



Enabling the Nervous System to Repair Itself

Corporate Presentation

JULY 2023

Financial Disclosure Statement

Not an offer or solicitation: This document is provided for general information purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any security in any jurisdiction. The contents of this document have not been approved or disapproved by any securities commission or regulatory authority in Canada, the U.S. or any other jurisdiction. It is neither sufficient for, nor intended to be used in connection with, any decision relating to the purchase or sale of any existing or future securities. Investors considering the purchase or sale of any securities should consult with independent professional advisors.

Forward-looking statements: Certain statements in this document about the Company's current and future plans, expectations and intentions, results, levels of activity, performance, goals or achievements, or any other future events or developments constitute forward-looking statements, including, without limitation, statements regarding the advancement of NVG-291 in clinical development, the timing of human trials and regulatory approval, the potential efficacy of the Company's products and technology, and the potential to identify, evaluate and develop other drug candidates. The words "may", "will", "would", "should", "could", "expect", "plan", "intend", "trend", "indication", "anticipate", "believe", "estimate", "predict", "likely" or "potential", or the negative or other variations of these words or other comparable words or phrases, are intended to identify forward-looking statements. Forward-looking statements are based on estimates and assumptions made by the Company in light of management's experience and perception of historical trends, current conditions and expected future developments, as well as other factors that the Company believes are appropriate and reasonable in the circumstances. Many factors could cause the Company's actual results, level of activity, performance or achievements or future events or developments to differ materially from those expressed or implied by the forward-looking statements, including those described in the "Risk Factors" section of the Company's Annual Information Form, Short Form Base Shelf Prospectus, financial statements and Management Discussion and Analysis which can be found on SEDAR.com. All clinical development plans are subject to additional funding. Readers should not place undue reliance on forward-looking statements made in this document. Furthermore, unless otherwise stated, the forward-looking statements contained in this document are made as of the date of this document, and the Company has no intention and undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law. The forward-looking statements contained in this document are expressly qualified by this cautionary statement.

NervGen Highlights

Developing therapies to **revolutionize treatment** for a broad range of therapeutic indications

NVG-291, a first-in-class drug candidate under development with potential to **repair nervous system damage**

Demonstrated functional improvement in six **different models** of nervous system damage

Targeting indications of **high unmet medical need** beginning with spinal cord injury (SCI)

Proof of concept (Phase 1b/2a) spinal cord injury clinical trial enrolling in 2023 with results expected in 2024

Leadership



Mike Kelly, MBA, BSBA
Chief Executive Officer

Mike brings three decades of pharmaceutical industry experience in creation, development and strengthening of both private and public companies.



Bill Adams, CPA, CA
Chief Financial Officer

Bill has over 25 years of strategic financial management experience that includes mergers and acquisitions, operations and capital markets in Canada and the US.



Dan Mikol, MD, PhD
Chief Medical Officer

Dan has over 25 years of experience in the pharmaceutical industry and as a practicing physician conducting clinical research in the field of neurology.



Matvey Lukashev, PhD
VP, Research & Preclinical Devt.

Matvey has over 30 years of experience in academia, industry and biotech settings focused on translational research and drug discovery.



Nana Collett, MS, MBA
VP, Program Management

Nana has over 20 years experience managing biopharma product development programs from preclinical stage to Phase 3 across a range of therapeutic areas.



History of NervGen Technology

1990s

Dr. Silver discovered that glial scars contains chondroitin sulfate proteoglycans (**CSPG**), a group of molecules known to inhibit cellular events central to neural tissue repair

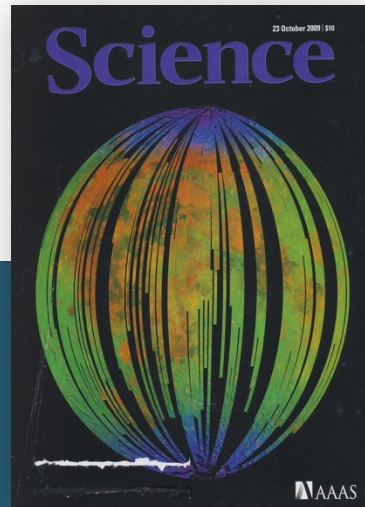


Jerry Silver, PhD



2009

Dr. Silver and collaborators from Harvard co-discovered that CSPGs bind to protein tyrosine phosphatase sigma (**PTPσ**), a receptor present in the brain and spinal cord and involved in CSPG-dependent inhibition of neuroplasticity



2015

Dr. Silver's team designed a peptide (NVG-291-R) derived from PTPσ shown to relieve CSPG-mediated inhibition of nervous system repair.
NVG-291 is the humanized version of NVG-291-R

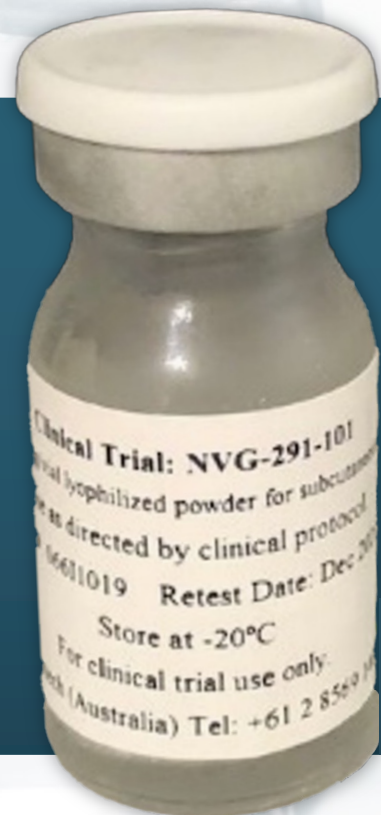


2018

NervGen licensed NVG-291 **global rights for development and commercialization** in all indications from Case Western with intellectual property protection until 2037



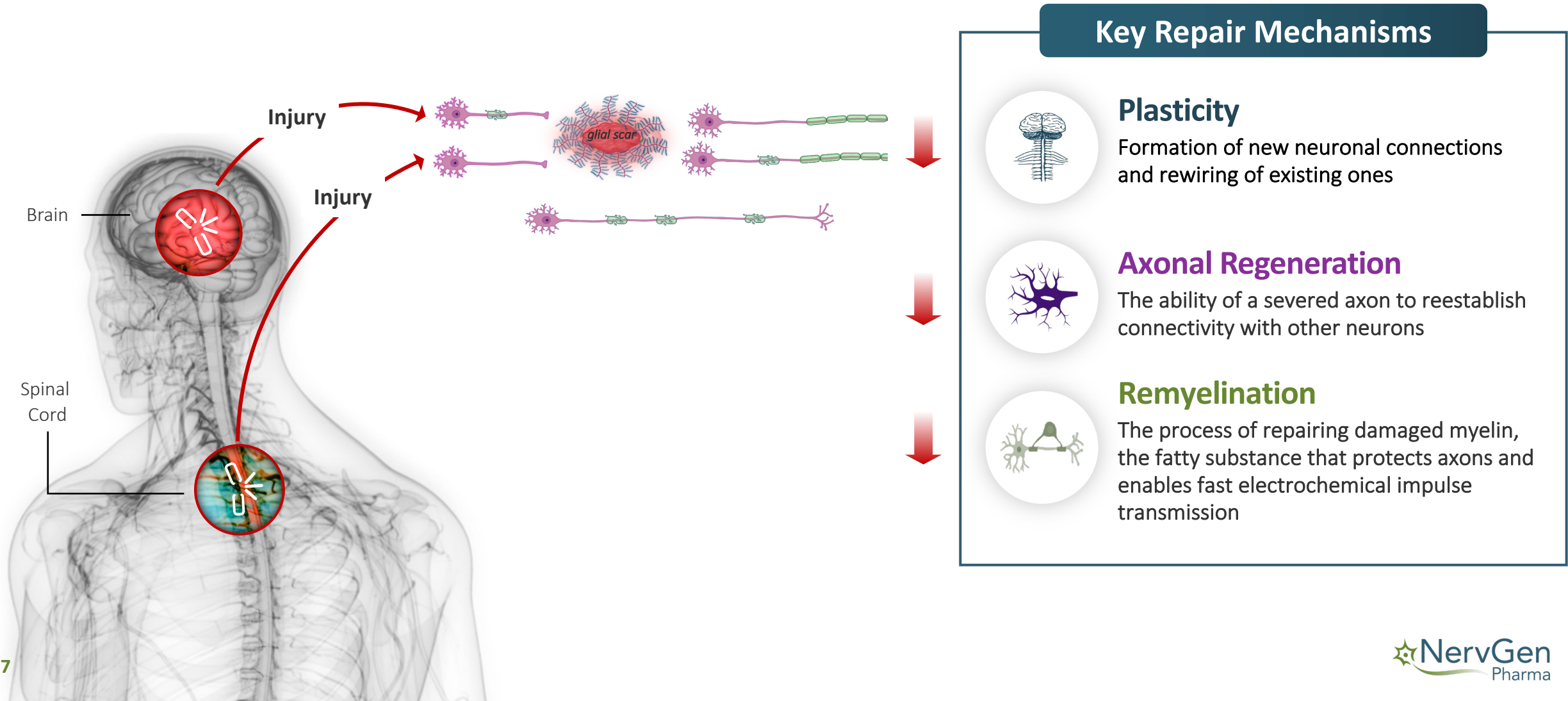
NVG-291: Product Candidate Overview



- Cell-penetrating peptide, 35 amino acids in length
- Designed to cross cell membranes for enhanced cellular uptake of the drug
- Route of administration is subcutaneous injection
- Manufactured by chemical synthesis
- Discovery focused on analogs with new composition of matter IP, improvements in pharmacology and cost of manufacturing

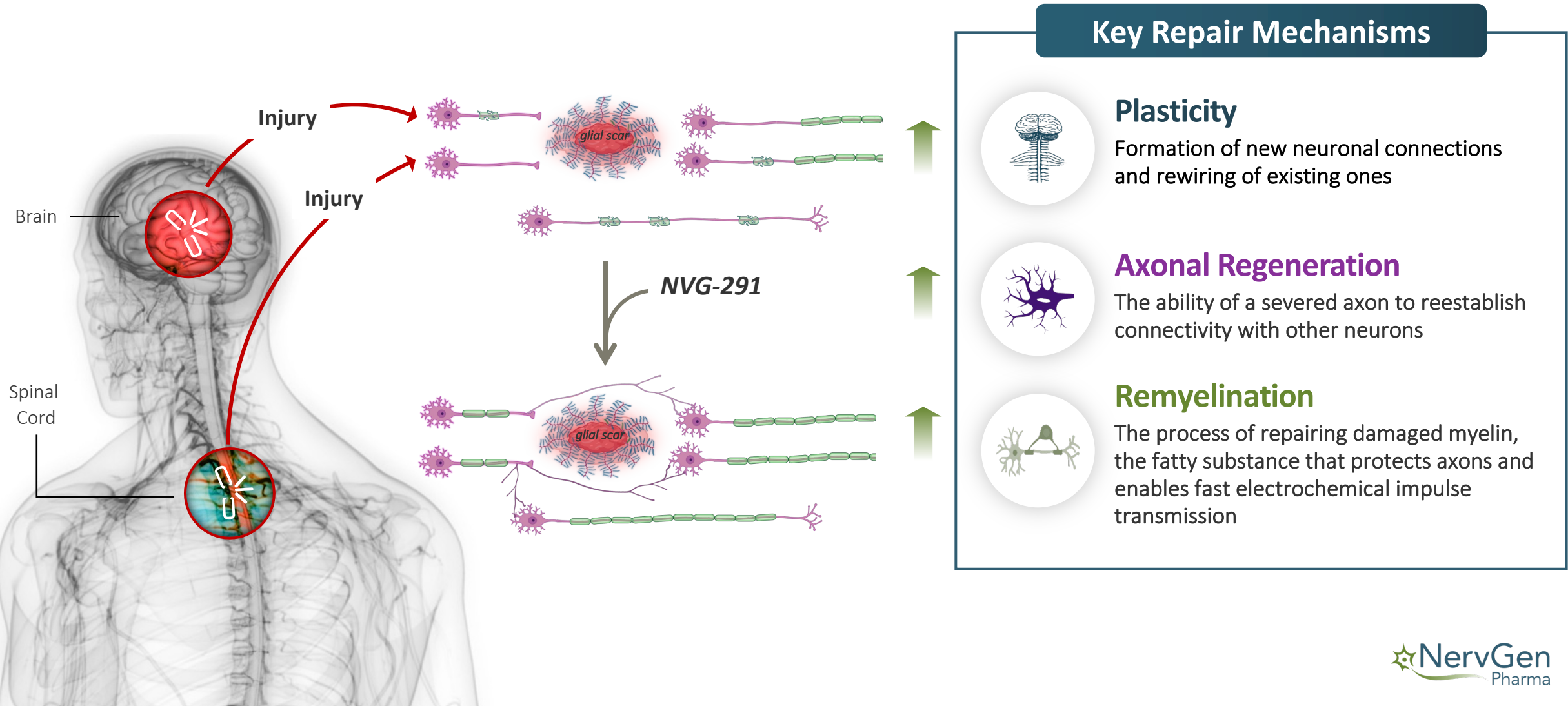
Nervous System Damage Has Limited Treatment Alternatives

Glial scars and accumulation of CSPGs suppress CNS repair




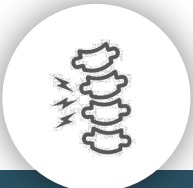




Novel Therapy Under Development to Repair Nervous System Damage

NVG-291 targets negative effects of CSPGs on CNS repair








Multiple Preclinical Studies Using NVG-291-R* Report Improved CNS/PNS Repair

Enhanced Plasticity, Repair (Axonal, Myelination), and Recovery of Function

Conditions Modeled	ACUTE SPINAL CORD INJURY	CHRONIC SPINAL CORD INJURY	STROKE (Ischemic, Hemorrhagic)	MULTIPLE SCLEROSIS (EAE)	PERIPHERAL NERVE INJURY	OPTIC NERVE DEMYELINATION
						
Functional Endpoints	Motor Sensory Bladder	Motor	Motor Sensory Object recognition	Motor	Motor Sensory	Visual Behavioral
	<div>1. Lang, B.T. et al., Nature, 518, 404–408. (2015).</div> <div>2. Rink, S. et al., Experimental Neurology, 309, 148–159. (2018).</div> <div>3. Ham, T.R. et al., Ann Biomed Eng, 47, 744–753. (2019).</div> <div>4. Ham, T.R. et al., Materials Science and Engineering: C, 110, 110656. (2020).</div>	<div>1. Milton et al., bioRxiv, doi:10.1101/2022.08.01.502398 (not peer-reviewed)</div>	<div>1. Luo et al., Cell Reports Volume 40, Issue 4, 111137, 2022</div> <div>2. Yao et al., Journal of Neuroinflammation 19:207, 2022</div>	<div>1. Luo, F. et al., Nature Communications, 9, 1–16. (2018).</div>	<div>1. Li, H. et al., Scientific Reports, 5, 1–14. (2015).</div> <div>2. Yao, M. et al., Neuropharmacology, 144, 208–218. (2019).</div>	<div>1. Niknam, P. et al., Molecular and Cellular Neuroscience, 99, 103391. (2019).</div>

Nervous System Damage Markets and Opportunity

Significant medical costs and morbidity

					
	SCI	Ischemic Stroke	ALS	MS	AD
Incidence*	18,000	795,000	~7,000	10,000	500,000
Prevalence*	291,000	9.4M	~25K-30K	~1M	6.7M
Lifetime Cost*	\$1M-\$4M+	\$140,000+	\$1.4M	\$4M+	\$400,000
System Cost*	\$50B+	\$57B	\$250M-\$1.0B	\$85B	\$320B-\$345B
Current Treatment*	Decompressive surgery and rehabilitation	TPA must be given within hours of stroke; rehabilitation	Disease modifying agents (e.g. riluzole, edaravone) to slow progression – none stop progression	Immunomodulatory/ immunosuppressive therapies to reduce relapses and/or slow progression	Symptomatic therapies (e.g. cholinesterase inhibitors) to temporarily improve cognition; anti-beta mAbs to slow progression
Unmet Needs*	Effective treatments to enhance recovery	Effective treatments to enhance recovery	Treatment that improve function	Treatments to remyelinate axons and improve function	Treatments to effect enduring improvements

A man with a beard and a bun, wearing a white t-shirt and grey pants, is sitting in a wheelchair. He is looking out a large window with vertical bars. The room has a light-colored floor and a white wall. A diagonal metal beam is visible in the background.

Spinal Cord Injury

No FDA approved drug to enable sustained functional recovery

- Goal is improved motor, bladder, bowel, sexual and/or sensory function
- NVG-291 has shown positive preclinical results
- Significant unmet medical need



SCI Demographics

- Average age: ~43
- Male (78%), female (22%)
- Cause: vehicle (38%); fall (33%); violence (15%); sports (8%)
- Annual hospitalization (30%): UTI, pneumonia, decubitus ulcer
- Duration of hospitalization and rehabilitation: 2 to 3 months
- Chance of depression: 25%
- Significant urinary and sexual dysfunction

TREATMENT

Surgery
(decompression)

Rehabilitation
(regain function)

SCI Facts and Figures

Incidence and Prevalence

There are approximately **18,000 spinal cord injuries** every year in the US¹

In 2019, there were just under **300,000 people living in the US** who have suffered a spinal cord injury¹

Worldwide, the **annual incidence** is estimated to be **250,000 to 500,000**²

Economic Impact

Individuals with SCI face a difficult and expensive journey through the healthcare system; that journey begins with **2-3 months in rehabilitation** and costs \$200,000 or more per patient³

Each individual with SCI faces an expected **lifetime cost of care between \$1M and \$4M**, depending on severity and age at injury⁴

In addition to the enormous economic costs, individuals with SCI face a **shorter expected lifespan, higher unemployment, higher chance of bankruptcy**⁵

(1) NSCSC: SCI Facts and Figures at a Glance; 2019 SCI Data Sheet Accessed May 11, 2023. (2) World Health Organization, Key Facts on Spinal Cord Injury, 2013; <https://www.who.int/news-room/fact-sheets/detail/spinal-cord-injury>. (3) DeVivo MJ, et. Al. Costs of Care Following Spinal Cord Injury, Top. Spinal Cord Inj. Rehab. 2011;16(4):1-9. (4) Cao Y, Chen Y, DeVivo MJ, Lifetime Direct Costs After Spinal Cord Injury, Top. Spinal Cord Inj. Rehab. 2011;16(4):10-16 (5) Merritt CH, Taylor MA, Yelton CJ, Ray SK Economic impact of traumatic spinal cord injuries in the US, Neuroimmunol. Neuroinflammation 2019;6:9

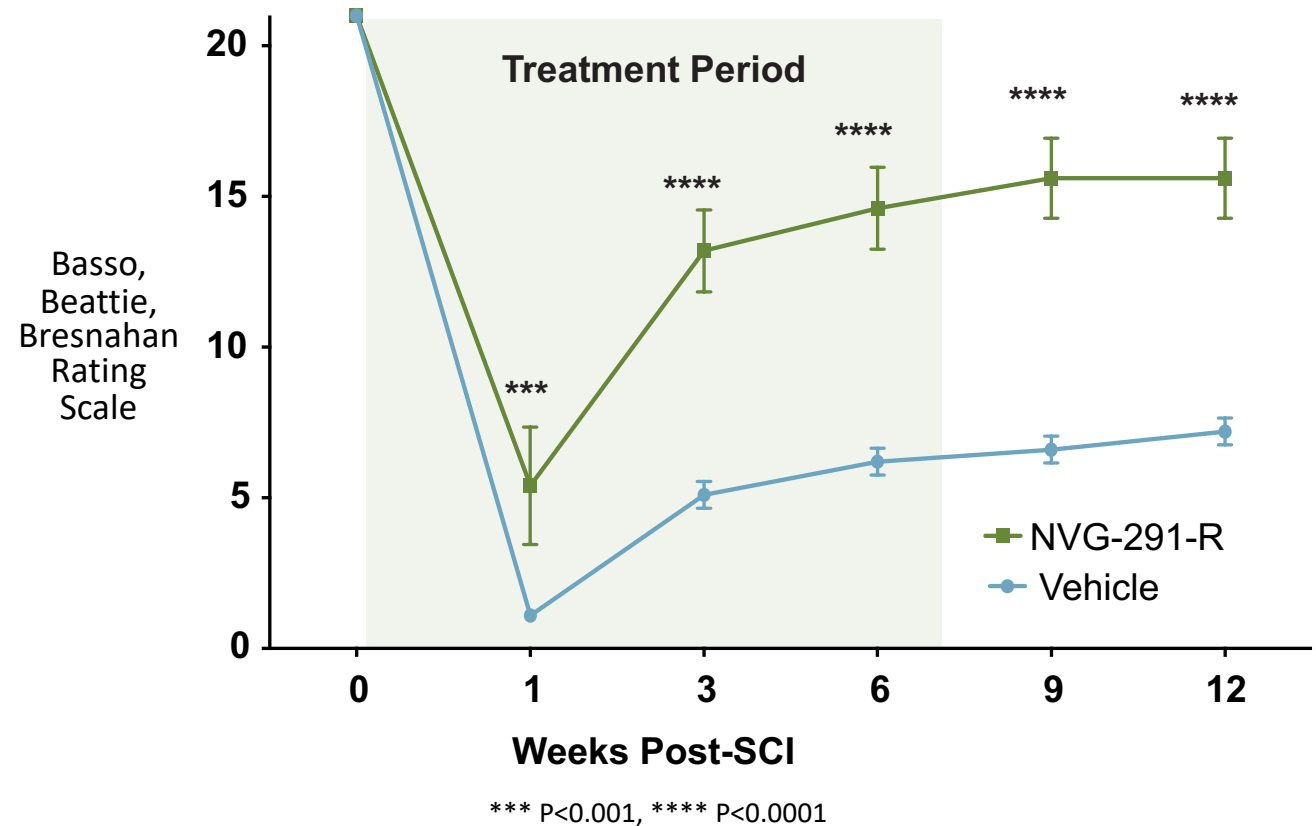
Acute SCI Preclinical Study

Overview

- T8 compression injury
- 500 µg/day x 7 weeks
- Treatment began 1 day post injury

Results

- Significant recovery of locomotor and bladder function
- Enhanced neuroplasticity (i.e. axonal sprouting) near and far from injury
- Functional improvements persist after treatment
- NVG-291-R can promote recovery in acute SCI



NVG-291: Severe Spinal Cord Injury Model

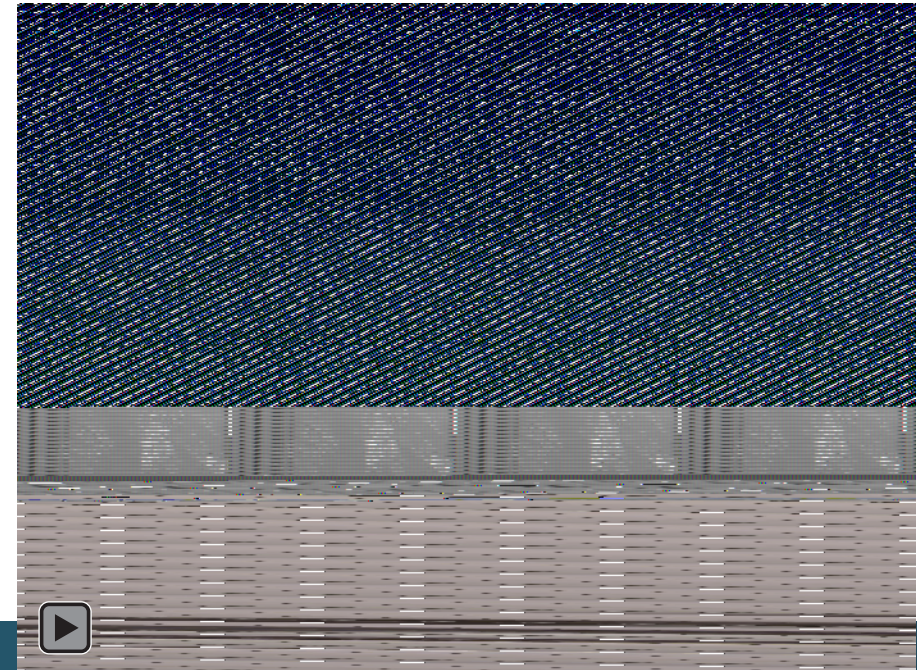
Representative of Placebo Group

(Back Legs and Tail Dragging)



Representative of NVG-291 Group

(Back Legs and Tail Active)



Remarkable and robust repair across multiple models

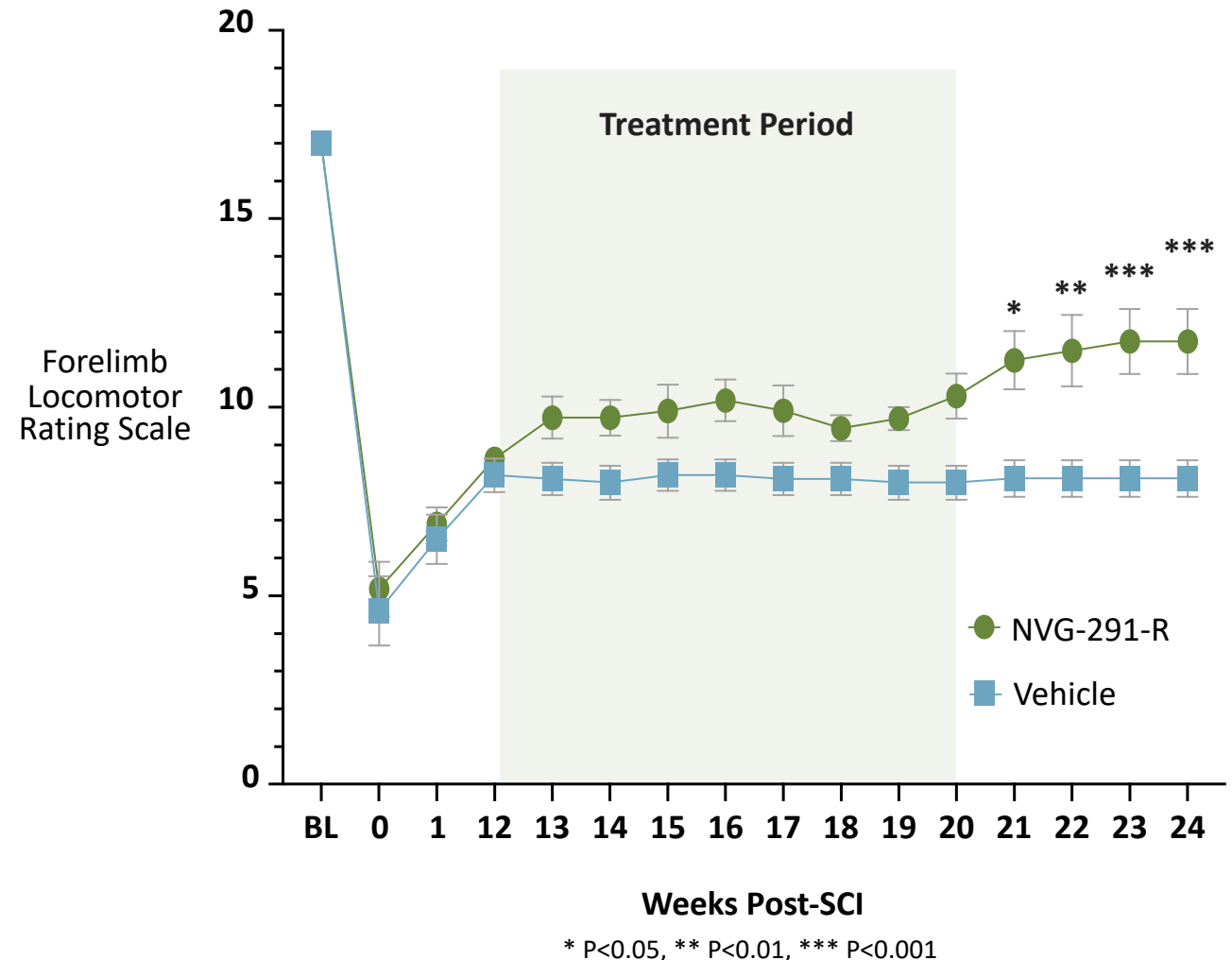
Chronic SCI Preclinical Study

Overview

- C2 lateral hemisection
- 500 µg/day x 8.5 weeks
- Treatment began 12 weeks post-injury

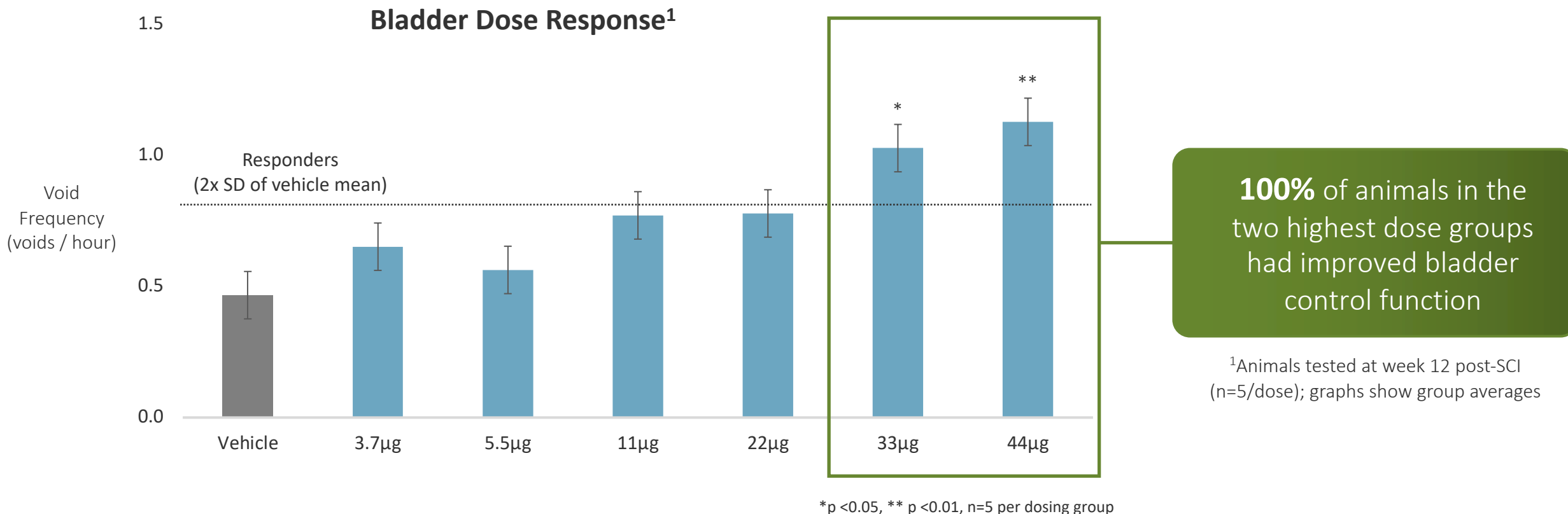
Results

- Significant recovery of forelimb locomotor function
- Functional improvements persist after treatment
- NVG-291-R can promote recovery in chronic stages of SCI



Spinal Cord Injury

Bladder function improved following NVG-291-R treatment in preclinical animal studies



Bladder function is a key quality of life measure in the paralyzed population

NVG-291 Phase 1 Clinical Trial Results

Study Design

Single Dose

- 37 subjects
- 6 dose levels
- Assessed through Day 8

Multiple Dose

- 33 subjects
- 4 dose levels
- Subjects dosed subcutaneously once/day for 14 days
- Assessed through Day 21

Safety Results

- Well tolerated across all doses
 - Maximum tolerated dose (MTD) not reached
- No treatment discontinuations
- No serious/severe adverse events (AE) in NVG-291 group
- Most common AE was injection site related (ISR)
- No clinically significant effects related to NVG-291 treatment across all study parameters

Phase 1b/2a Proof of Concept Trial in SCI

Study Design

Two Cohorts

- Randomized 1:1 to NVG-291 and placebo

Chronic SCI

- ~20 individuals (1-10 years post injury)

Subacute SCI

- ~20 individuals (10-49 days post injury)

Administration / Trial

- Once daily subcutaneous injection
- 16-week trial (12-wk treatment, 4-wk noninterventional period)
- Exercise over 16 weeks
- Single center, Shirley Ryan AbilityLab (Chicago, IL)
 - Decrease variability of electrophysiological assessments
 - Ensure standardized exercise program



Safety Objectives

Co-Primary Endpoints: Quantitative Measure of Motor Connectivity

- Hand muscle group
- Leg muscle group

Secondary Endpoints

- Clinical measures based on performance tests (walking speed, hand function) and neurological assessment
- Electrophysiological measures of electrical connectivity

Exploratory Endpoints

- Autonomic (e.g. bladder function)
- Spasticity (lower extremities)
- Mobility
- Quality of life
- Plasma biomarkers

SCI Clinical Advisory Board

James Guest, MD, PhD, FACS

Professor of Neurological Surgery at the University of Miami and The Miami Project to Cure

Steven Kirshblum, MD

Professor and Chair of the Department of Physical Medicine and Rehabilitation at Rutgers New Jersey Medical School

Chief Medical Officer for Kessler Institute for Rehabilitation and Kessler Foundation

Brian Kwon, MD, PhD, FRCSC

Professor in the Department of Orthopedics at the University of British Columbia, the Canada Research Chair in Spinal Cord Injury

Linda Jones, PT, PhD

Collaborating Investigator at Spinal Cord Outcomes Partnership Endeavor (SCOPE)

Chair of the Research Committee of the American Spinal Injury Association (ASIA)

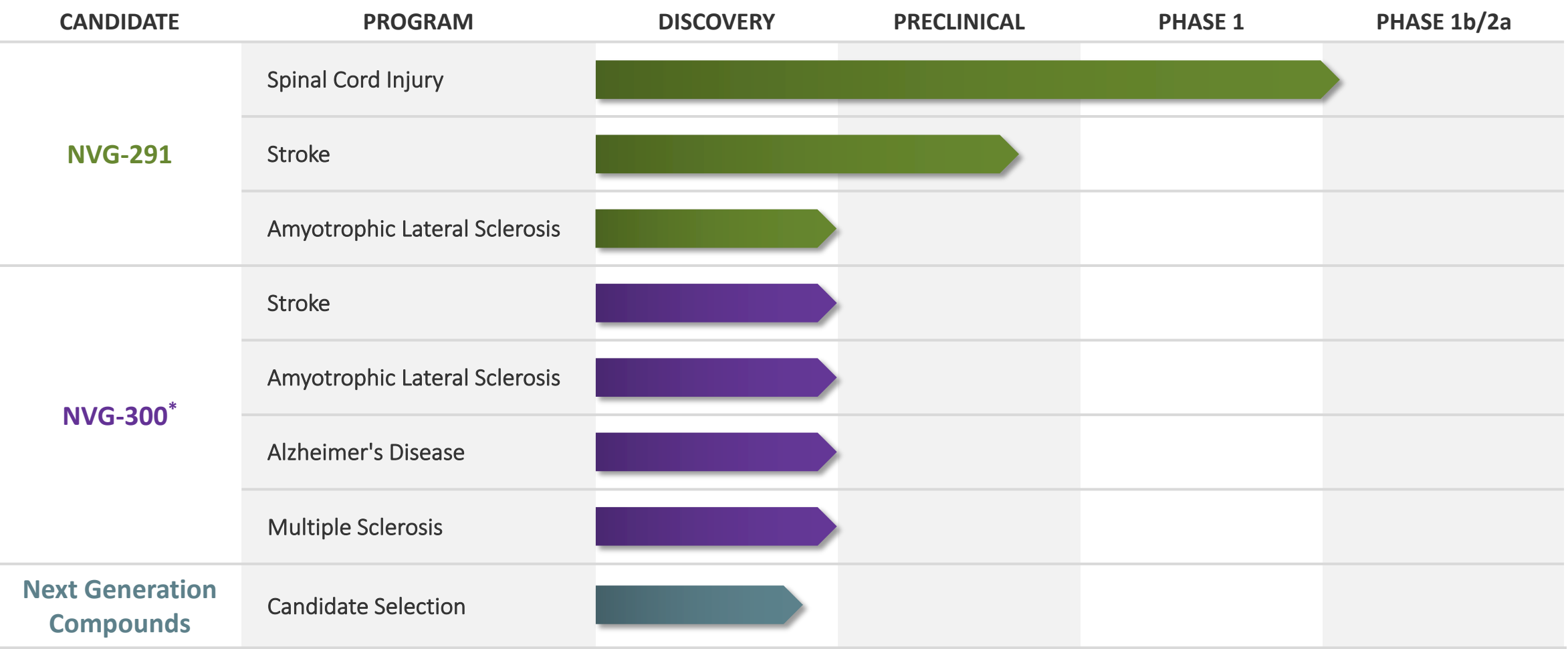
Daniel Lammertse, MD

Clinical Professor of Physical Medicine and Rehabilitation at the University of Colorado School of Medicine

Emeritus Clinical Scientist at Craig Hospital in Englewood Colorado

Product Pipeline

Multiple development opportunities



Board and Key Partnerships



Bill Radvak

Chairman & Co-Founder



Glenn Ives

Former Partner, Deloitte LLP



Krista McKerracher

Former Global Franchise Head, Novartis



Harold Punnett, DMD

Co-Founder



Randall Kaye, MD

CMO, Longboard Pharmaceuticals



Adam Rogers, MD

Former CEO & Co-Founder, Hemera



Brian Bayley

Director, Earlston Investments



Mike Kelly

President & CEO, NervGen



Craig Thompson

CEO, Cerevance

KEY PARTNERS



Key Value Drivers

Phase 1b/2a clinical trial: IRB approval and first patient dosed (2023)

Preclinical data in multiple indications (2023/24)

Next generation compound progress (2023/24)

Proof of concept readout in chronic SCI (mid-2024)



Enabling the Nervous System to Repair Itself

www.nervgen.com

Certain images in this presentation are sourced from Flaticon
All trademarks are the property of their respective Company owners