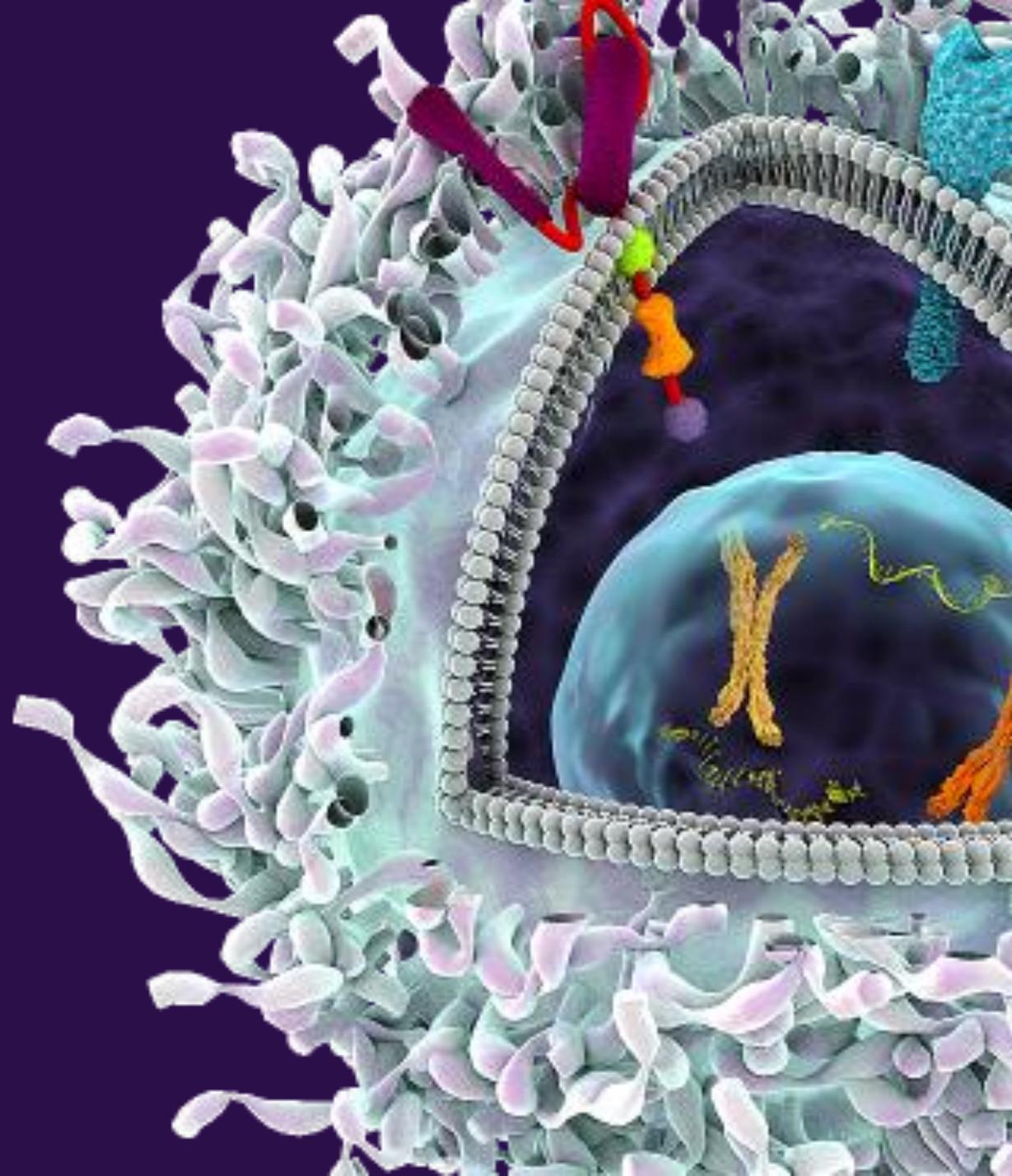


# Precigen Company Update

Helen Sabzevari, PhD  
President, Precigen

28 February 2019  
SVB Leerink 8<sup>th</sup> Annual Global Healthcare Conference



# Forward-looking statements

Precigen, Inc. is a subsidiary of Intrexon Corporation (Nasdaq: XON). Some of the statements made in this presentation are forward-looking statements that involve a number of risks and uncertainties and are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based upon Intrexon's and 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 and progress of preclinical and clinical trials and discovery programs and Precigen's planned manufacturing facility. Although management believes that the plans and objectives 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 in this presentation. These risks and uncertainties include, but are not limited to, (i) Precigen's strategy and overall approach to its business model, including its ability to successfully enter into optimal strategic relationships with its subsidiaries and operating companies that Intrexon may form in the future; (ii) the ability to successfully enter new markets or develop additional products, whether with its collaborators or independently; (iii) actual or anticipated variations in operating results; (iv) actual or anticipated fluctuations in competitors' or collaborators' operating results or changes in their respective growth rates; (v) cash position; (vi) market conditions in Intrexon's and Precigen's industry; (vii) the volatility of Intrexon's stock price; (viii) the ability, and the ability of collaborators, to protect intellectual property and other proprietary rights and technologies; (ix) the ability, and the ability of collaborators, to adapt to changes in laws or regulations and policies; (x) the outcomes of pending or future litigation; (xi) the rate and degree of market acceptance of any products developed; (xii) the ability to retain and recruit key personnel; (xiii) expectations related to the use of proceeds from financing efforts; and (xiv) estimates regarding expenses, future revenue, capital requirements and needs for additional financing. For a discussion of other risks and uncertainties, and other important factors, any of which could cause actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in Intrexon's Annual Report on Form 10-K, as well as discussions of potential risks, uncertainties, and other important factors in Intrexon's subsequent filings with the Securities and Exchange Commission. All information in this presentation is as of the date its cover page, and Intrexon undertakes no duty to update this information unless required by law.

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# About Intrexon



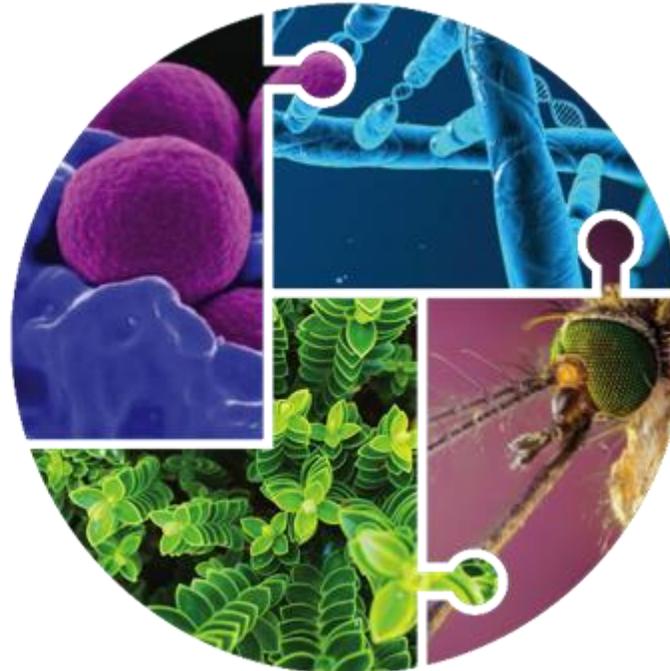
## Novel applications of microbes to:

- Make better use of natural resources
- Improve medical treatments
- Reinvent our energy systems through alternative fuel production



## Direct changes to plant biology at the genomic level to:

- Address demand for healthy, sustainable foods
- Address resource scarcity
- Develop crops with increased productivity and consumer appeal



**Developing biologically-based solutions across broad fields to improve the quality of life and health of the planet**



## New approaches to gene and cell therapy that target:

- Underlying causes of disease
- Multiple genes with a single therapy
- Reduction of patient cost and wait time for cellular therapies



## Precision bioengineering to address:

- Risks to global food production resulting from growing resistance to pesticides and traits
- Suppression of disease-carrying mosquitoes
- Over-fishing by providing alternative breeding methods

# Company highlights – Precigen is a clinical stage company with a growing portfolio of first-in-class therapies

Precigen is a biopharmaceutical company advancing the next generation of gene and cellular therapies using precision technology to target immuno-oncology, autoimmune disorders, and infectious diseases



## Diverse IP portfolio

- **Construct:** UltraVector®; mblL15
- **Deliver:** *Sleeping Beauty* system; AttSite™ recombinases; AdenoVerse™
- **Control:** RheoSwitch®; Kill switches; Tissue specific promoters



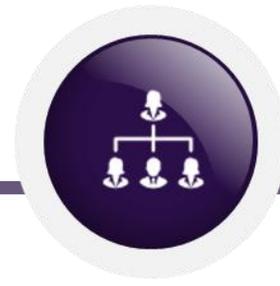
## First-in-class therapies

- Three first-in-class products progressing towards clinic
  - PRGN-3006 UltraCAR-T™ for AML, MDS-IND cleared Dec '18
  - PRGN-3005 UltraCAR-T™ for ovarian cancer-IND cleared Feb '19
  - PRGN-2009 AdenoVerse™ vaccine for solid tumors



## Operational readiness

- Established R&D and development infrastructure
- State-of-the-art facilities
- 95+ clinicians, scientists and operational employees as of Dec '18

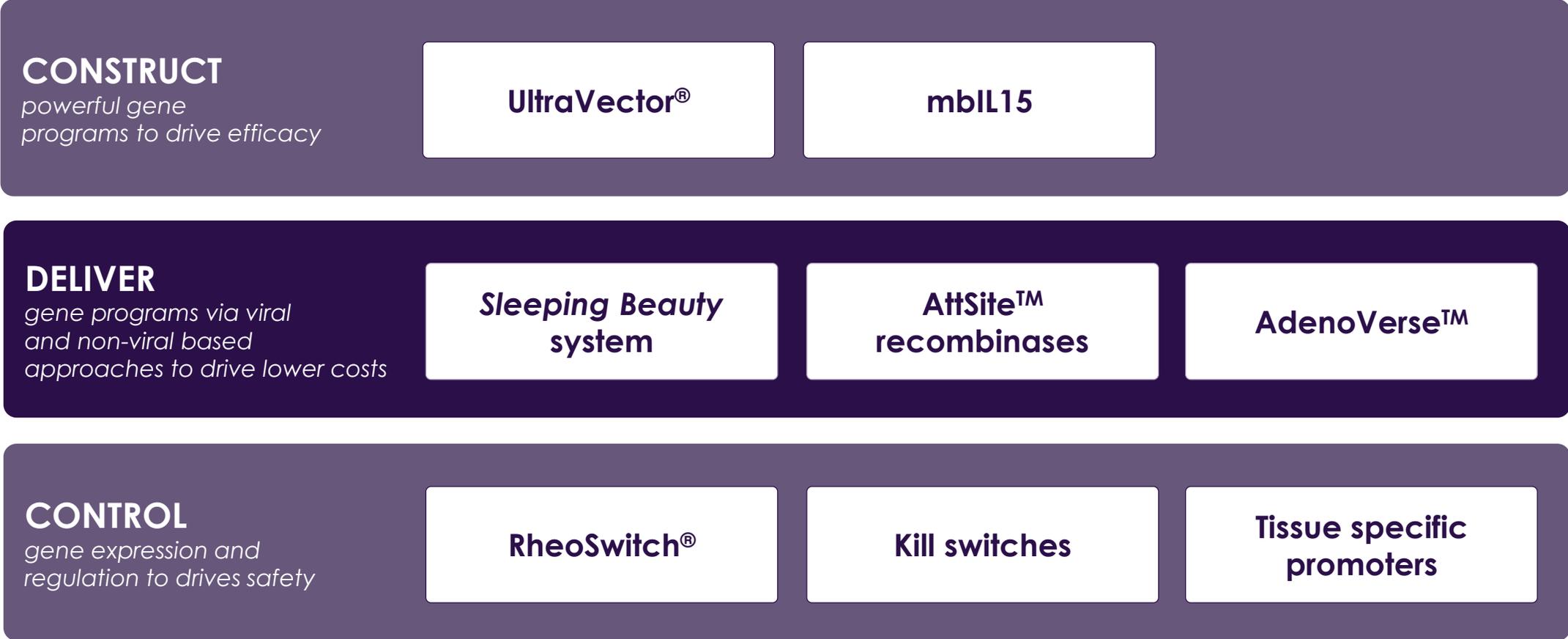


## Seasoned leadership

- Experienced management team to drive discovery and development



# Precigen's technology platforms



# Precigen's pipeline offers rapid value creation and potential for novel combinations

TA	Product	Platform	Indication	Discovery	Preclinical	Phase I
Immuno-oncology	PRGN-3006	UltraCAR-T	AML, MDS	▶		
	INXN-3004	Viral CAR-T	AML	▶		
	PRGN-3005	UltraCAR-T	Ovarian Cancer	▶		
	PRGN-3007	UltraCAR-T	Undisclosed	▶		
	PRGN-3008	UltraCAR-T	Undisclosed	▶		
	PRGN-2009	AdenoVerse Vaccine	Solid Tumors	▶		
	PRGN-2010	AdenoVerse Vaccine	Solid Tumors	▶		
	PRGN-5001	Multifunctional Therapeutic	Solid Tumors	▶		
	PRGN-2011	AdenoVerse Cytokine Therapy	Solid Tumors	▶		
	PRGN-5002	Multifunctional Therapeutic	Solid Tumors	▶		
Infectious disease	PRGN-2012	AdenoVerse Vaccine	Undisclosed	▶		
	PRGN-2013	AdenoVerse Vaccine	Undisclosed	▶		
Autoimmune disorders	PRGN-3009	Undisclosed	Undisclosed	▶		
	PRGN-3010	Undisclosed	Undisclosed	▶		



# PRGN-3005 UltraCAR-T™ and PRGN-3006 UltraCAR-T™, first-in-class therapies

## PRGN-3005 UltraCAR-T™

### Status

- FDA IND clearance in Feb '19
- Phase I study to evaluate safety and maximal tolerated dose
- Study in collaboration with University of Washington

### Patient Population

- Advanced stage platinum resistant ovarian cancer
  - 300k diagnosed annually<sup>1</sup>/22k in US<sup>2</sup>
  - Stage IV survival as low as 20%<sup>3</sup>

## PRGN-3006 UltraCAR-T™

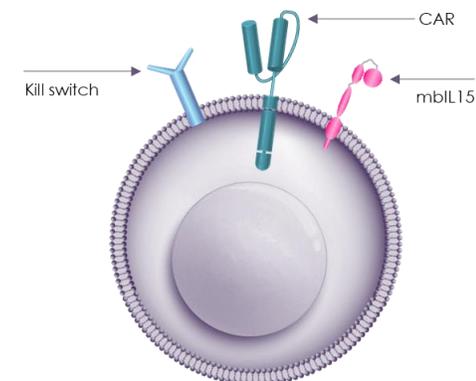
### Status

- FDA IND clearance in Dec '18
- Phase I/1b study to evaluate safety and maximal tolerated dose expected to initiate in 1H '19
- Study in collaboration with Moffitt Cancer Center

### Patient Population

- Relapsed or refractory acute myeloid leukemia (AML)
  - 20k diagnosed in US in 2018<sup>4</sup>
- Higher risk myelodysplastic syndrome (MDS)
  - US incidence >10k per year<sup>5</sup>

## UltraCAR-T™



Non-viral *Sleeping Beauty* system to co-express CAR, mbIL15 and kill switch

<sup>1</sup>World Health Organization, International Agency for Research on Cancer, Global Cancer Observatory. Cancer Today, Estimated number of new cases in 2018, worldwide, both sexes, all ages. Accessed December 2018 via [WHO IARC GCO website](#).

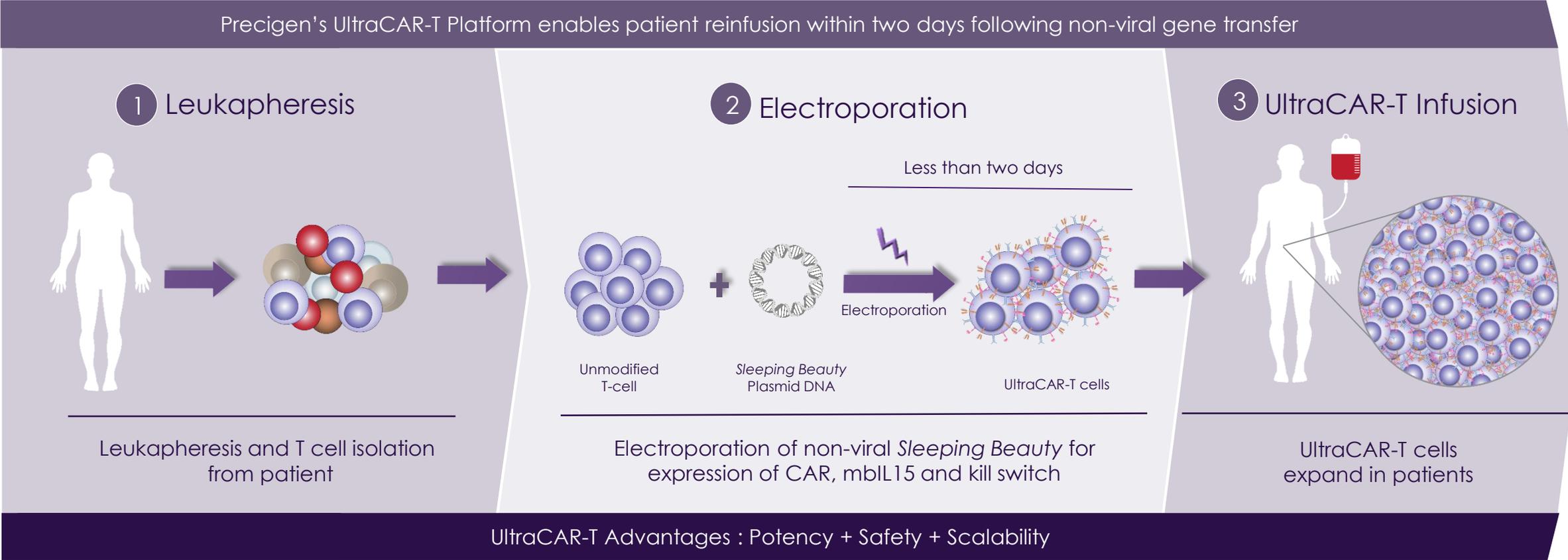
<sup>2</sup>American Cancer Society Ovarian Cancer Special Section. Access December 2018 via [ACS website](#).

<sup>3</sup>American Cancer Society. Survival Rates for Ovarian Cancer, by Stage. Accessed December 2018 via [ACS website](#).

<sup>4</sup>American Cancer Society. Key Statistics for Acute Myeloid Leukemia (AML). Accessed December 2018 via [ACS website](#).

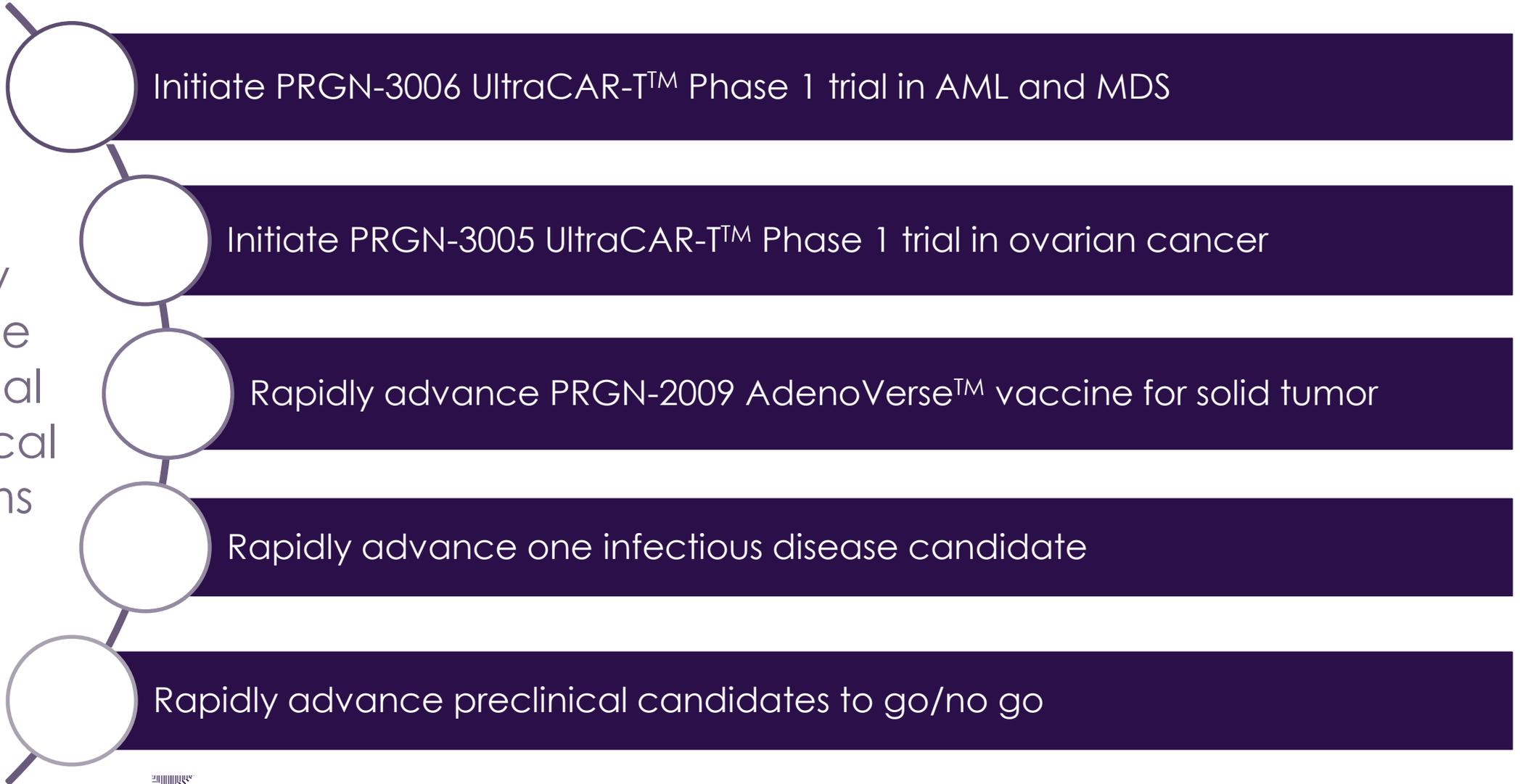
<sup>5</sup>American Cancer Society. Key Statistics for Myelodysplastic Syndromes. Accessed December 2018 via [ACS website](#).

# Disrupting the market: Precigen's transformative UltraCAR-T™ platform



# Looking ahead to 2019

Rapidly  
advance  
preclinical  
and clinical  
programs



**intrexon**



**PRECIGEN**  
ADVANCING MEDICINE WITH PRECISION™