Precigen

Advancing Medicine with Precision™

Q4-2020 Financial Results & Business Update

March 1, 2021

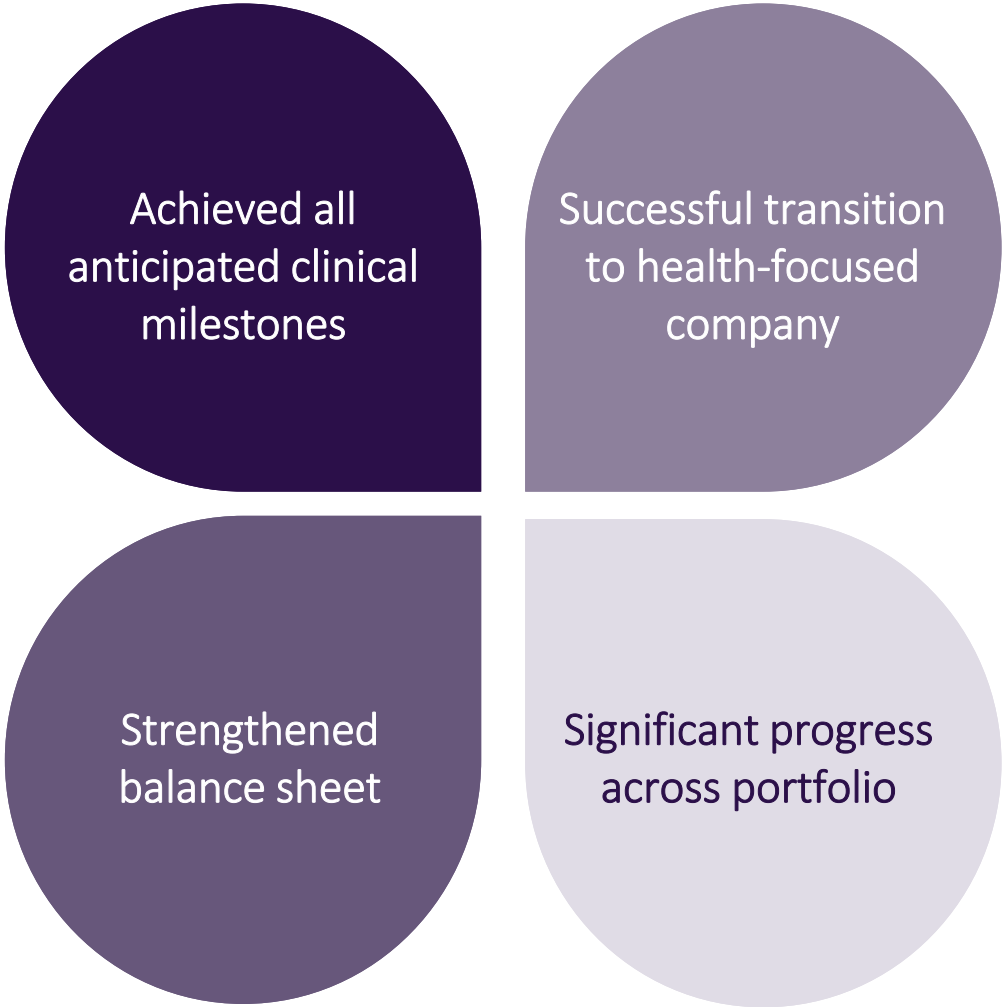
Forward-looking Statements

Some of the statements made in this press release are forward-looking statements. These forward-looking statements are based upon Precigen's current expectations and projections about future events and generally relate to plans, objectives, and expectations for the development of Precigen's business, including the timing, pace and progress of preclinical studies, clinical trials, discovery programs and related milestones, and the promise of the Company's portfolio of therapies, and in particular its CAR-T therapies. Although management believes that the plans, objectives and results reflected in or suggested by these forward-looking statements are reasonable, all forward-looking statements involve risks and uncertainties, and actual future results may be materially different from the plans, objectives and expectations expressed. These risks and uncertainties include, but are not limited to, (i) the impact of the COVID-19 pandemic on our clinical trials, businesses, operating results, cash flows and/or financial condition, (ii) Precigen's strategy and overall approach to its health-focused business model; (iii) the ability to successfully enter new markets or develop additional products, including the expected timing and results of investigational studies and preclinical and clinical trials, including any delays or potential delays as a result of the COVID-19 pandemic, whether with its collaborators or independently; (iv) the ability to successfully enter into optimal strategic relationships with its subsidiaries and operating companies that it may form in the future; (v) the ability to hold or generate significant operating capital, including through partnering, asset sales and operating cost reductions; (vi) actual or anticipated variations in operating results; (vii) actual or anticipated fluctuations in competitors' or collaborators' operating results or changes in their respective growth rates; (viii) cash position; (ix) market conditions in Precigen's industry; (x) the volatility of Precigen's stock price; (xi) the ability, and the ability of collaborators, to protect Precigen's intellectual property and other proprietary rights and technologies; (xii) the ability, and the ability of collaborators, to adapt to changes in laws or regulations and policies, including federal, state, and local government responses to the COVID-19 pandemic; (xiii) outcomes of pending and future litigation; (xiv) the rate and degree of market acceptance of any products developed by Precigen, its subsidiaries, collaborations or joint ventures; (xv) the ability to retain and recruit key personnel; (xvi) expectations related to the use of proceeds from public offerings and other financing efforts; and (xvii) estimates regarding expenses, future revenue, capital requirements and needs for additional financing. For further information on potential risks and uncertainties, and other important factors, any of which could cause Precigen's actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in Precigen's most recent Annual Report on Form 10-K and subsequent reports filed with the Securities and Exchange Commission.

This presentation contains market data and industry statistics and forecasts based on studies and clinical trials sponsored by third parties, independent industry publications and other publicly available information. Although Precigen believes these sources are reliable, it does not guarantee the accuracy or completeness of this information and has not verified this data.

All of the pharmaceutical products described in this presentation are investigational new drugs, which are currently undergoing pre-clinical and/or human clinical trial testing. As a result, none of them have had their safety or efficacy established or are approved by the U.S. Food and Drug Administration or any other regulatory agency.

Precigen in 2020: Significant Progress in an Unprecedented Year



Precigen Clinical Pipeline

Immuno-oncology

PRODUCT	PLATFORM	INDICATION	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3
PRGN-3005	UltraCAR-T	Ovarian Cancer					
PRGN-3006	UltraCAR-T	AML, MDS					
PRGN-2009	OTS AdenoVerse Immunotherapy	HPV+ Solid Tumors					

Autoimmune

PRODUCT	PLATFORM	INDICATION	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3
AG019	ActoBiotics	Type 1 Diabetes					

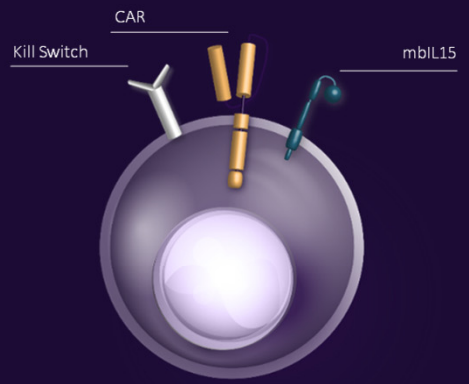
Infectious

PRODUCT	PLATFORM	INDICATION	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3
PRGN-2012	OTS AdenoVerse Immunotherapy	Recurrent Respiratory Papillomatosis					

Emerging

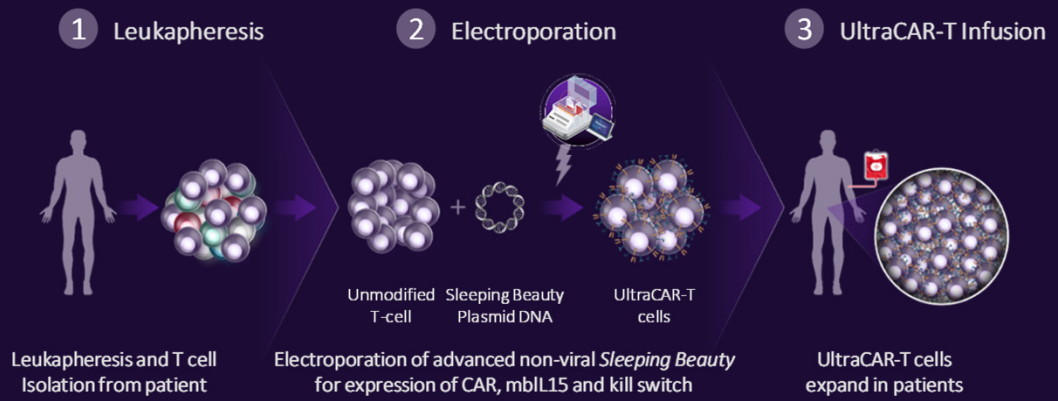
PRODUCT	PLATFORM	INDICATION	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3
INXN-4001	Non-viral UltraVector	Heart Failure					

Precigen's Goal is to Develop a Commercially Viable UltraCAR-T® Platform



Design

- ☑ Optimized non-viral gene delivery
- ☑ Multigene expression using single transposon
- ☑ Cell product homogeneity
- ☑ Enhanced *in vivo* expansion and persistence
- ☑ Kill switch on every UltraCAR-T cell



Manufacturing

- ☑ Overnight manufacturing at medical centers
- ☑ No large, centralized facility required
- ☑ Viral vectors not required
- ☑ High cell viability
- ☑ No *ex vivo* expansion necessary

Scale-up

- ☑ Precigen's proprietary UltraPorator™
- ☑ Electroporation optimized for UltraCAR-T
- ☑ High-throughput, semi-closed system
- ☑ Minimizes manual handling
- ☑ Rapid and efficient gene transfer

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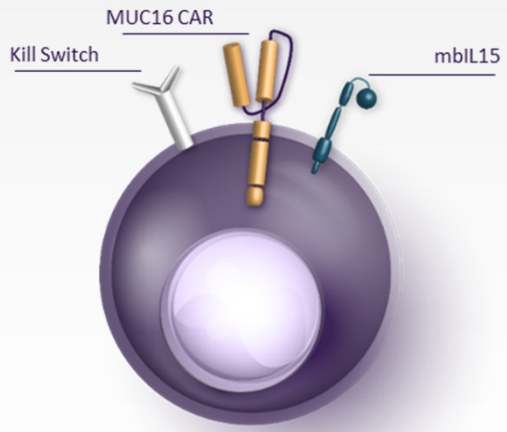
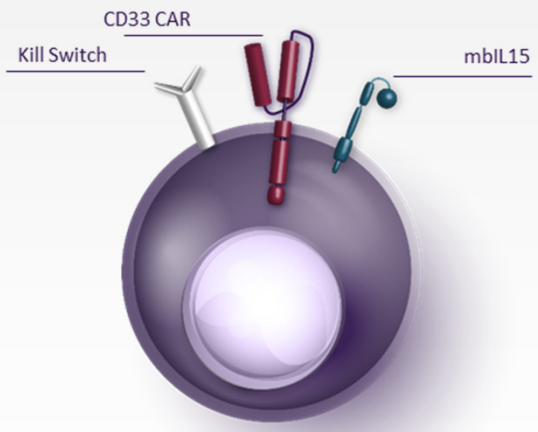
UltraCAR-T Clinical Trial Updates

PRGN-3005 UltraCAR-T



- Phase 1/1b trial in advanced ovarian cancer
- Positive initial data reported from intraperitoneal (IP) arm (n=6) of Phase 1
  - Encouraging expansion and persistence of UltraCAR-T
  - 50% (3 of 6) of patients treated the two lowest doses showed reduction in total target tumor burden
- Dose escalation in IP arm of Phase 1 ongoing
- Initiated enrollment in intravenous (IV) arm of Phase 1

PRGN-3006 UltraCAR-T



- Phase 1/1b trial in r/r AML, MDS
- Positive initial data reported from intraperitoneal (IP) arm (n=9) of Phase 1
  - Encouraging expansion and long-term persistence in blood and bone marrow with or without lymphodepletion
  - Preliminary signs of clinical activity as evidenced by reduction in AML tumor blast levels
  - A patient treated at dose level 1 in lymphodepletion cohort achieved CRi* and subsequent HSCT
- Dose escalation in lymphodepletion and non-lymphodepletion cohorts of Phase 1 ongoing

*Complete remission with incomplete hematologic recovery (CRi) per European Leukemia Net (ELN) criteria

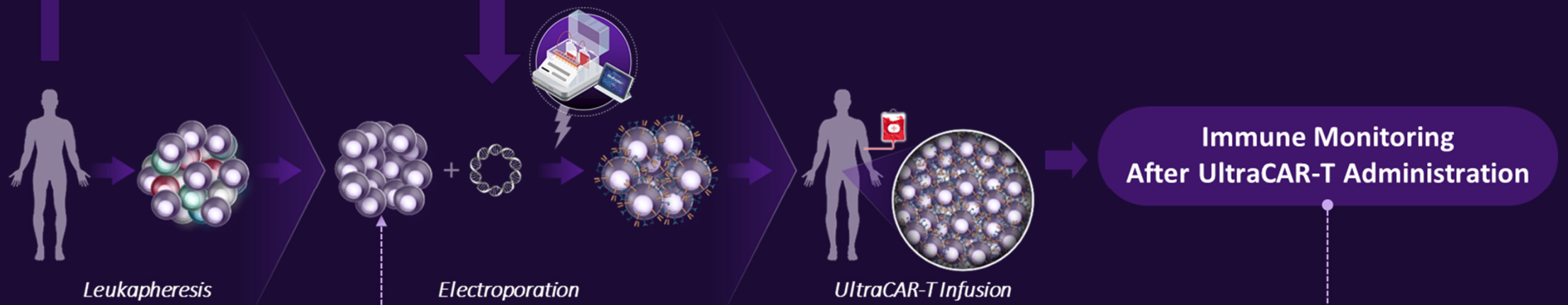
UltraCAR-T Library Approach: Precigen's Vision is to Transform the Personalized Cell Therapy Landscape for Cancer Patients

Non-viral UltraCAR Library

Indication	Antigen 1	2	3
Pancreatic			
Ovarian			
Lung			
Bladder			
Others			

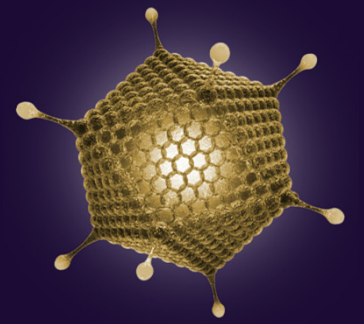
Indication	Antigen 1	2	3
AML			
CLL			
ALL			
MM			
Others			

- **Select one or more UltraCAR from off-the-shelf library based on a patient's tumor**
- **Repeat dosing if needed**



AdenoVerse™: Industry-leading Adenovector Technology

Precigen's Gorilla Adenovectors Show Superior Characteristics Over Ad5 and other Rare Human and Non-human Primate Adenoviruses



AdenoVerse Advantages

- Large genetic payload capacity
- Off-the-shelf availability
- Ability for repeat administration
- Durable antigen-specific immune response
- Non-replicating adenoviruses
- Highly productive manufacturing process

Limitations of Competing Approaches

Vaccines

- Limited antigen coverage
- DNA vaccines may have relatively poor immunogenicity
- Pre-existing immunity to human Ad5 may limit efficacy[1]

TCR-T Cells

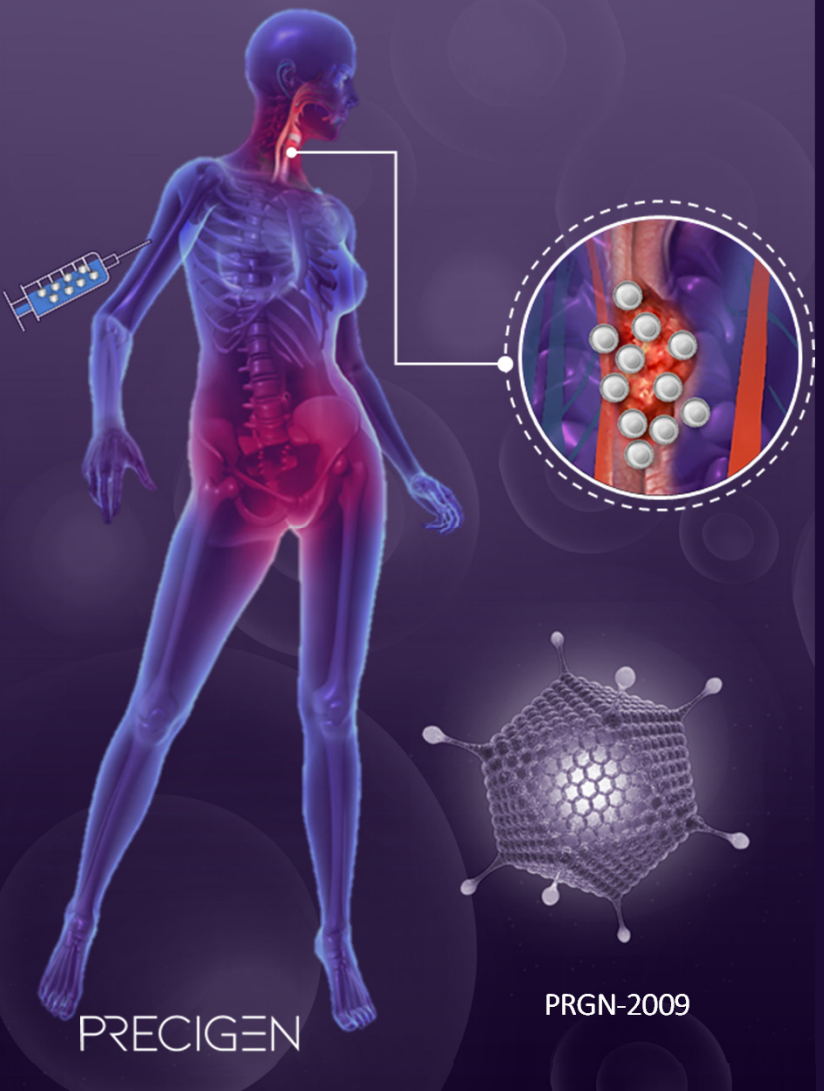
- Applicable in only a small subset of patients due to HLA polymorphism
- Target only a single antigen epitope
- Long and expensive manufacturing process
- Potential for the mispairing of endogenous and exogenous TCR chains

A Library of Adenoviral Vectors with Diverse and Unique Biological Properties is Differentiated from Competition

[1]Geisbert TW, J Virol. 2011

PRGN-2009

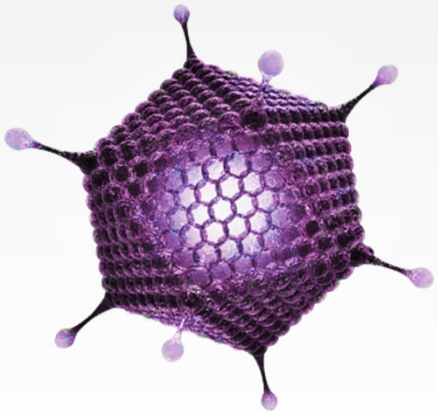
A First-in-Class Investigational Therapy for HPV-associated Cancers



- Phase 1 portion of Phase 1/2 trial is ongoing in collaboration with NCI through a CRADA
- Enrollment in Phase 1 monotherapy arm (Arm A) completed
  - All patients (n=6) enrolled in monotherapy arm have received multiple PRGN-2009 administrations
  - Preliminary correlative data showed increase in HPV16 and/or HPV18 specific T cells post PRGN-2009 administration in 100% (3 of 3) patients treated at Dose Level 1
  - Increase in magnitude and breadth of immune response with repeat administration of PRGN-2009
- Enrollment in Phase 1 combination arm (Arm B) initiated

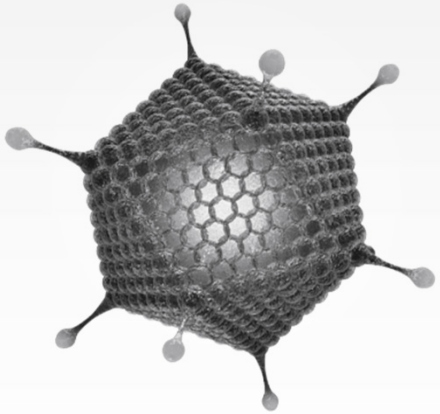
AdenoVerse Immunotherapies for Infectious Diseases

PRGN-2012



- AdenoVerse Immunotherapy Targeting HPV6 and HPV11 for Recurrent Respiratory Papillomatosis (RRP)
- PRGN-2012 is shown to induce robust HPV6 and HPV11 specific T-cell response in RRP patient samples *in vitro*
- Clinical development in collaboration with NCI through a CRADA
- FDA has cleared the IND application to initiate the Phase 1 clinical trial

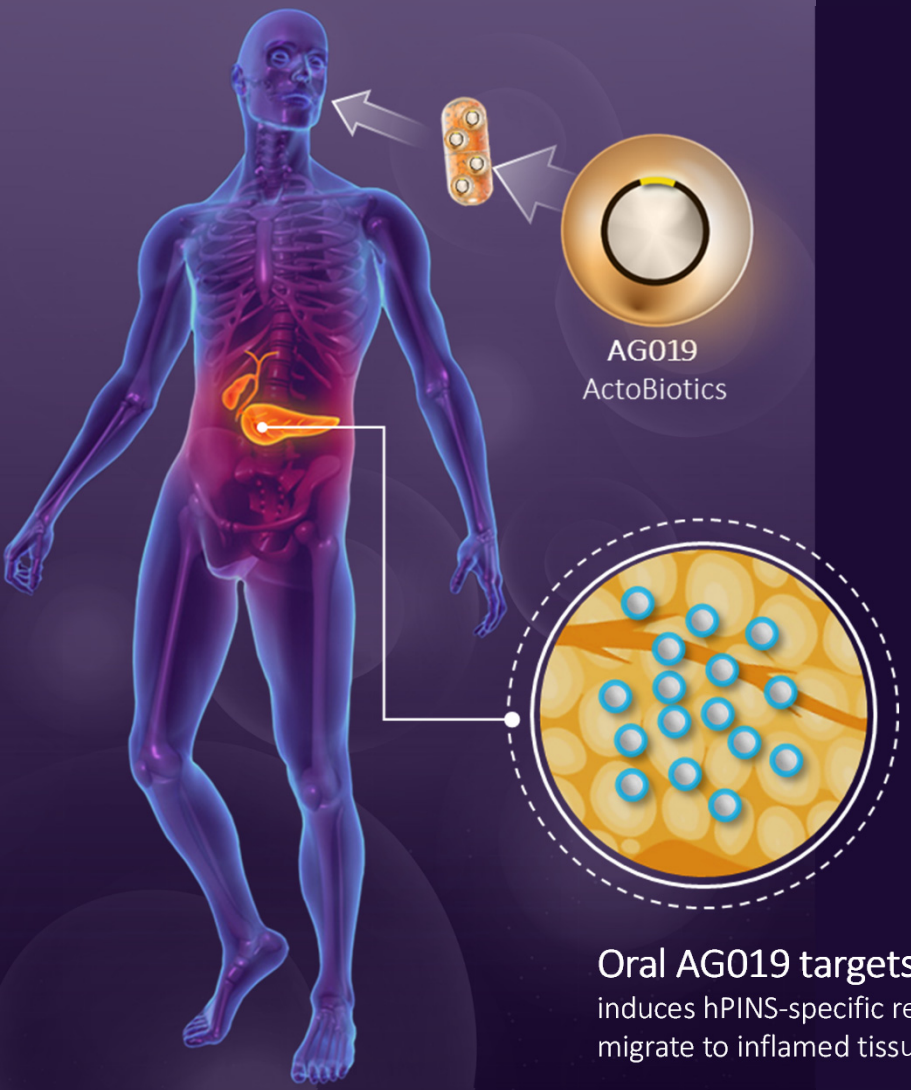
PRGN-2013



- AdenoVerse Immunotherapy Targeting Hepatitis B (HBV)
- Novel antigen design is differentiated from the competition
- Preclinical data show strong cytotoxic T-cell responses against a broad range of HBV epitopes

AG019 ActoBiotics

A First-in-Class Oral Investigational Therapy in Type 1 Diabetes



Oral AG019 targets the GALT

induces hPINS-specific regulatory T cells which migrate to inflamed tissue to block tissue destruction

- Positive interim data reported from Phase 1b (monotherapy) and Phase 2a (combination) arms
  - AG019 monotherapy as well as the combination of AG019 and teplizumab were well-tolerated
  - 58% (7/12) and 70% (7/10) adults showed insulin C-peptide stabilization at 6 months in monotherapy and combination arms respectively
  - Increase in preproinsulin (PPI)- specific Type 1 regulatory (Tr1) cells in both monotherapy and combination arms
  - Significant decrease in PPI-specific $CD8^+$ T cells in both monotherapy and combination arms

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Precigen in 2021: Multiple Upcoming Milestones

UltraCAR-T®

- Complete dose escalation phase and initiate expansion phase of PRGN-3005 UltraCAR-T IP arm in ovarian cancer; initiate the IV arm of PRGN-3005 Phase 1 trial and present corresponding interim data
- Present interim data from PRGN-3006 UltraCAR-T Phase 1 trial in AML and MDS and initiate dose expansion phase
- Submit IND application for a new UltraCAR-T candidate

AdenoVerse™ Immunotherapy

- Present interim data from the Phase 1 trial of PRGN-2009 in HPV-associated cancers
- Initiate dosing patients in Phase 1 trial of PRGN-2012 in Recurrent Respiratory Papillomatosis
- Initiate IND-enabling studies for PRGN-2013 in chronic HBV infection

Acto-Biotics™

- Present data from AG019 Phase 1b/2a trial in Type 1 Diabetes

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