voyager THERAPEUTICS

Unlocking the Potential of AAV Gene Therapy

SVB Leerink 11th Annual Global Healthcare Conference | February 18, 2022

Forward-Looking Statements

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This presentation also contains estimates and other statistical data made by independent parties and by the Company relating to market size and growth and other data about the Company's industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions and estimates of the Company's future performance and the future performance of the markets in which the Company operates are necessarily subject to a high degree of uncertainty and risk.

A fully-integrated platform for gene therapy development

A leader in next-gen AAV capsid discovery

- TRACER™ platform has identified highly differentiated AAV9- and AAV5-derived capsids
- Further discovery campaigns growing array of capsids targeting multiple tissue/cell types and refining initial sets of capsids to enhance desirable characteristics

Deep experience vectorizing diverse payload modalities

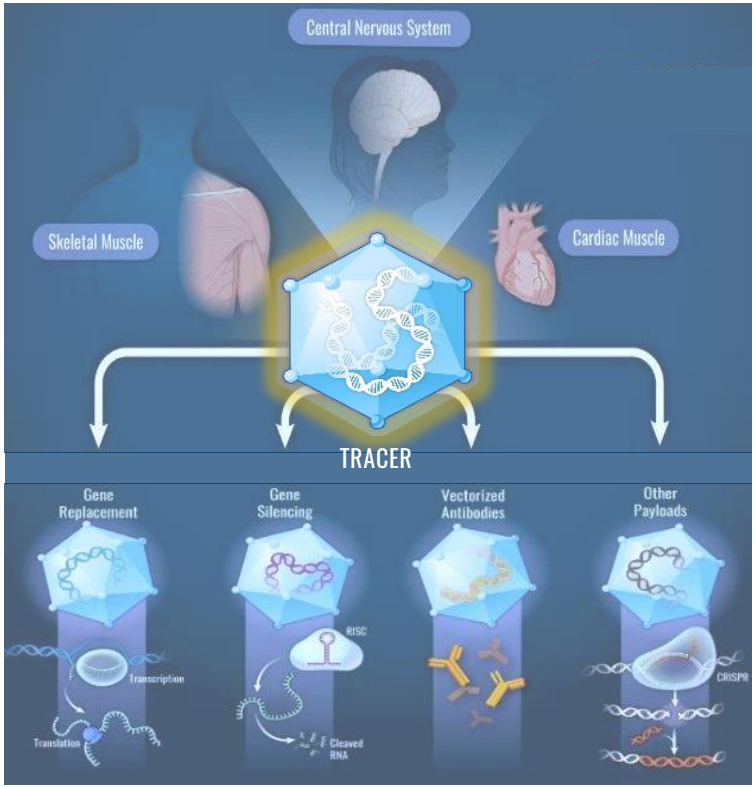
- Replacement, silencing, antibodies, other
- Differentiated vectorization and manufacturing

Expanding breadth of development opportunities

- Partnerships create 'external pipeline' and complement rich internal portfolio

TRACER™: Tropism Redirection of AAV by Cell-type-specific Expression of RNA

TRACER AAV capsid discovery platform: powering next-gen gene therapy



Generating highly differentiated AAV9 capsids to overcome critical gene therapy limitations*

- ✓ Superior blood-brain-barrier penetration
- ✓ Enhanced cardiac muscle tropism
- ✓ Increased transgene expression in target tissues
- ✓ New class selective for glial cells – more precise CNS targeting
- ✓ AAV5 capsids with enhanced brain, spinal cord tropism**

Enabling external development opportunities

- ✓ Transgene-specific license options for CNS/cardiac programs

Powering internal pipeline with best-in-class potential

- ✓ Well-validated targets, pathways to POC, areas of high unmet need

*compared to conventional AAV9 and **AAV5 dosed intravenously in non-human primates (NHPs)

Recent Highlights

First transgene-specific licensing agreement
reserves potential to execute similar transactions across various target cells, tissues, transgenes

- $30 million upfront with $20 million in near-term options
- Potential for $580 million in milestones, plus royalties
- Option to access capsids for two CNS/cardiac transgenes
- Retain global rights to use licensed capsids in other transgenes, TRACER applications
- Potential for similar transactions across various target cells, tissues, transgenes

Al Sandrock joins Board/Executive Committee
to help shape future strategies for TRACER, therapeutic programs, external collaborations

- Scientific visionary who led the development of multiple transformational therapies for serious neurological diseases

Cash runway into second half of 2023 supported by $130+ million position as of Dec. 31, 2021

First-generation AAV vectors have limited the gene therapy field for decades

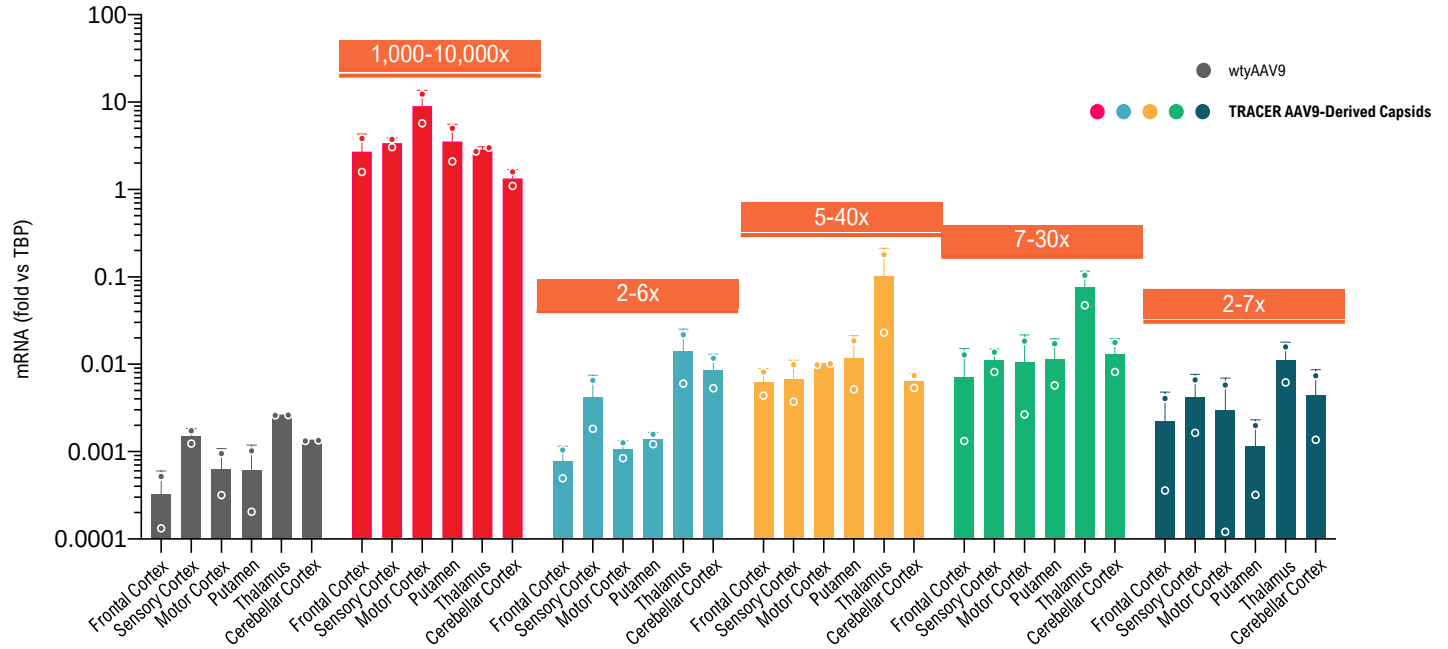
Conventional AAV vectors have a narrow therapeutic window

- Achieving meaningful efficacy with high doses yields a safety trade-off and risk-benefit imbalance
- Substantial toxicity risk from off-target effects
- Discoveries with conventional AAV capsids in mice have not translated to primates
- Clear limitations to effectively target the CNS and achieve broad transduction
- Direct injection into target tissue can achieve sufficient distribution only for some indications

The enormous promise of gene therapy will not be realized until improved, next-generation AAV vectors emerge

First TRACER campaign generated exceptionally improved capsids in NHPs*

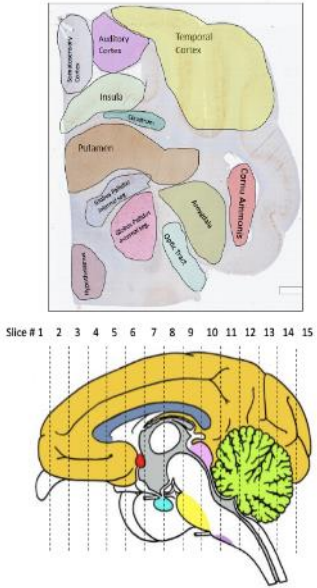
Initial studies demonstrate unprecedented expression throughout CNS with no toxicities

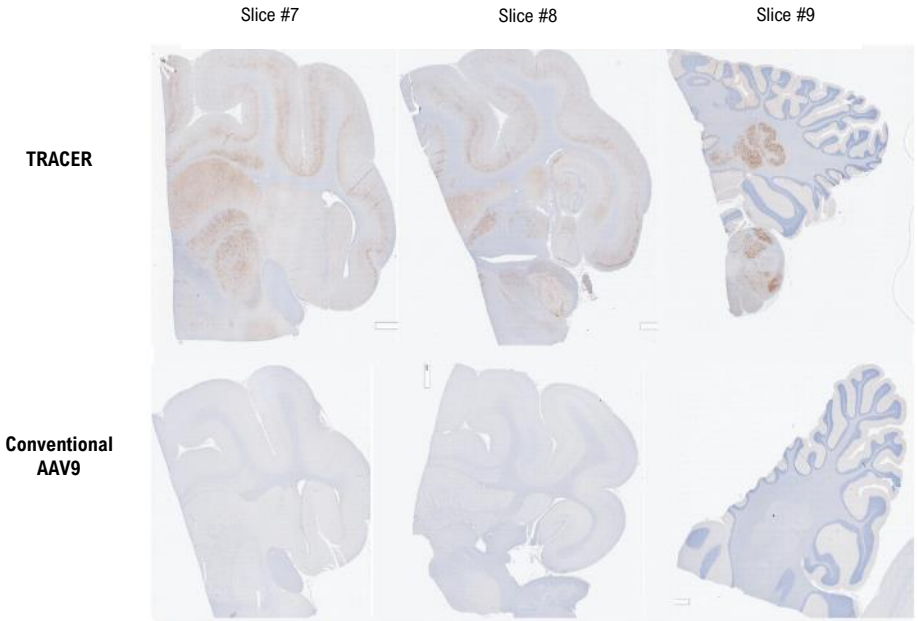


*compared to conventional AAV9 dosed intravenously

TRACER AAV9-derived capsid mediates widespread transgene expression in NHP brain*

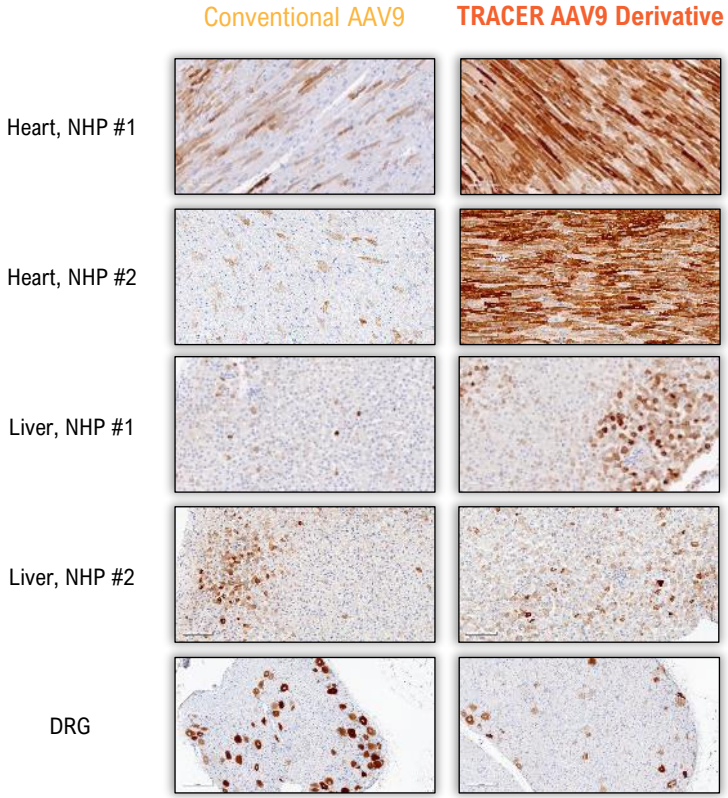
Capsid variants crossed blood-brain barrier and achieved widespread transduction of multiple brain regions including cortex, thalamus, striatum, cerebellum, brainstem, and spinal cord



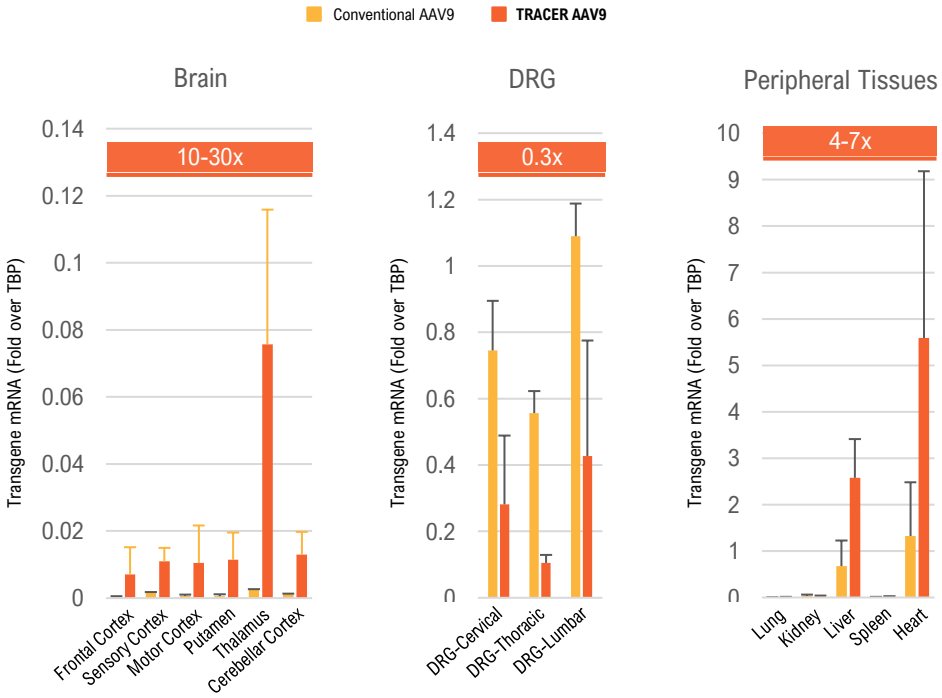


*compared to conventional AAV9 dosed intravenously

TRACER AAV9-derived capsid displays strong heart transduction and DRG detargeting*

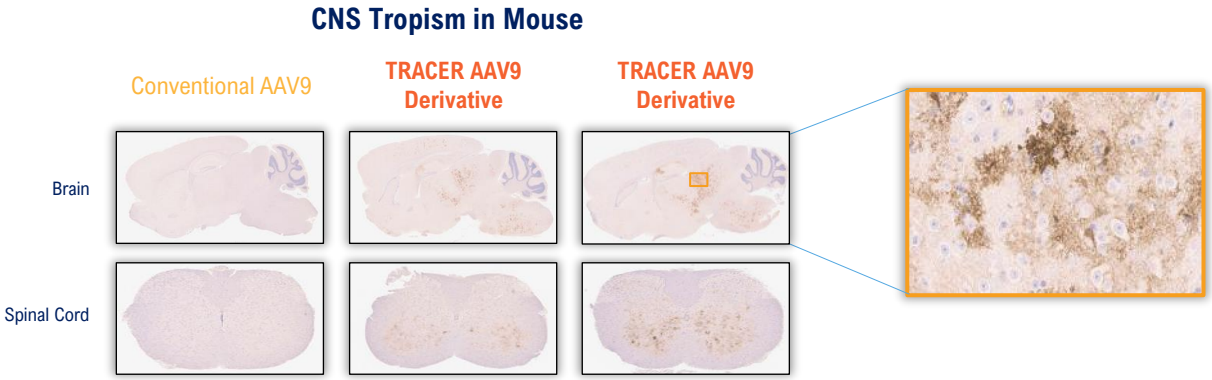


TRACER-Derived AAV9 Transgene Expression Pattern in NHPs



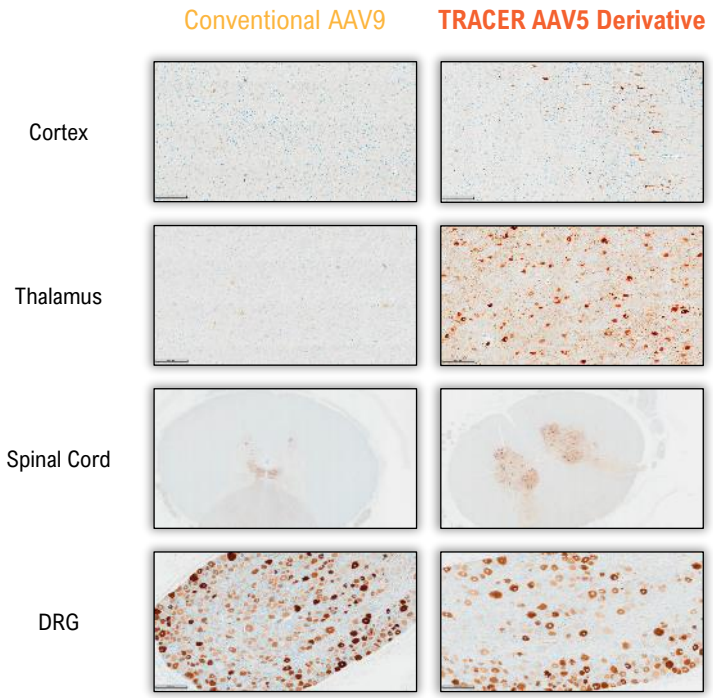
*compared to conventional AAV9 dosed intravenously in NHPs

New class of TRACER AAV9-derived capsids selective for glial cells in NHPs and rodents



- ✓ Strong tropism for glial cells – may enable more precise targeting of certain CNS diseases affecting non-neuronal cells
- ✓ 40-70-fold increase in CNS transduction relative to conventional AAV9, when dosed intravenously
- ✓ Robust CNS targeting in both non-human primates and rodents, facilitating preclinical development

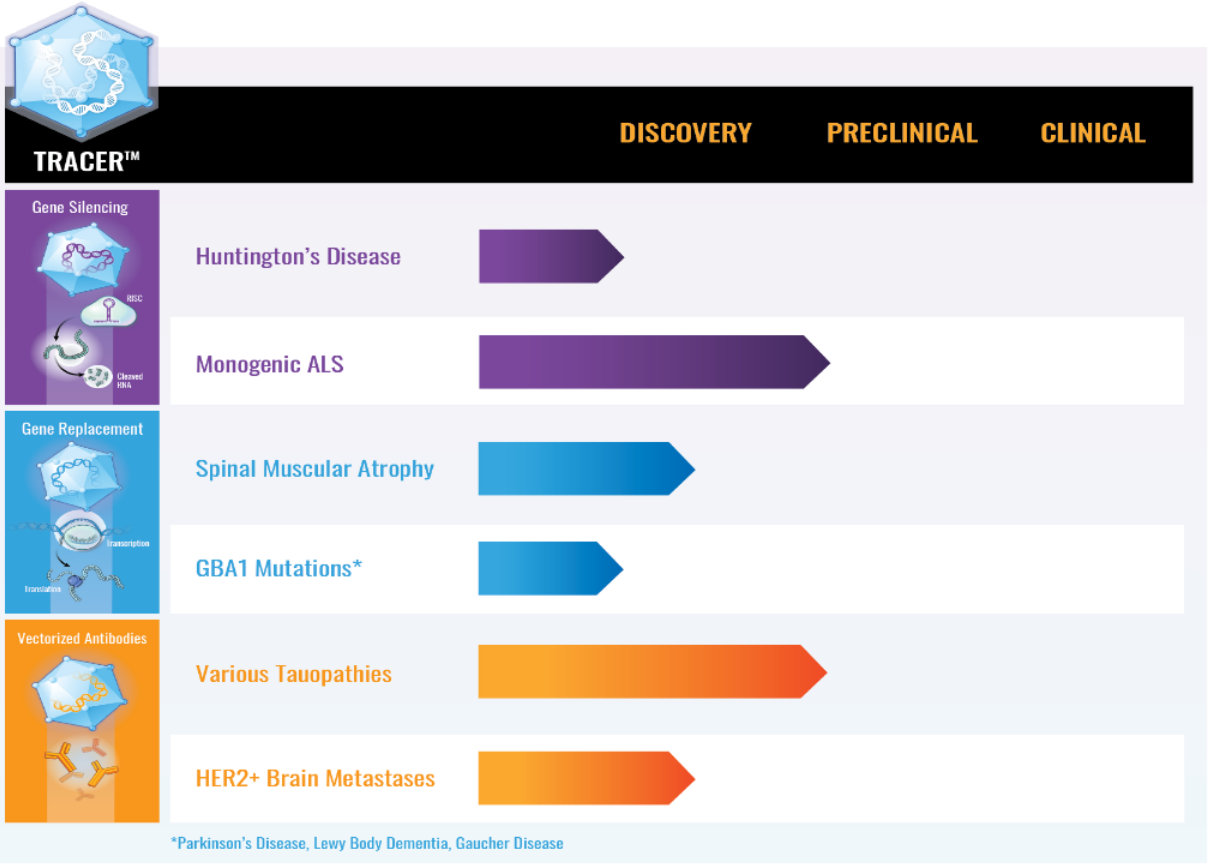
TRACER AAV5-derived capsid displays enhanced CNS tropism in NHPs*



- ✓ Low prevalence of neutralizing antibodies to AAV5 in general population
- ✓ Manufacturing advantages
- ✓ Cross-species translatability among primates and rodents
- ✓ Approximately 20-fold improvements in brain transduction compared with AAV9 (and greater versus AAV5) in NHPs
- ✓ Partial DRG detargeting (~2-fold)*

*compared to conventional AAV9 dosed intravenously

TRACER-powered pipeline designed to achieve best-in-class status



Partnerships expand growing number of development opportunities

INDICATION / TISSUE	RIGHTS	DEVELOPMENT
CNS 1 TRANSGENE	Pfizer	Undisclosed
Cardiac Muscle 1 TRANSGENE	Pfizer	Undisclosed
Friedreich's Ataxia	NEUROCRINE BIOSCIENCES	Undisclosed
CNS	NEUROCRINE BIOSCIENCES	Undisclosed
CNS	NEUROCRINE BIOSCIENCES	Undisclosed

Voyager retains global rights to all licensed TRACER capsids for use with other transgenes and to all other applications of the technology

Voyager has the option to co-develop or co-commercialize the program in the U.S. or grant Neurocrine global commercial rights

Powering the Next Generation of AAV Gene Therapy

- Growing franchise of novel TRACER capsids with potential to overcome limitations and toxicities of first-generation AAV vectors*
- First capsid licensing deal signed with Pfizer, significant BD interest for further applications
- Highly differentiated, integrated AAV gene therapy product engine
  - Industry-leading capabilities across delivery, vector engineering, and process/analytical development
- Expanding internal and external pipeline with best-in-class potential

*compared to conventional AAV9 dosed intravenously in NHPs

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