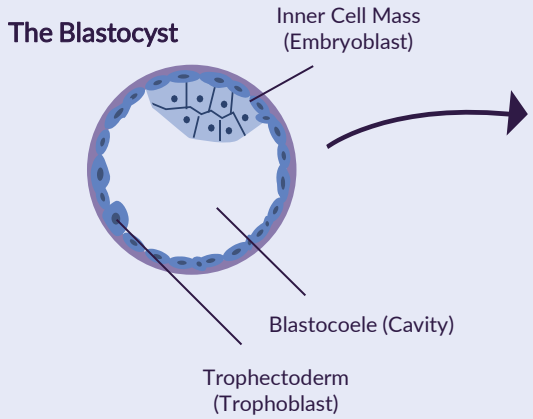
Proprietary Innovative Platform

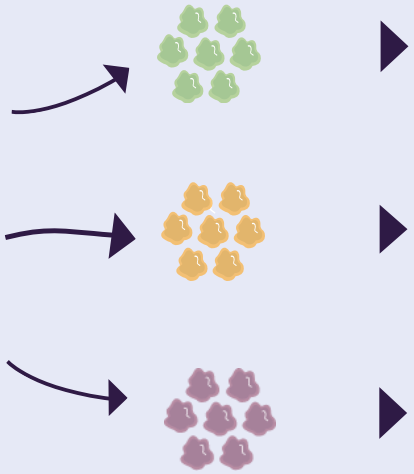
Proprietary expansion and differentiation processes of cells intended for treatment of multiple diseases

Starting material
clinical grade human embryonic stem cells (Pluripotent stem cells)



Expansion
Expand indefinitely

Differentiation
Committed progenitor cells



Mature and functional target cells
treatment of a wide range of diseases

Cell product	Indication	
AstroRx®	ALS	Clinical Stage
	Additional neurological indication	
IsletRx	Insulin dependent diabetes	Pre-clinical Stage

Technology platform to allow for differentiation of difference cells

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Product Platform Pipeline

CLINICAL

	RESEARCH	PRE-CLINICAL	PHASE 1	PHASE 2	PHASE 3	Market

AstroRx®cell Product

Neurology

- ALS - demonstrated encouraging results in the clinical trial
- Multiple Sclerosis
- Other NDD indications
- Other NDD

- ✓ Orphan drug designation (FDA)
- ✓ Pre-IND 2015
- ✓ Completed Phase I/IIa (Isrl)

Next Pre-IND&IND for advanced clinical trial

IsletRx Cell Product

Diabetes (Insulin dependent)

- Type 1- Microencapsulation
- Type 1- Encapsulation device

Next INTERACT (FDA)

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An Active Market – Big Recent Transactions

2018

April 2018

Sigilon

Diabetes
Preclinical stage

Licensing Agreement with Eli Lilly Co
$473M

November 2018

Viacyte

Diabetes
Clinical stage

$110M VC Funding including participation of strategic partners: JDRF, CIRM, J&J, Gore.
$25M Collaboration with CRISPR.

2019

August 2019

BlueRock

Neurology (Parkinson)
Preclinical stage

60% acquisition by Bayer (achieving full ownership): **$600M.**

September 2019

Semma Therapeutics

Diabetes
Preclinical stage

Full acquisition by Vertex, **$950M.**

2021

February 2021

Sana Biotechnology, Inc.

Regenerative Cell Technology
Preclinical stage

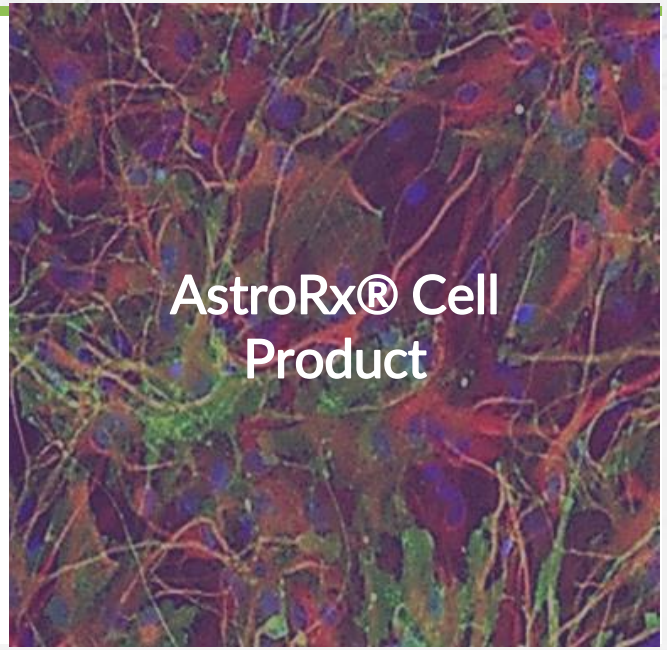
IPO of a Regenerative Medicine Biotech Company at a pre-clinical stage
Proceeds of **$587.5 M** and Market Cap. of **$7.47 B.**

To the best of Company's knowledge, base on the following:

- http://www.semma-tx.com/media1/vertex-to-acquire-semma-therapeutics-with-a-goal-of-developing-curative-cell-based-treatments-for-type-1-diabetes
- https://www.prnewswire.com/news-releases/lilly-and-sigilon-therapeutics-announce-strategic-collaboration-to-develop-encapsulated-cell-therapies-for-the-treatment-of-type-1-diabetes-300624199.html
- https://media.bayer.com/baynews/baynews.nsf/id/Bayer-acquires-BlueRock-Therapeutics-to-build-leading-position-in-cell-therapy
- https://finance.yahoo.com/news/sana-announces-upsized-pricing-initial-042200699.html?guccounter=1

AstroRx ®

Astrocytes for Neurodegenerative Diseases



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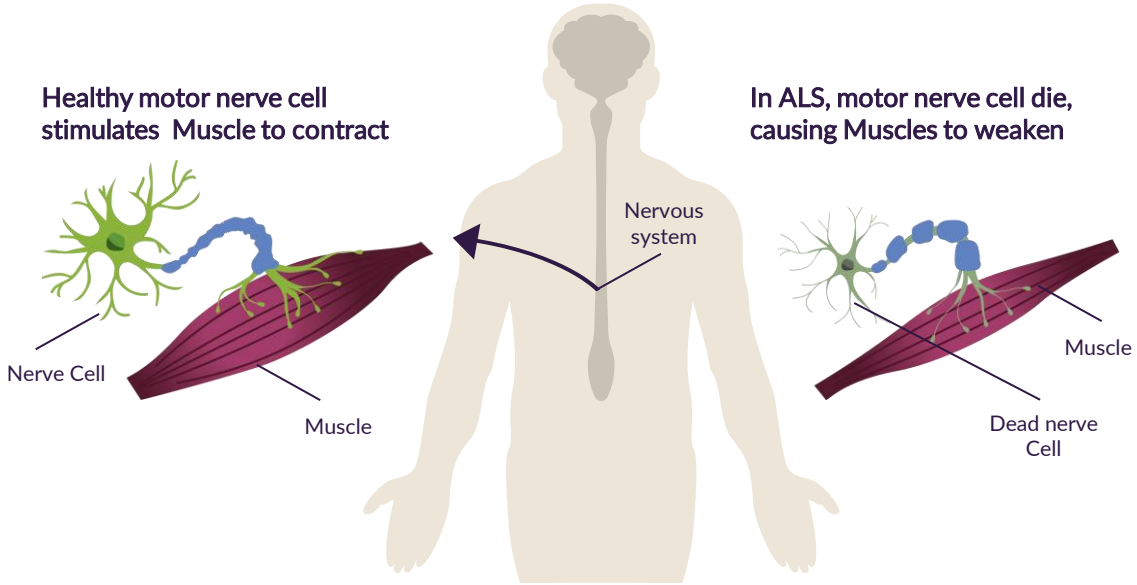
ALS– Market and Facts

- Death of motor neurons
- Progressive loss of muscle control leads to eventual death
- 90-95% sporadic and 5-10% familial (C9orf72, hSOD1, TDP-43, FUS)
- Disease onset 50-60 years, survival from onset 2-5 years



- Current FDA approved treatments are Rilutek & Radicava with modest effect

- **ALS is a fatal rare disorder with no cure**
- Around **450,000** ALS patients estimated worldwide, **30,000** patients in the US[1]
- **ALS Annual drug sales:** (US, Canada, France, Germany, Italy, Spain, UK and Japan) [2]
  - 2019: $282M
  - Estimate 2029: $1.04B
- **US ALS Healthcare costs:**
  - Up to $200K estimated annual medical expenses per patient[3]

1. https://www.als.net/als-resources/faq/
2. Amyotrophic Lateral Sclerosis (ALS): Opportunity Analysis and Forecasts to 2029. GlobalData 2020
3. http://alsfoundation.org/learn/facts.htm

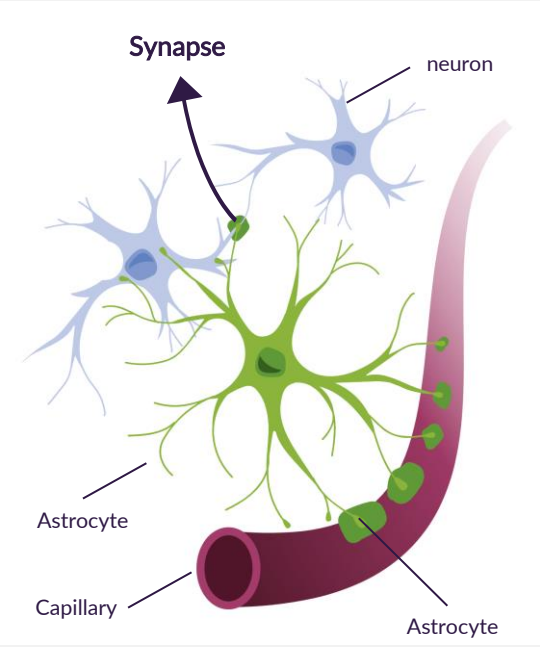
Why Use Astrocytes for ALS - AstroRx®

AstroRx® contains functional healthy astrocytes to protect ALS-diseased motor neurons using multiple mechanisms of action

In ALS, the patient's own astrocytes fail to support motor neuron survival

Mechanism of Action	ALS Patients' Astrocytes	AstroRx® Healthy, Functional Astrocytes
Secrete neurotrophic factors	✗	✓
Remove toxic factors (i.e. glutamate)	✗	✓
Regulate oxidative stress	✗	✓
Immune-modulation	✗	✓

Israel et al, 2020 Front. Neuroscience for review



Support Motor Neurons by transplantation of healthy and functional human astrocytes - AstroRx®

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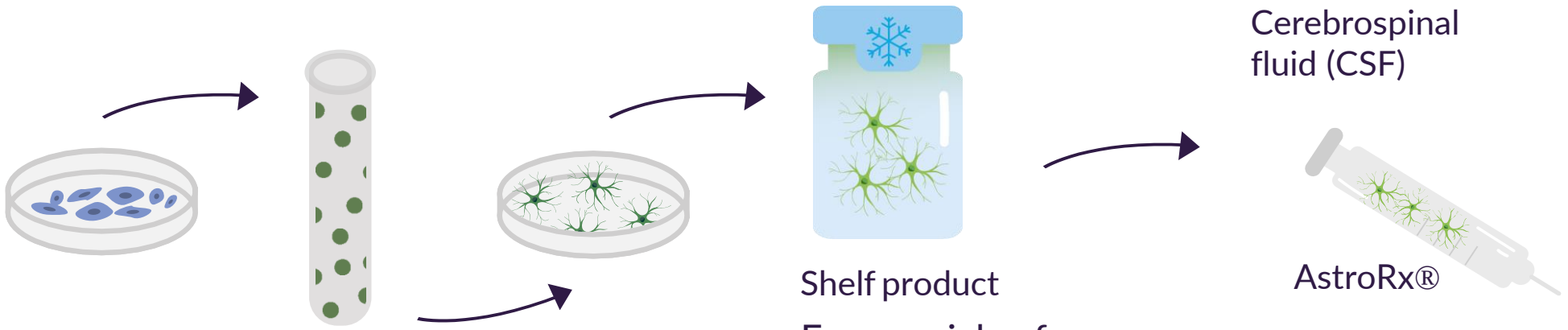
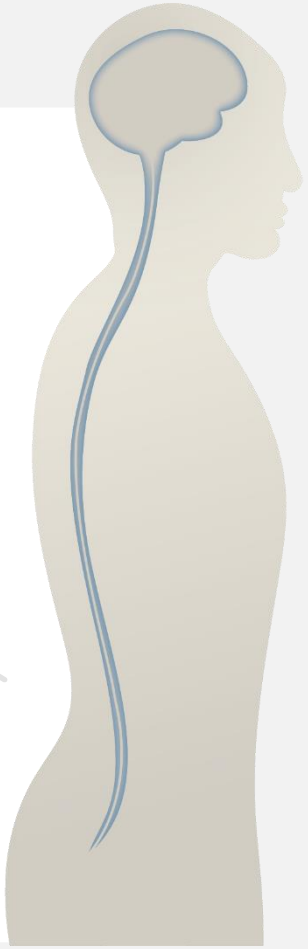
Cell Therapy Using AstroRx® - The Process

Production of human astrocytes from ES cells stored frozen for intrathecal injections





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Effect of AstroRx® on rat SOD1^{G93A} ALS model

Rat hSOD1 ALS Model:

Study measurements

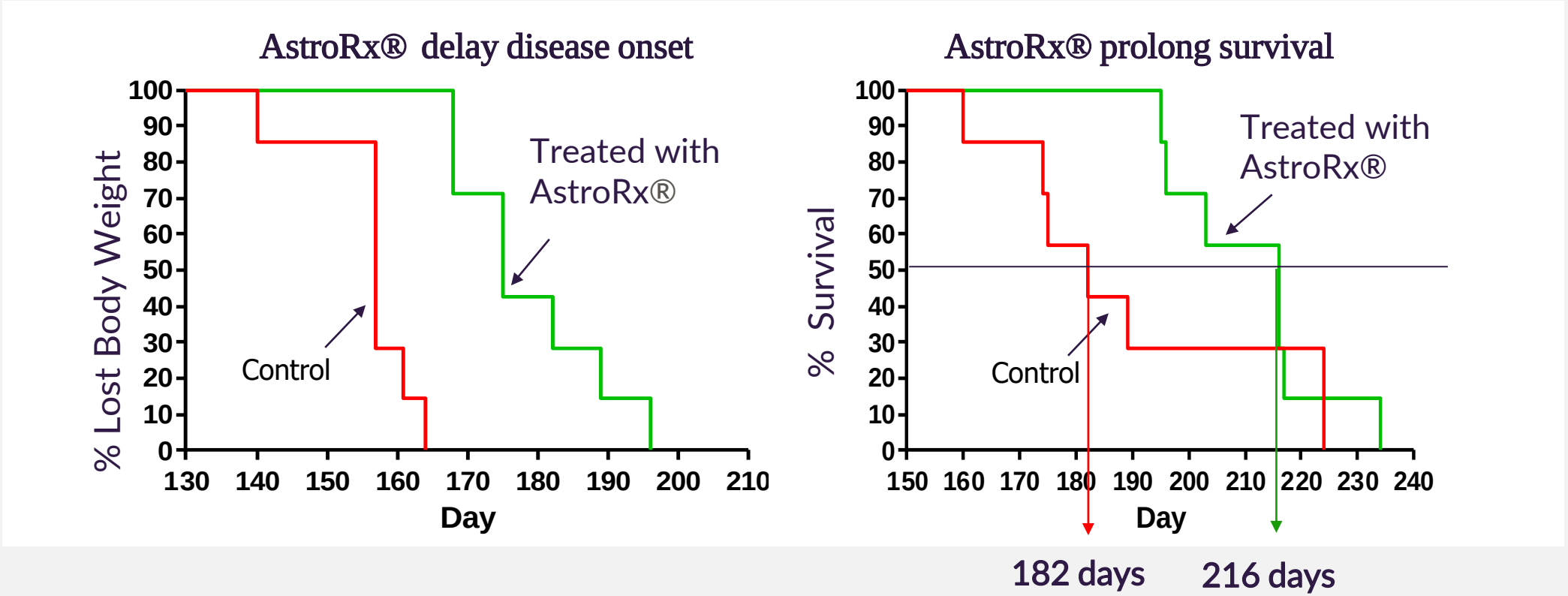
- Survival
- Grip strength
- Rotarod (ambulation)
- Muscle weight loss
- Paralysis (neurological score)

AstroRx® cells were injected at day 50 and 70 of life

Intrathecal injection of AstroRx®
(Lumbar puncture) between L5-L6
w/o immunosuppression

hSOD1G93A high copy number rat (ALS model)

AstroRx® Prolong Survival of hSOD1 Rats



- Significant delay in disease onset in AstroRx® treated rats (P=0.0001)
- Prolonged survival in AstroRx® treated rats

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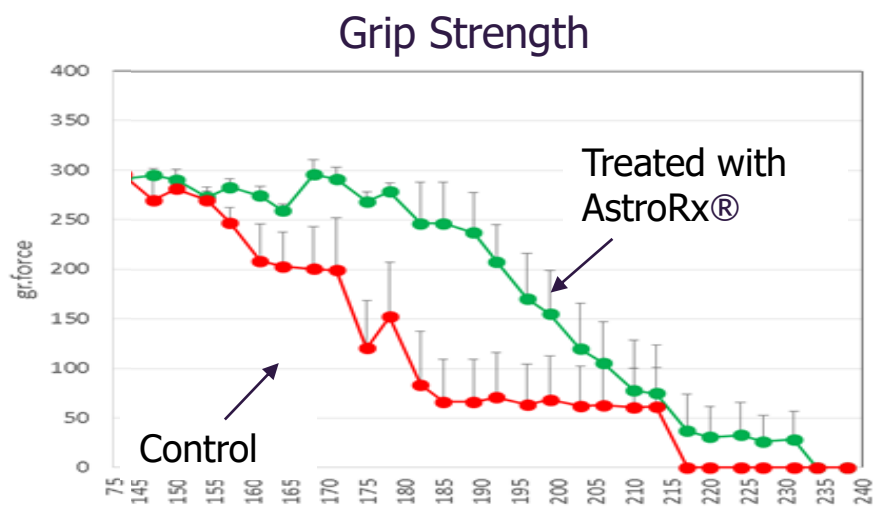
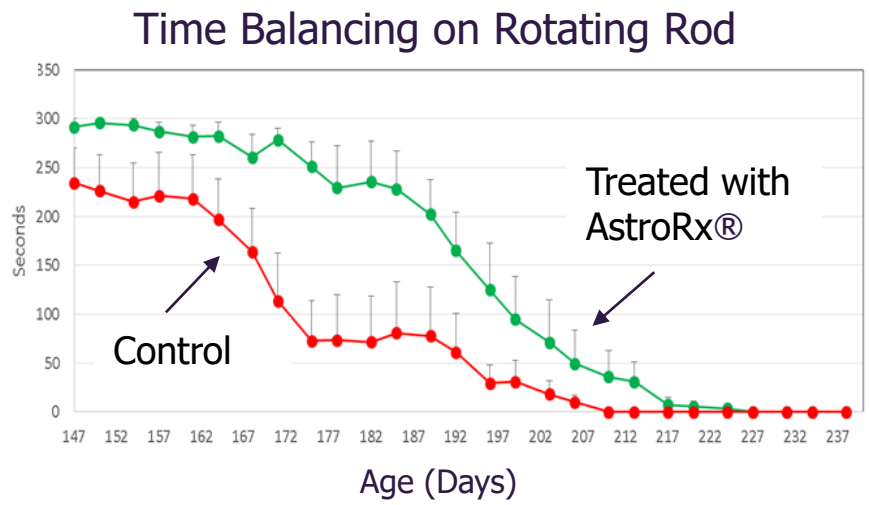
AstroRx® Improve Motor Performance

A



- Significant improvement in grip strength test (P<0.001)

B



- Significant improvement in rotarod test (P<0.001) and neurological score

Similar results were obtained in ALS mouse model

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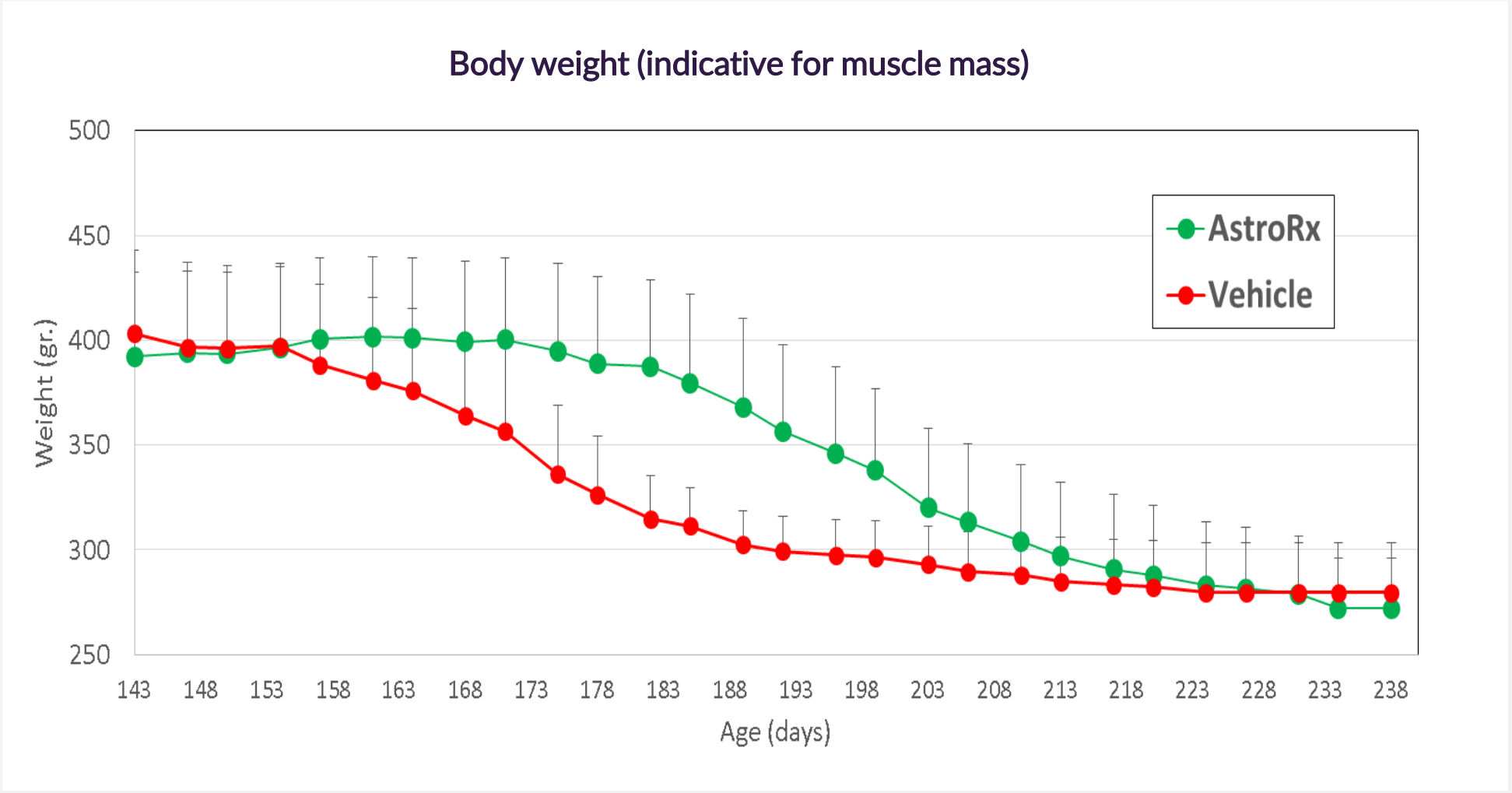
AstroRx® Cells Reduce Loss of Muscle Mass



Significant improvement in maintaining BW (P<0.05)

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In Human Clinical Trials Using AstroRx®

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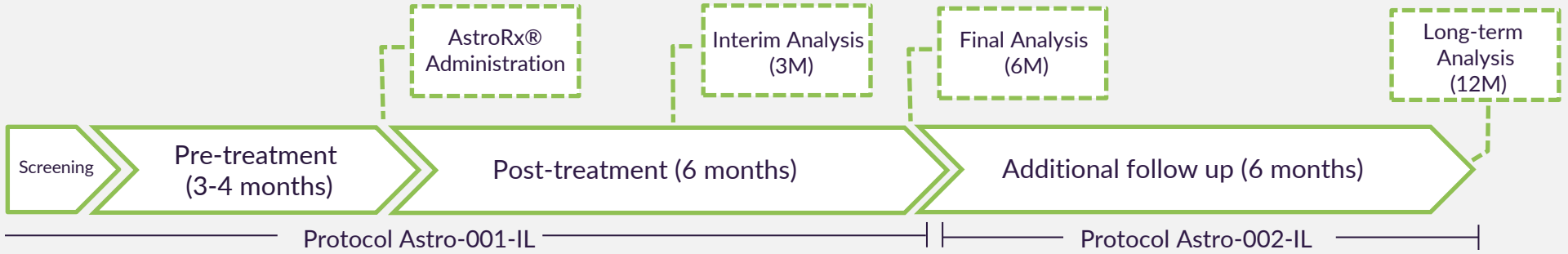
AstroRx® First-in-Human Study Design

Evaluate transplantation of astrocytes derived from Human Embryonic Stem Cells, in patients with Amyotrophic Lateral Sclerosis (ALS)

- Study Site: Hadassah Ein Kerem Hospital, Jerusalem
- Phase 1/2a, open-label, single arm per dose, dose-escalating
- A single treatment administration of AstroRx® was administered by intrathecal (spinal) injection to subjects with ALS at early disease stage

- AstroRx® doses:
  - 5 subjects in Cohort A ($100x10^6$ cells)
  - 5 subjects in Cohort B ($250x10^6$ cells)

- Study Objectives:
  - Primary: safety of escalating doses
  - Secondary: efficacy by comparing Pre- and Post-treatment assessment of disease progression



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AstroRx® Phase 1/2a Current Status

Good Clinical Safety Profile

Study Status:

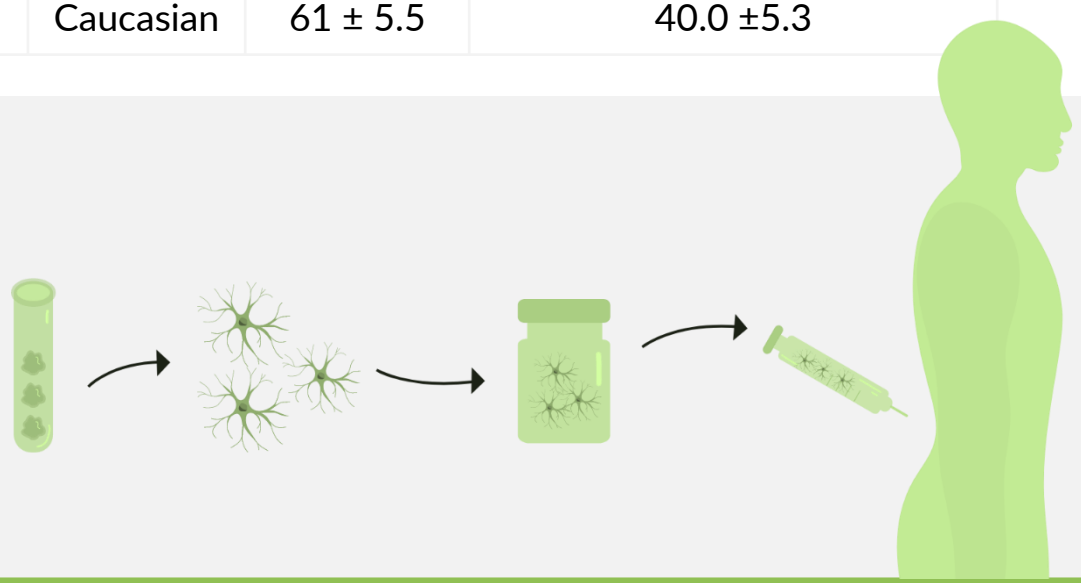
- 5 patients in Cohort A and 5 patients in Cohort B completed 6 months follow up
- Cohorts C&D were discontinued following Data Safety Monitoring Board (DSMB) recommendation due to COVID-19 pandemic

Enrollment Characteristics:

Group	Gender	Ethnicity	Mean age	ALSFRS-R at enrollment
A	5 males	Caucasian	63 ± 4.4	39.2 ±3.5
B	4 males, 1 female	Caucasian	61 ± 5.5	40.0 ±5.3

Safety Results:

- Good safety profile
- No treatment-related serious adverse events
- No dose-limiting toxicities were reported



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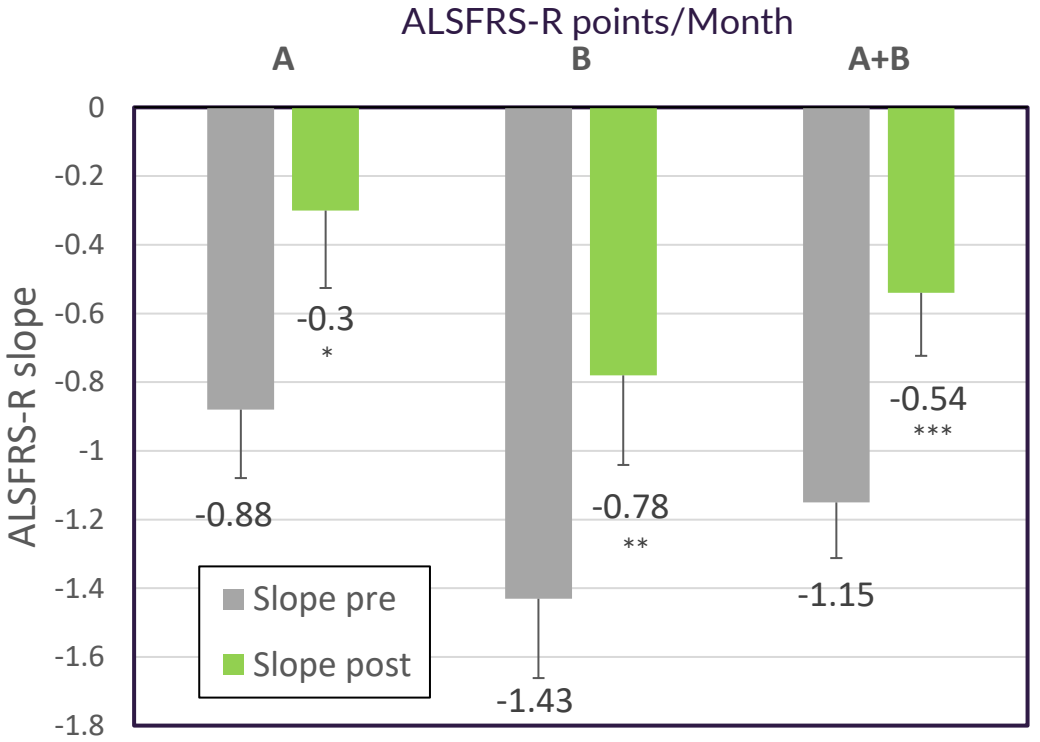
AstroRx® 3-month Follow-up Results

Demonstrated a Clinically Meaningful Decline in Disease Progression

Clinical results are consistent between Cohorts A and B

ALSFRS-R slope difference between 3 months pre- and post-treatment in Cohorts A and B



* p=0.0396, **p=0.0023, *** p=0.0004 (MMRM analysis)

ALSFRS-R is a Clinically Accepted Measure of Disease State

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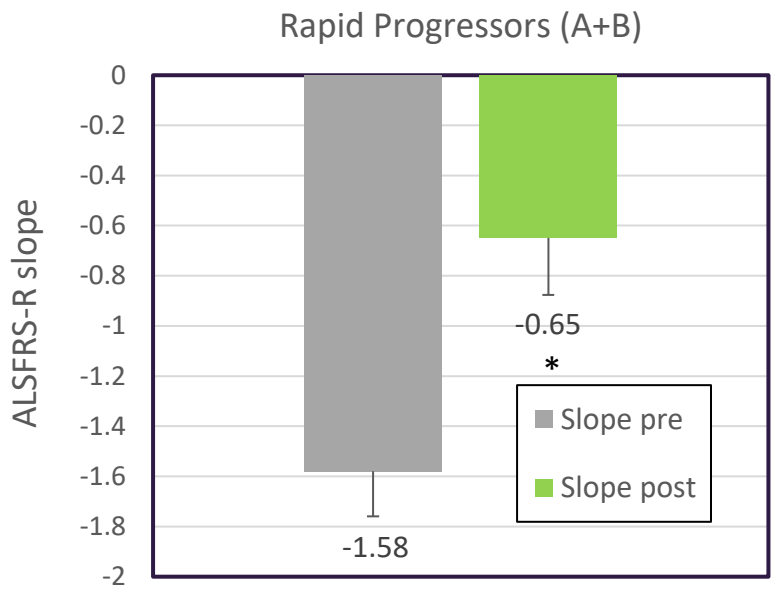
AstroRx® Efficacy Among ALS Rapid Progressors (3-month Follow-up)

80% of rapidly progressing patients responded to treatment of AstroRx®

ALSFRS-R Slope Analysis



* p=0.0003 (MMRM analysis)

- Rapid progressors are defined as patients who deteriorate at least 1.1 points of ALSFRS-R per month in the run-in period
- Analysis of rapid progressors is particularly important since the inclusion of this sub-population of patients in clinical trials in ALS increases the likelihood of demonstrating a drug effect
- Responders are defined as showing improvement of at least 25% in the ALSFRS-R rate of decline between pre- and post-treatment periods

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AstroRx® study: 6-month Follow-up Results

The results support our plan for a further clinical trial with repeated intrathecal administrations of AstroRx®, in order to prolong the clinical effect seen by a single dose

- Safe and well tolerated in both treatment doses over 6-months
- No treatment-related serious adverse events (SAEs) nor dose-limiting toxicities were reported

AstroRx® Continued Safety Results

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AstroRx® Clinical and Regulatory Plan

- A clinical development strategy to support the product intended use
- A Pre-IND meeting with FDA
- An IND supporting the approval of the next set of clinical trials
- A RMAT* designation application is planned, to enable expedited development, reviews and to accelerate approval

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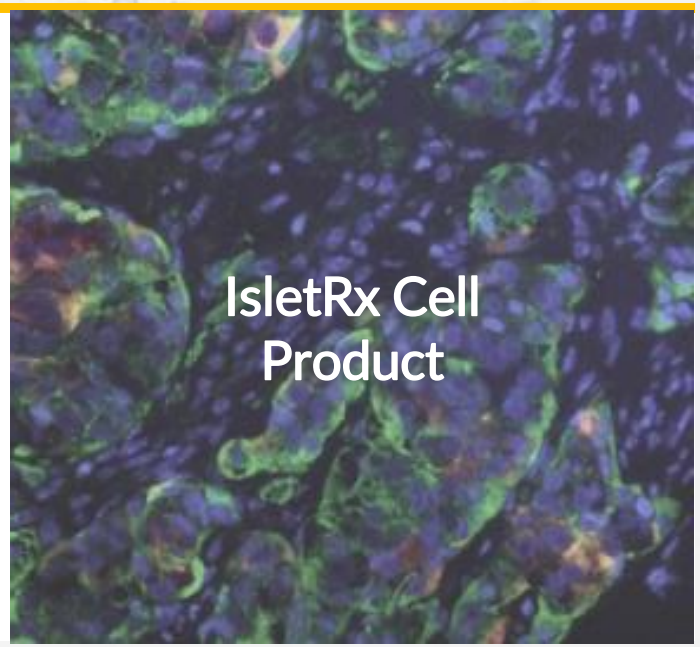
*RMAT - Regenerative Medicine Advanced Therapy

IsletRx

A Potential Functional Cure for Type 1 Diabetes



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Insulin Dependent Diabetes - Market and Facts

~180 Million People worldwide suffer from Insulin-Dependent Diabetes*

Highly demanding disease management. Insulin injection treatment does not prevent long term complications**

~45 million people suffer from Type-1 Diabetes worldwide. More than 1.1 million are children and adolescents (<20 years) (US > 200,000)***

High health expenditure Type 1 Diabetes associated healthcare expenditures in the US = 16B$ annually)**

*American Diabetes Association Standards of medical care in diabetes—2018. Diabetes Care. 2018;41(Suppl 1):S1–S159. [Google Scholar]
** https://www.jdrf.org/t1d-resources/about/facts/
***IDF diabetes atlas 2019

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Unmet Need in Insulin Dependent Diabetes

Insulin Therapy and glucose management are not a cure

Even with strict insulin treatment regimens, patients experience:

- Frequent episodes of severe, undetected hypoglycemia;
- Severe glycemic lability
- Progressive diabetic complications:
  - Neuropathies
  - Heart Disease
  - Retinopathy
  - Kidney failure
  - Stroke

Islet Transplantation

Restoring patient's ability to naturally produce insulin

- Healthy and functional islet cells can produce and secrete insulin in a regulated manner
- Cadaveric donor islet cell therapy is a safe and clinically validated treatment for Insulin-Dependent Diabetes*
- Patients treated achieved Insulin independence for ~2 years following treatment**
- Main challenges remaining: ***a severe shortage of donor islet cells and immune suppression that is unhealthy and not always prevent immune rejection***

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* Shapiro et al 2000
** Bernhard J. Hering 2016

Cure for Type 1 Diabetes using IsletRx

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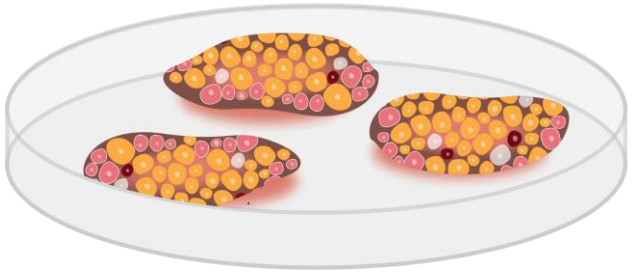
IsletRx - Our Solution

Functional pancreatic islets from ES cells that produce and secrete insulin and glucagon

- Overcome donor tissue availability shortage
- Replace malfunctioning patient islet cells
- Maintain continuous balanced glucose levels



- Show long term functionality, protected from host immune response, **without immune suppression drugs**

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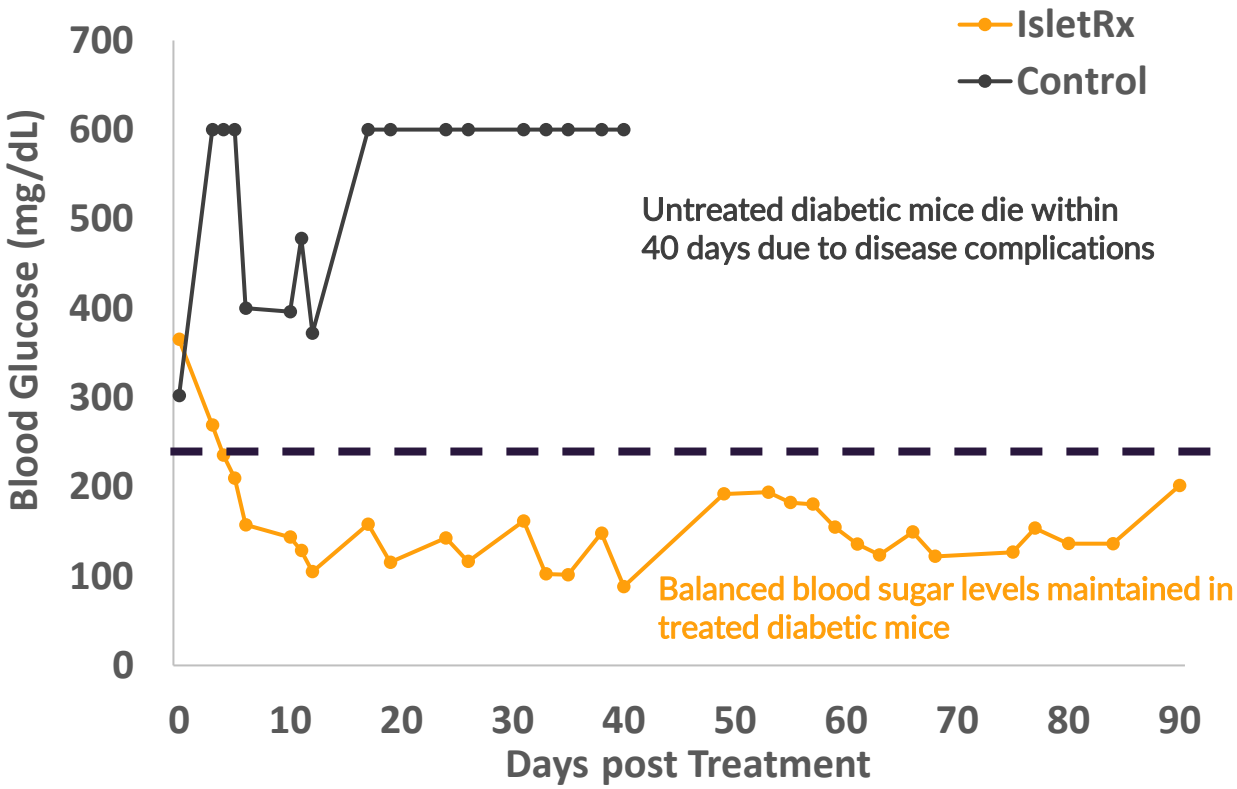
IsletRx - Preclinical Demonstration of Efficacy

IsletRx treated diabetic mice (STZ) demonstrated balanced and normal blood glucose levels

- Long-term therapeutic effect was achieved in an **immunocompetent animal model** (C57BL/6 mice)
- IsletRx cells well protected from host immune system



Molakandov et al 2020, in submission

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IsletRx - Production, Purification and Encapsulation

Large Scale Production:

Scalable 3D bioreactor production

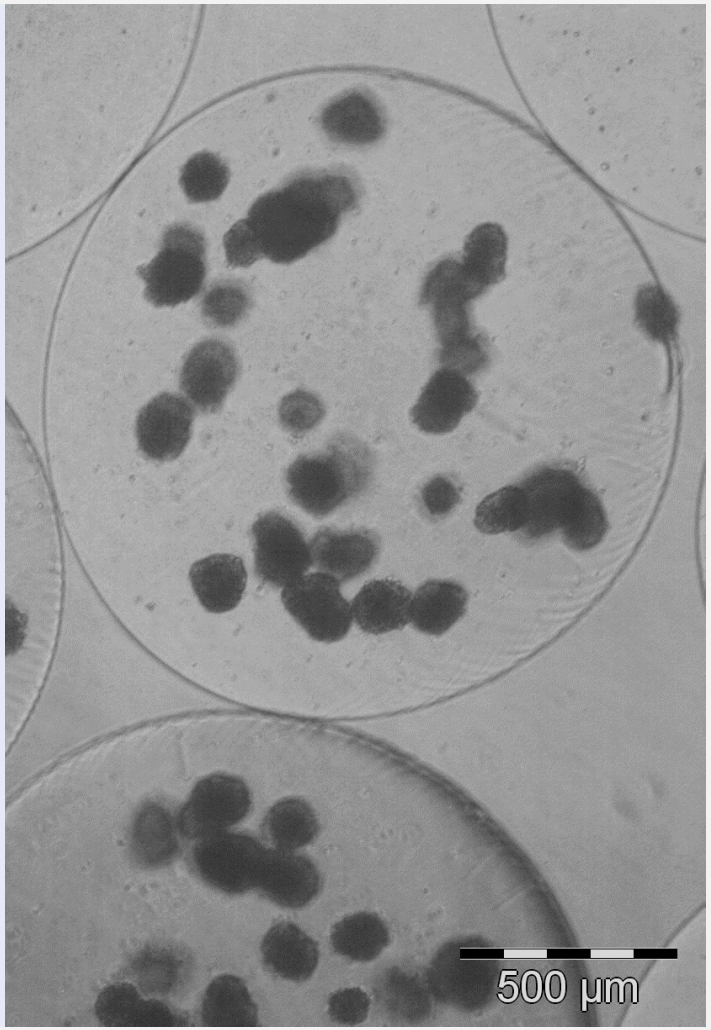
Purification & Enrichment:

Proprietary technology (IP) enables islet cell enrichment and purification, achieving well characterized cell identity

- Novel CD26-/CD49a+ signature cell surface markers are used to identify and select highly functional insulin producing cells, thereby increasing the probability of clinical efficacy

Unique Microencapsulation Technology:

Protects IsletRx cells from host immune system response, overcoming a major challenge in allogeneic cell therapy



Microencapsulated ILCs - IsletRx

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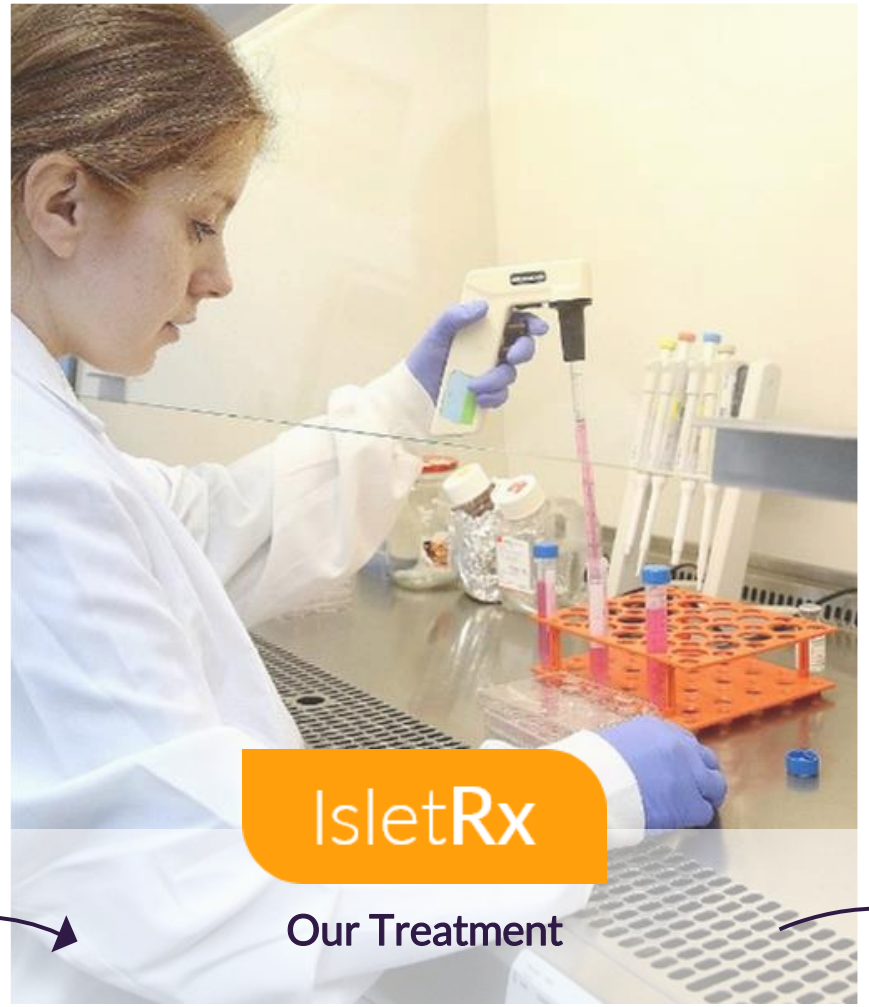
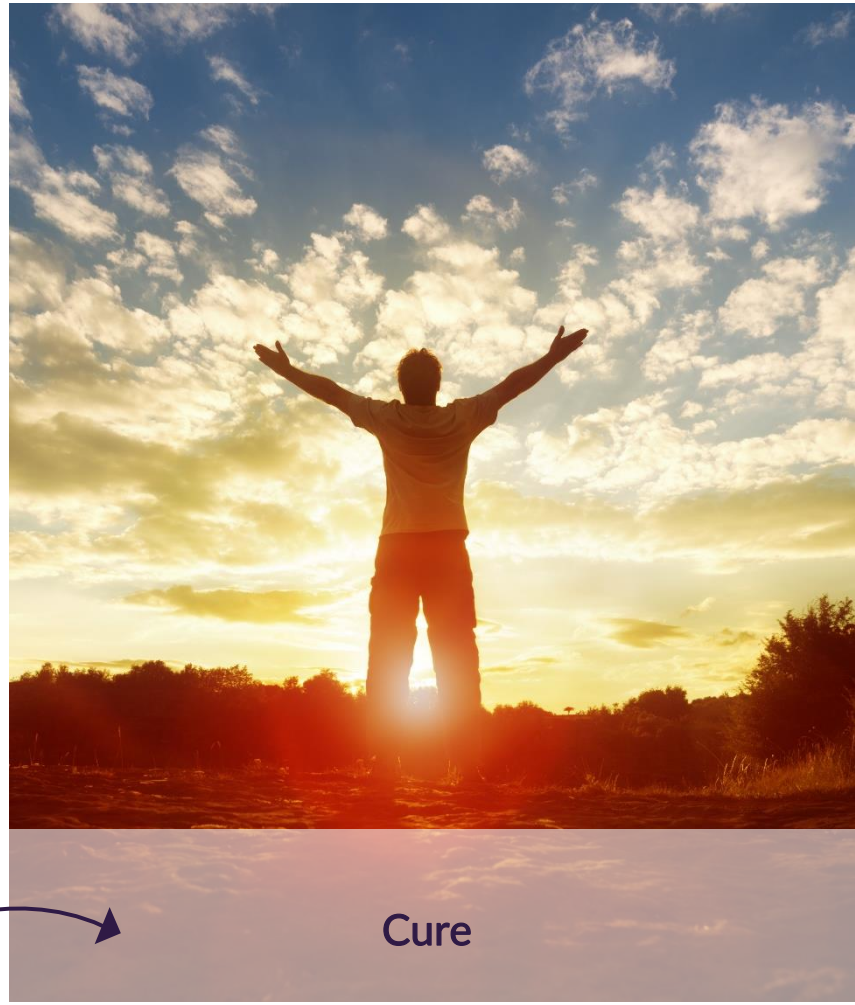
Our Treatment = Cure

Problem



Our Treatment



Cure

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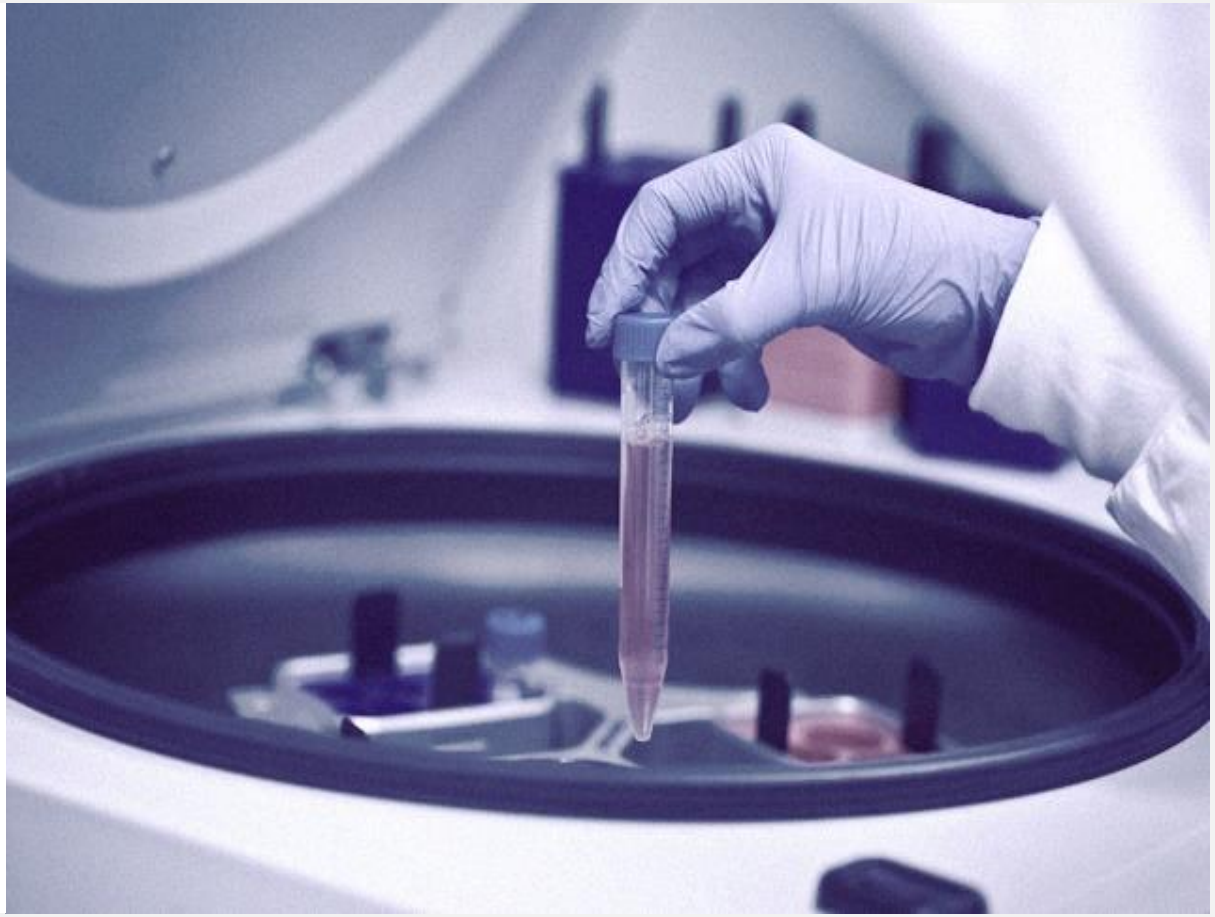
IsletRx Potential Advantages vs. Available Treatments

	kadimastem cells to cure diseases Allogeneic Islet Transplantation	Insulin Injections	Insulin Pumps
Periodic Treatments, Long-term Effect	✓	✗ Daily injection	✗ Ongoing
Balanced Glucose Levels	✓	✓✗ Manual monitoring and balancing of glucose levels	✓✗ Delay in real-time glucose measurement and insulin infusion
Personal Comfort	✓	✗ Daily routine interference- injections and laborious monitoring	✗ External device necessitating maintenance
Compliance	✓	✗ Requires high-level treatment management	✗ External device necessitating maintenance
Prevention of Long-term Complications	✓	✗	✗

IsletRx Next Steps

- INTERACT* and Pre-IND meetings with FDA
- Implementation of 2nd generation micro and macro encapsulation products
- Upscaling and GMP production



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*Initial Targeted Engagement for Regulatory Advice on CBER producTs - preliminary consultation for regulatory advice with FDA before the pre-IND consultation

Leadership

Bringing extensive business, industry, and scientific experience

Prof. Michel Revel

Founder & CSO

- Developed Merck's blockbuster drug REBIF® for multiple sclerosis ($1.7B USD in sales in 2016)
- Professor Emeritus of molecular genetics at the Weizmann Institute of Science
- More than 40 years of experience in development and global commercialization of advanced biotechnological products
- Awarded Laureate of Israel Prize for Medicine in 1999 and EMET Prize for Science in 2004

Asaf Shiloni

CEO

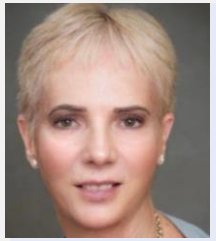
- More than 20 years of biotech executive experience and a deep knowledge of the cell therapy industry
- Mr. Shiloni served as Vice President Sales and Business development at PeproTech for 13 years, there he established collaborations and joint ventures with top US stem cell companies and leading research labs worldwide as well as led M&A processes
- Prior to PeproTech, in 2007, Mr. Shiloni sold an Israeli biotech company CytoLab, that he co-founded and led for seven years
- Mr. Shiloni holds a BA in Computer Information Systems and Business from The College of Management and an MBA from Tel Aviv University

Leadership

Asaf Shiloni
CEO

Prof. Michel Revel
Founder & CSO

Ronen Twito CPA
Co-Chairperson



Ruti Alon
Co-Chairperson

Yossi Nizhar
CFO

Arik Hasson, PhD
VP R&D

Michal Izrael, PhD
VP R&D, NDD

Kfir Molakandov, PhD
Head of Diabetes Research

Veronique Bellaiche
Director of Regulatory Affairs
and Quality Assurance

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Thank You.

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