BrainStorm Cell Therapeutics

NASDAQ: BCLI

brainstorm cell therapeutics

February 2020

Forward Looking Statement

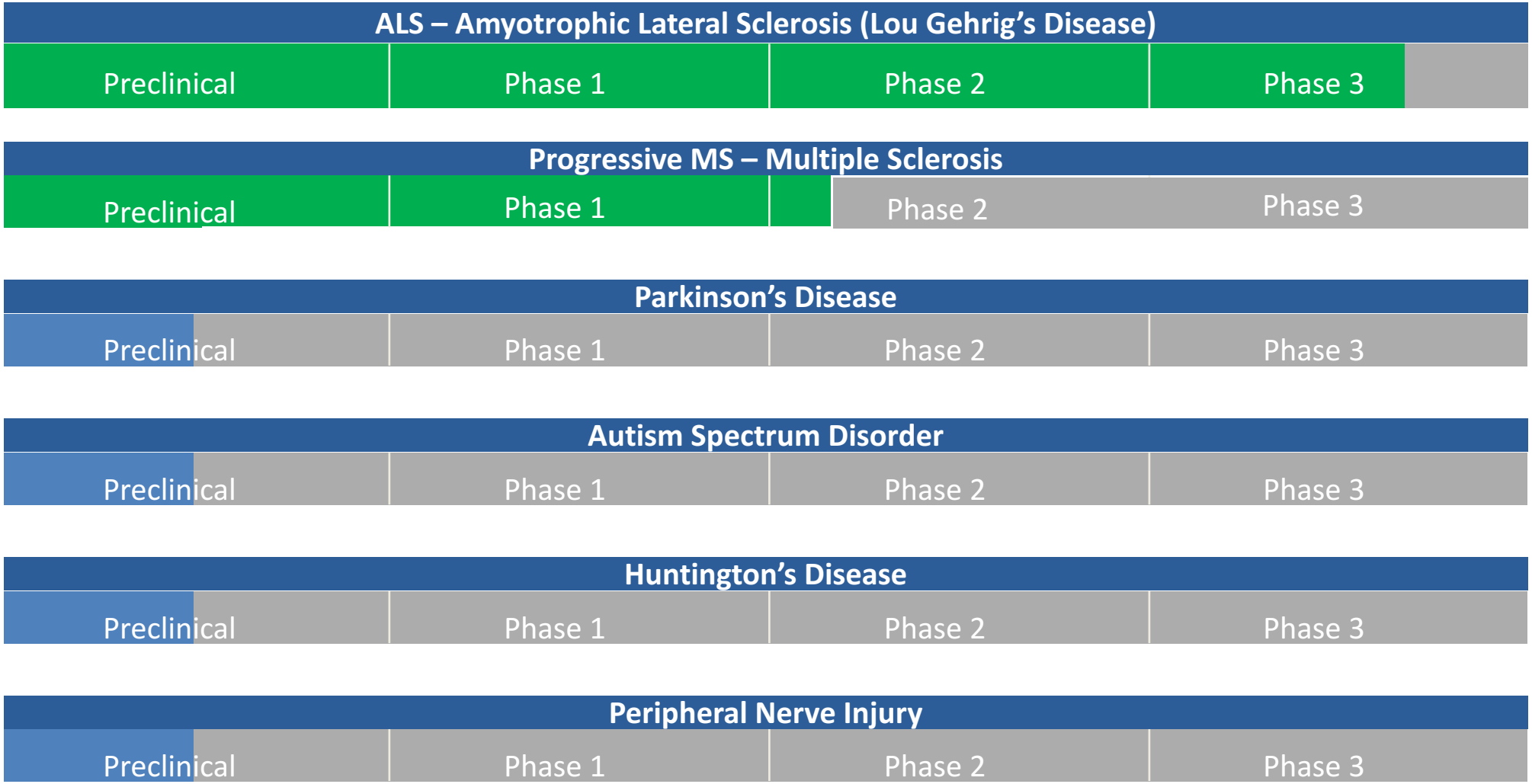
Statements in this announcement other than historical data and information constitute "forward-looking statements" and involve risks and uncertainties that could cause BrainStorm Cell Therapeutics Inc.'s actual results to differ materially from those stated or implied by such forward-looking statements. Terms and phrases such as "may", "should", "would", "could", "will", "expect", "likely", "believe", "plan", "estimate", "predict", "potential", and similar terms and phrases are intended to identify these forward-looking statements. The potential risks and uncertainties include, without limitation, risks associated with BrainStorm's limited operating history, history of losses; minimal working capital, dependence on its license to Ramot's technology; ability to adequately protect the technology; dependence on key executives and on its scientific consultants; ability to obtain required regulatory approvals; and other factors detailed in BrainStorm's annual report on Form 10-K and quarterly reports on Form 10-Q available at http://www.sec.gov.

These factors should be considered carefully, and readers should not place undue reliance on BrainStorm's forward-looking statements. The forward-looking statements contained in this press release are based on the beliefs, expectations and opinions of management as of the date of this press release. We do not assume any obligation to update forward-looking statements to reflect actual results or assumptions if circumstances or management's beliefs, expectations or opinions should change, unless otherwise required by law. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements.

Brainstorm At-A-Glance

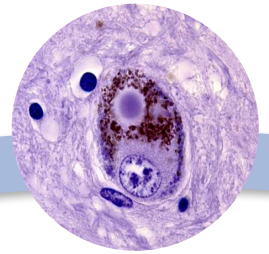
CLINICAL STAGE BIOTECHNOLOGY COMPANY	ADVANCED STAGE CLINICAL PROGRAMS	LARGE ADDRESSABLE MARKETS
Potential to be first-in-class autologous stem cell therapy for ALS and other neurodegenerative diseases	**Repeat Dose Phase 3 ALS trial fully enrolled**	**ALS 30,000 patients (US) 450,000 (Worldwide)**
Experienced US management team; R&D in Israel	**Repeat Dose Phase 2 Progressive MS Trial actively enrolling**	**Progressive MS 500,000 patients (US) 1,250,000 (Worldwide)**
Robust IP portfolio	**Robust Phase 2 clinical data in ALS; promising preclinical data in other neurodegenerative disease**	**Neurodegenerative disease prevalence expected to increase as population ages**

Brainstorm's Pipeline



Source: Company filings, equity research, company website.

NurOwn® - A Platform Technology Across CNS

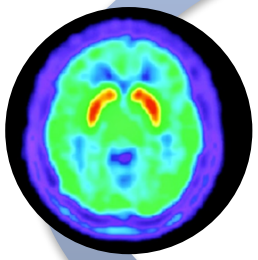


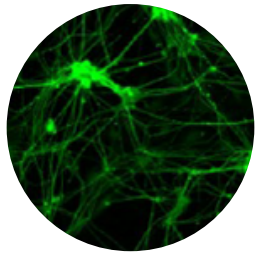
Parkinson's Disease

Global patients	10,000,000
US patients	1,000,000

Huntington's Disease

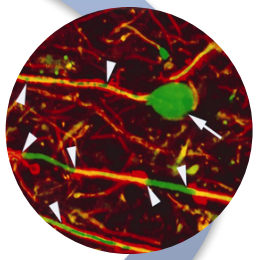
Global patients	300,000
US patients	30,000





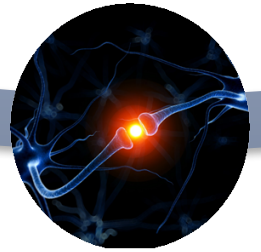
ALS

Global patients	450,000
US patients	30,000



Progressive Multiple Sclerosis

Global patients	1,250,000
US patients	500,000



Autism

Global patients	35,000,000
US patients	3,500,000

NurOwn® is successfully evaluated in preclinical models of various neurodegenerative disease

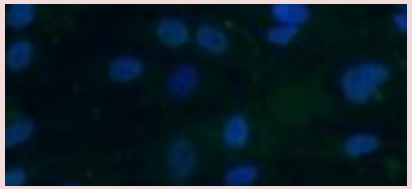
NurOwn® Process

1

Manufacturing process begins with a bone marrow aspiration (BMA) to harvest adult MSCs from the patient

2

Intermediate MSC product is cryopreserved

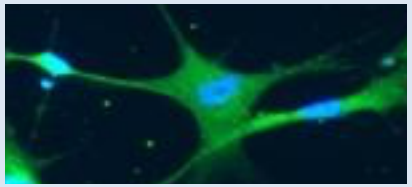


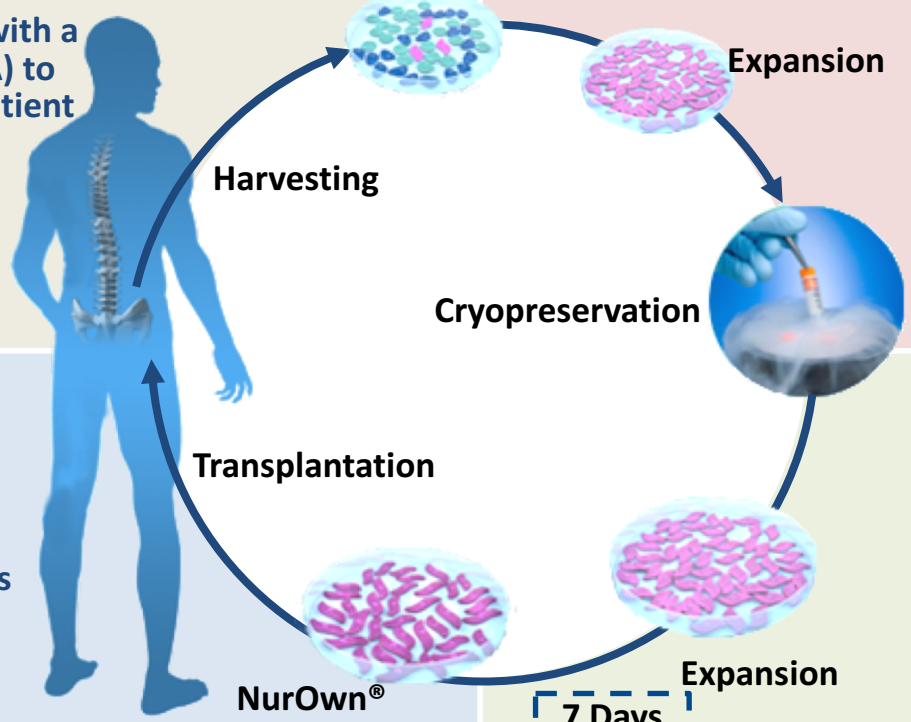
3

The proprietary culture medium induces the cells to secrete additional key neurotrophic factors (MSC-NTF cells)

4

The cells are injected into the cerebrospinal fluid (CSF) of patients

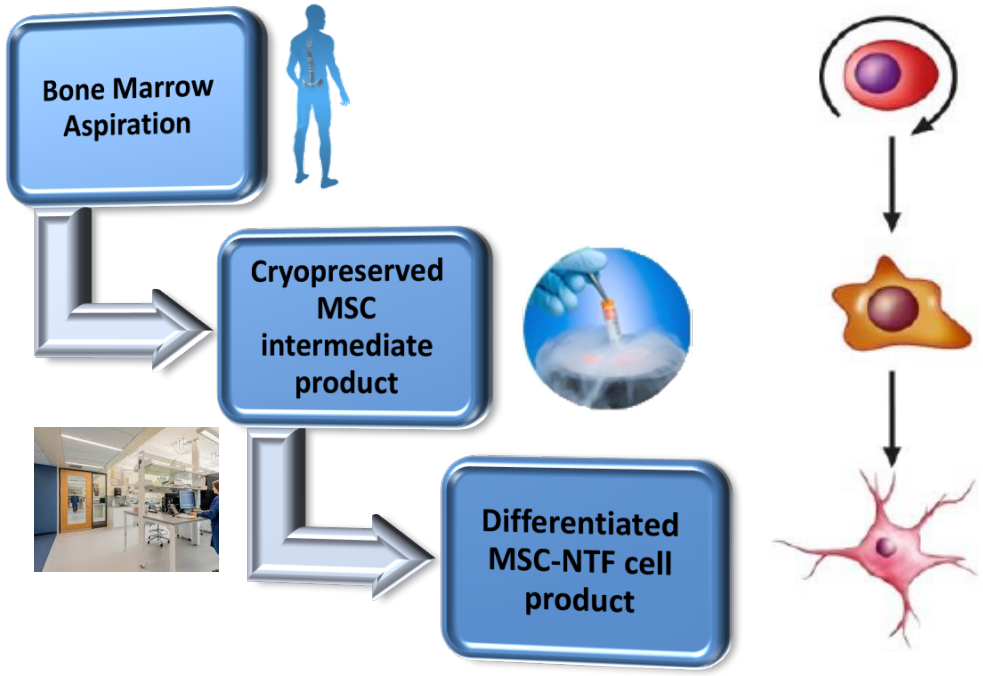




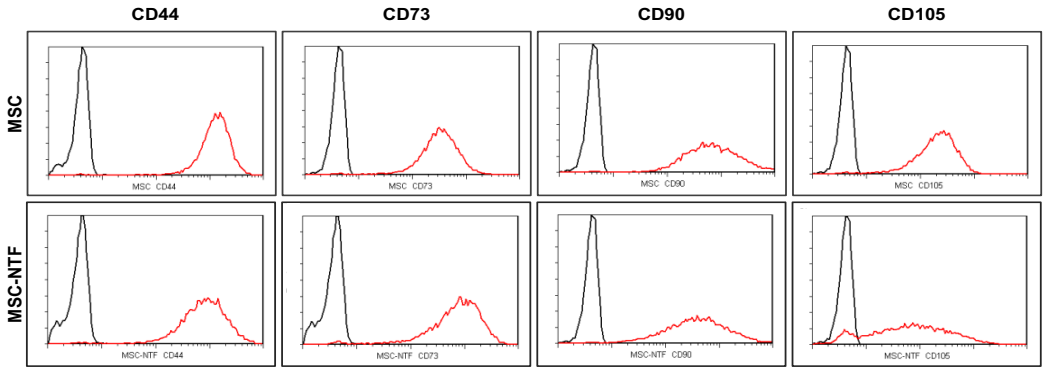
7 days from thawing to injection

Cryopreserved intermediate product brings us very close to the convenience of allogeneic with the established safety of autologous

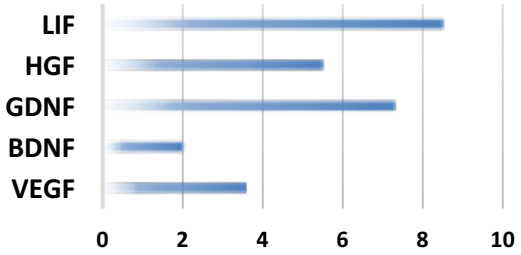
NurOwn® (MSC-NTF Cells) Technology



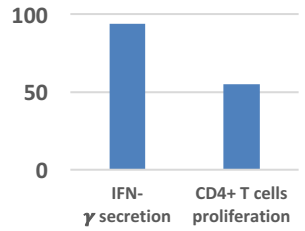
MSC Cell Identity (Surface Markers)



Neuroprotection (Fold Increase NTFs MSC-NTF vs. MSC)

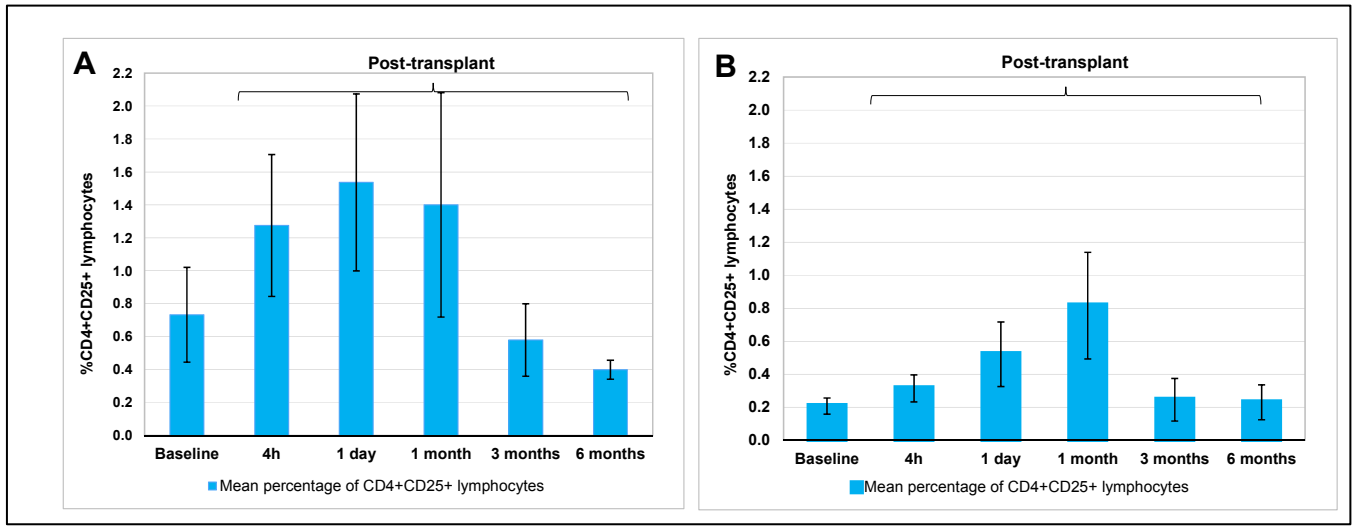


Immunomodulation Co-culture MSC-NTF and PBMCs (% Reduction)



NurOwn® increases Treg Cells

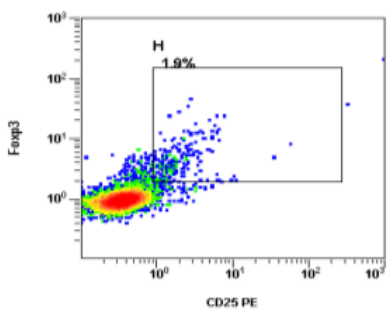
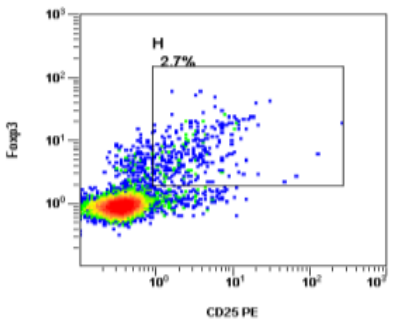
T Regulatory Cells Increased in Phase 1/2a



Mean percentage ± SEM of peripheral blood lymphocytes stained positive for CD4 and CD25 surface markers (double staining) using FACS analysis, in ALS patients treated with MSC-NTF cells, in the Phase1/2 trial (A) and in the Phase 2a (B) study at the indicated pre- (baseline) and post-treatment time- points.

JAMA Neurology 2016

T Regulatory Cells Increased In-vitro

PBMC only	PBMC co-cultured with MSC-NTF
	

Data on file

NurOwn® ALS Development

2007
NurOwn Preclinical Development

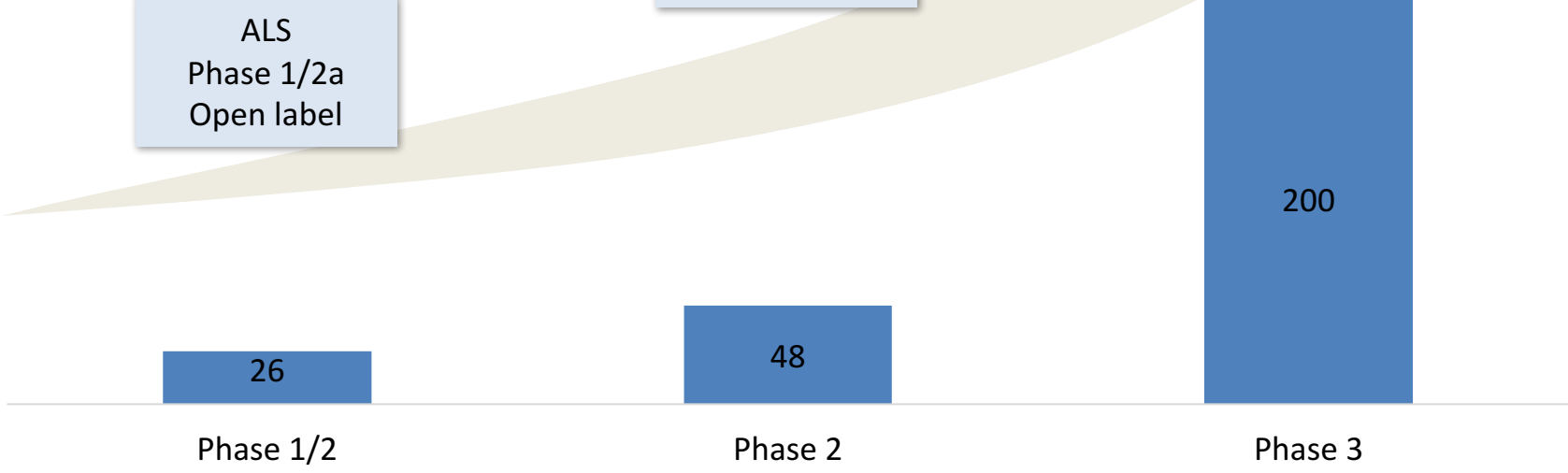
2010
ALS Phase 1/2a Open label

2014
ALS US Phase 2 Randomized trial

2017
ALS US Phase 3 Randomized trial

2019
ALS US Phase 3 Fully Enrolled

2H 2020
ALS US Phase 3 Topline Data Readout



NurOwn, phase 2, randomized, clinical trial in patients with ALS

Safety, clinical, and biomarker results

James D. Berry, MD, Merit E. Cudkowicz, MD, Anthony J. Windebank, MD, Nathan P. Staff, MD, Margaret Owegi, MD, Katherine Nicholson, MD, Diane McKenna-Yasek, Yossef S. Levy, PhD, Natalie Abramov, MSc, Haggai Kaspi, PhD, Munish Mehra, PhD, Revital Aricha, PhD, Yael Gothelf, PhD, and Robert H. Brown, DPhil, MD

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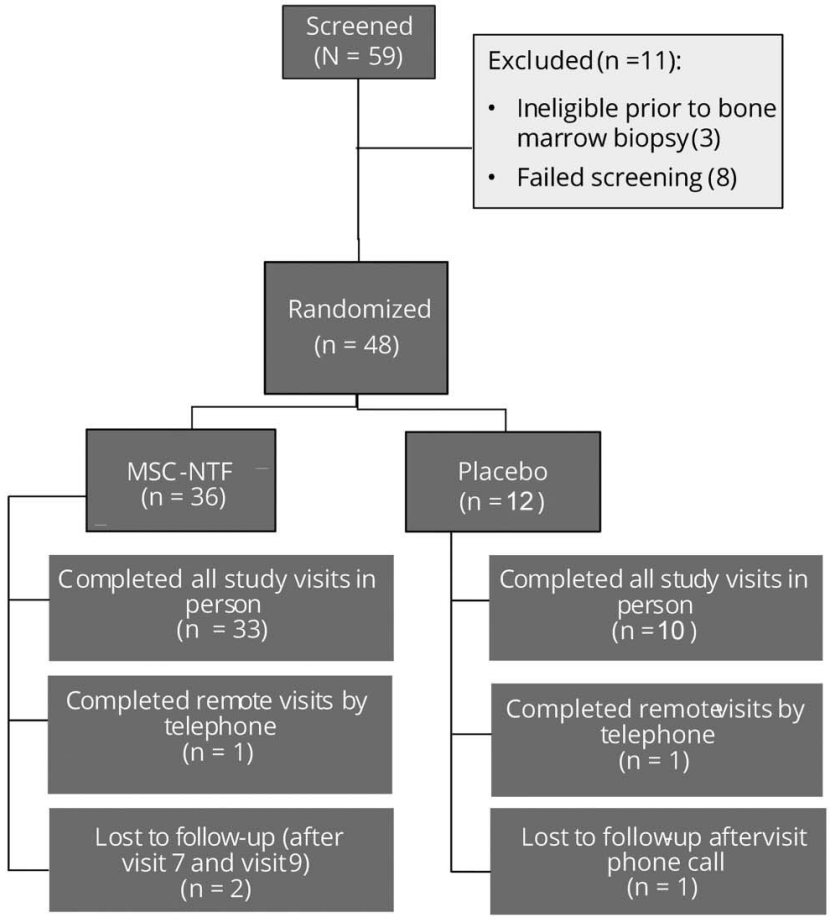
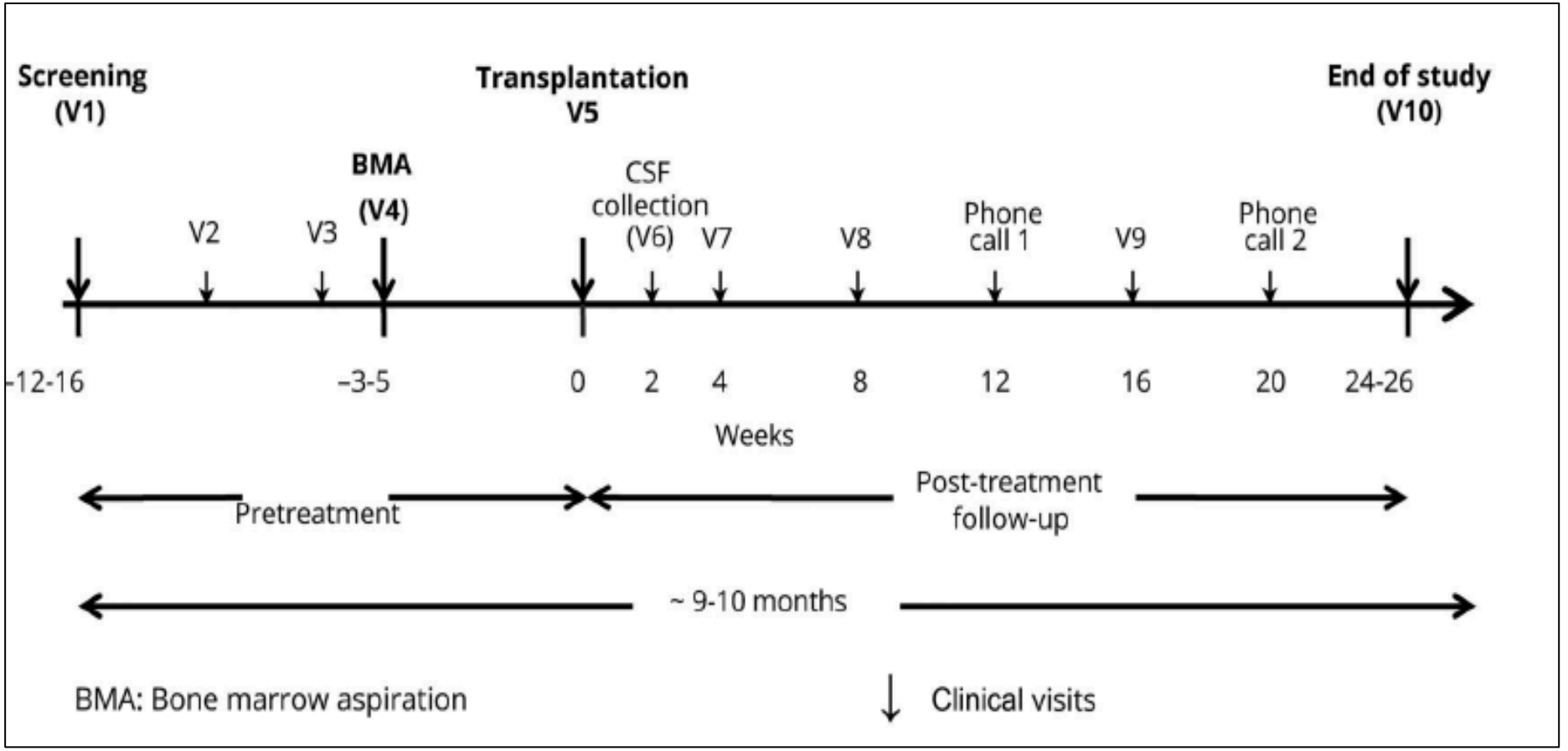
Neurology® 2019;93:e1-e12. doi:10.1212/WNL.0000000000008620



ClinicalTrials.gov identifier NCT02017912

Berry et al Neurology 2019

Phase 2 Study Design



ClinicalTrials.gov identifier NCT02017912

Berry et al Neurology 2019

Phase 2 Clinical Trial Demographics: Baseline Characteristics Balanced

Table 1 Demographics and baseline characteristics by treatment group

	MSC-NTF (n = 36)	Placebo (n = 12)	All participants (n = 48)
Sex			
Male	25 (69.4)	10 (83.3)	35 (72.9)
Female	11 (30.6)	2 (16.7)	13 (27.1)
Age, y	50.3 (11.90)	53.5 (9.11)	51.1 (11.27)
El Escorial criteria			
Possible	3 (8.3)	1 (8.3)	4 (8.3)
Laboratory-supported probable	5 (13.9)	1 (8.3)	6 (12.5)
Probable	16 (44.4)	7 (58.3)	23 (47.9)
Definite	12 (33.3)	3 (25.0)	15 (31.3)
ALS medical history, months since diagnosis	9.00 (5.57)	9.01 (4.63)	9.00 (5.31)
ALS medical history, months since first symptom[a]	17.62 (3.79)	16.75 (3.10)	17.40 (3.62)

Abbreviations: ALS = amyotrophic lateral sclerosis; ALSFRS-R = Revised ALS Functional Rating Scale; MSC = mesenchymal stem cell; NTF = neurotrophic factor. Data are presented as n (%) or mean (±SD). Percentages are based on the number of participants in a given treatment group for the population being analyzed.
[a] The site of ALS onset was not tracked in the course of the study.

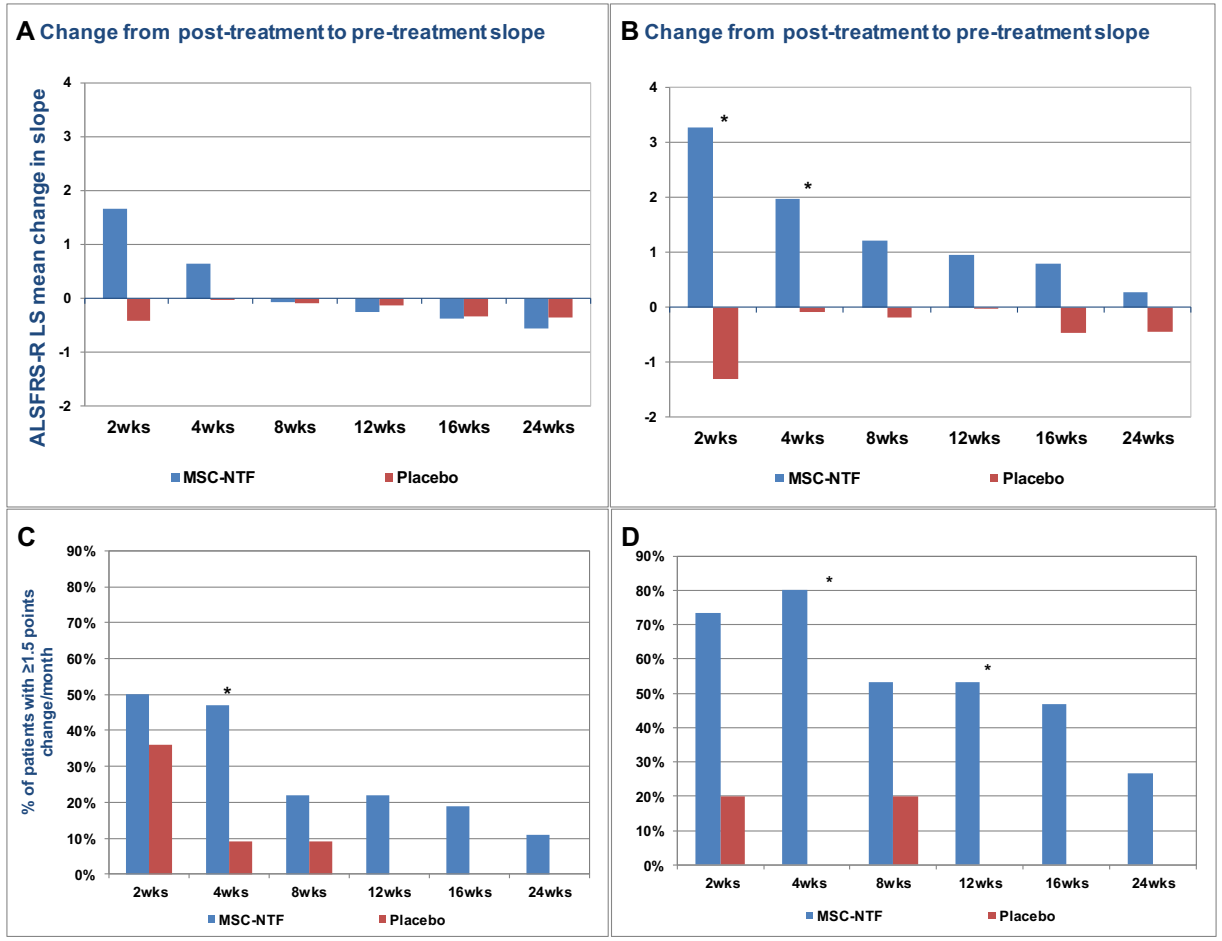
Berry et al Neurology 2019

ALSFRS-R Efficacy Outcomes

Mean ALSFRS-R Post-pre slope change

Proportion of Responders showing ≥1.5 points/month ALSFRS-R slope improvement

All n=46 | **Rapid Progressors n=21**



MSC-NTF

Placebo

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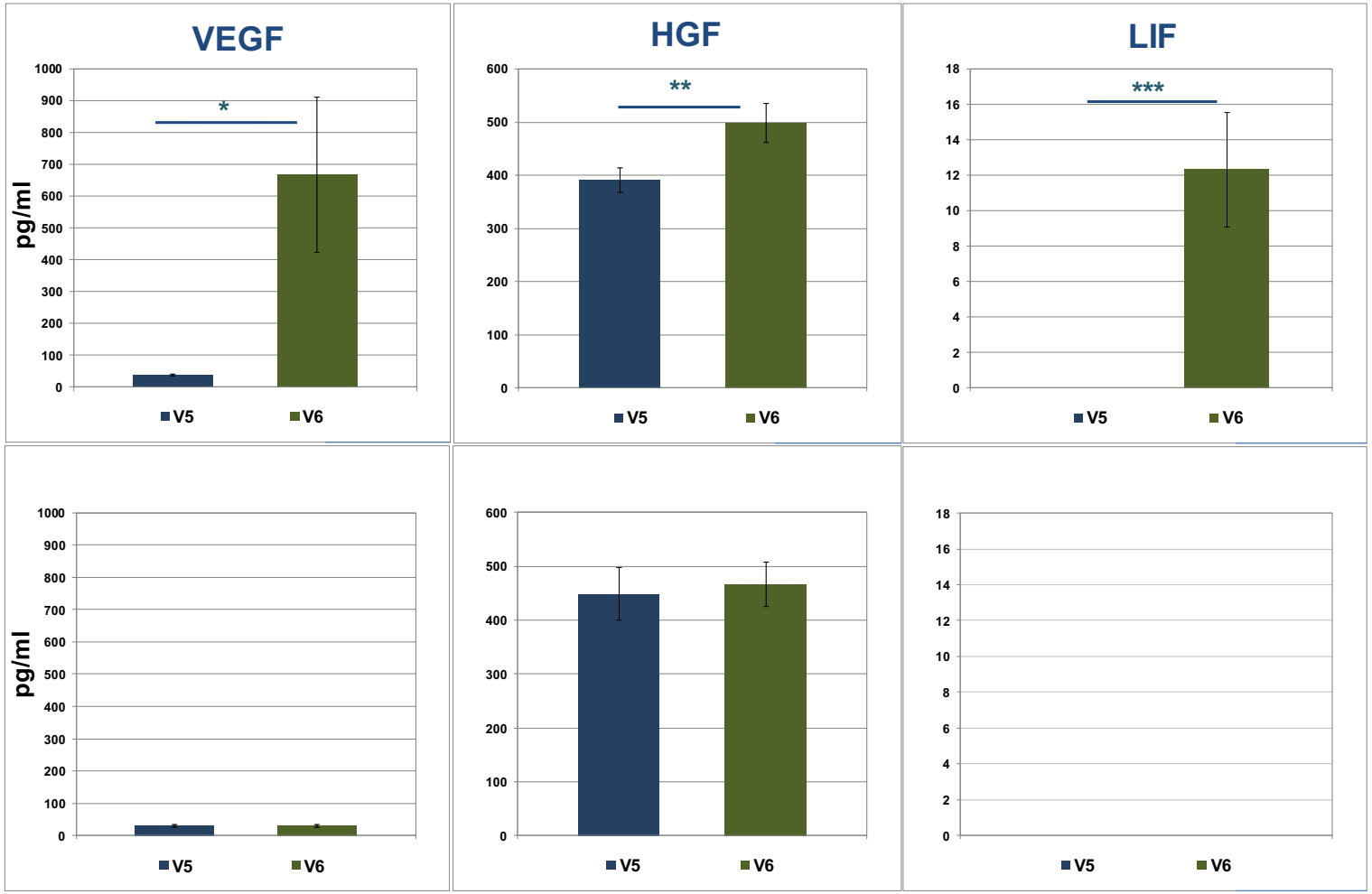
Biomarkers

CSF Neurotrophic Factors Increased Post-Treatment

NurOwn® (n = 26)

Placebo (n = 9)



V5 -Pre transplantation

V6 - Post transplantation

*p<0.05, **p<0.01, ***p<0.001

Berry et al Neurology 2019

CSF Inflammatory Biomarkers Reduced Post-Treatment

NurOwn®
(n = 26)

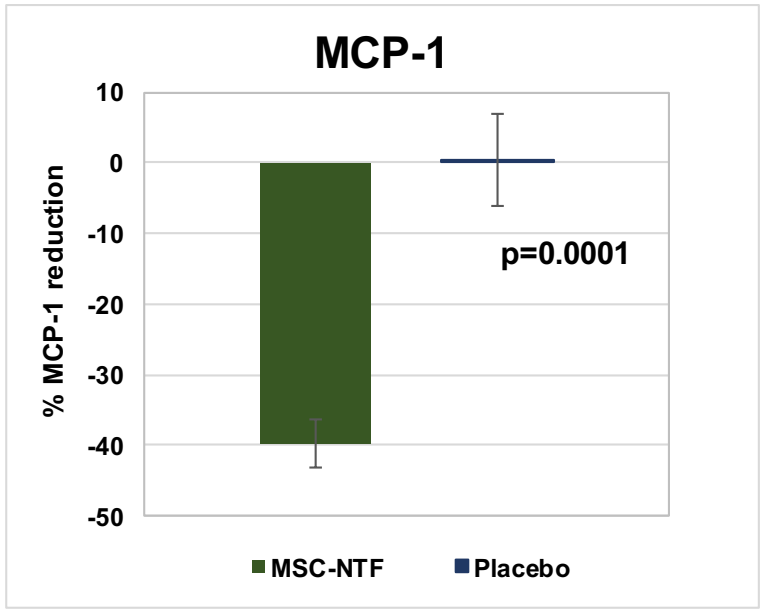
Placebo
(n = 9)

*p<0.05, **p<0.01, ***p<0.001

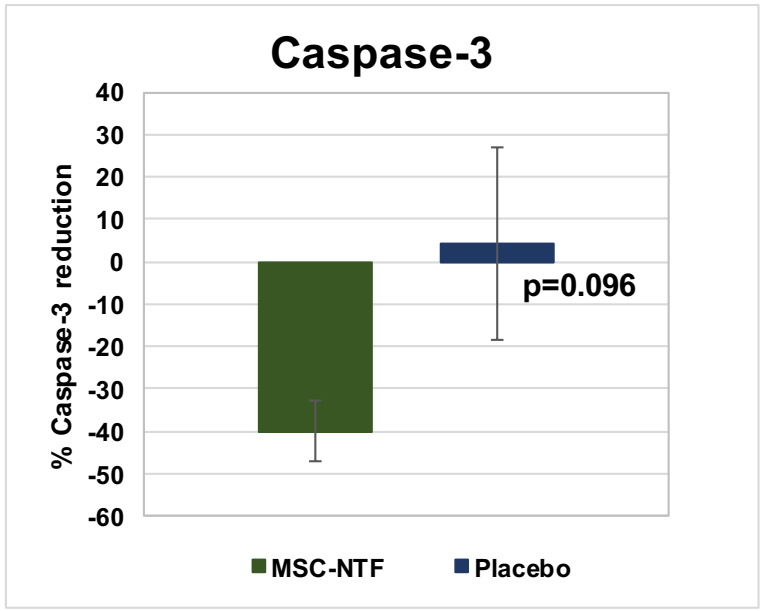
Berry et al Neurology 2019

Post-treatment % reduction CSF MCP-1, Caspase-3 and SDF-1

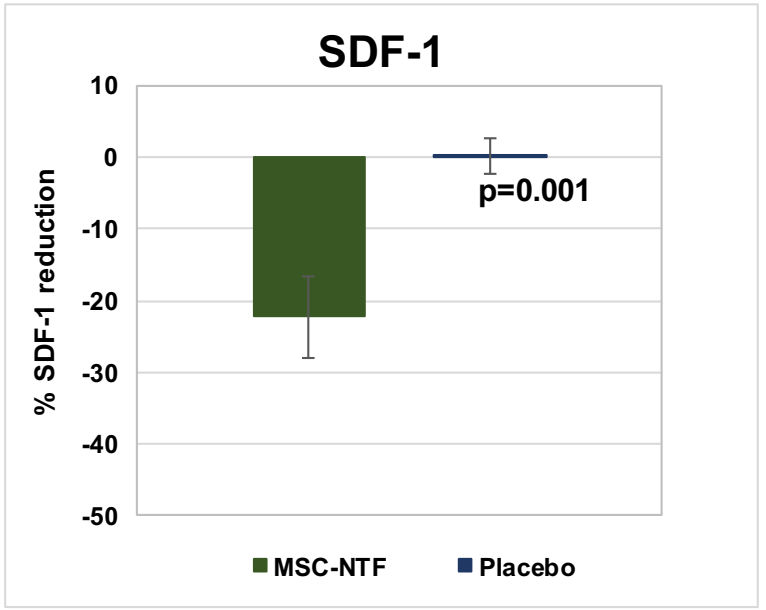
MCP-1 (40%)



Caspase-3 (40%)



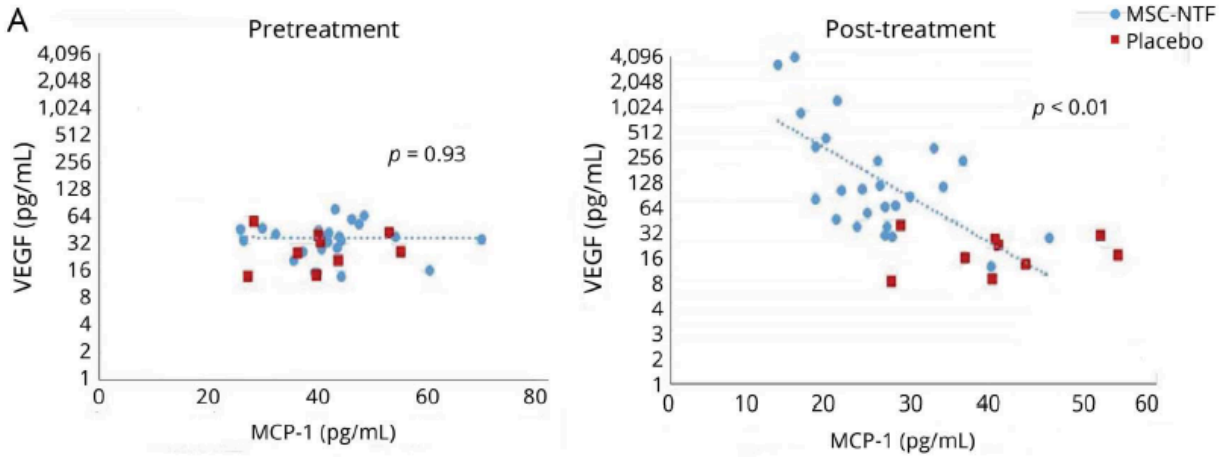
SDF-1 (22%)



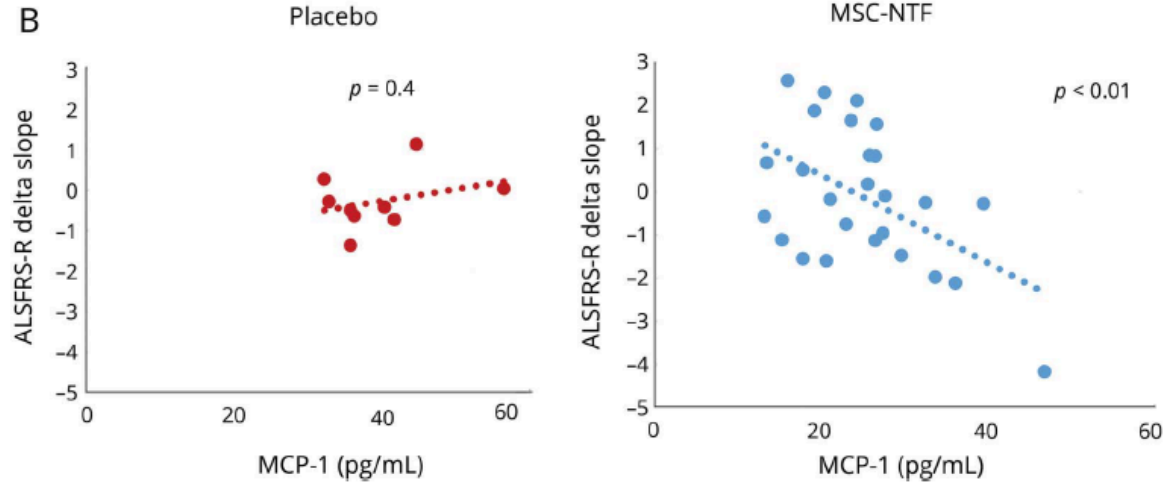
AAN Emerging Science 2019

Phase 2 Clinical Trial: Biomarker Correlations

CSF MCP-1 inverse correlation with VEGF

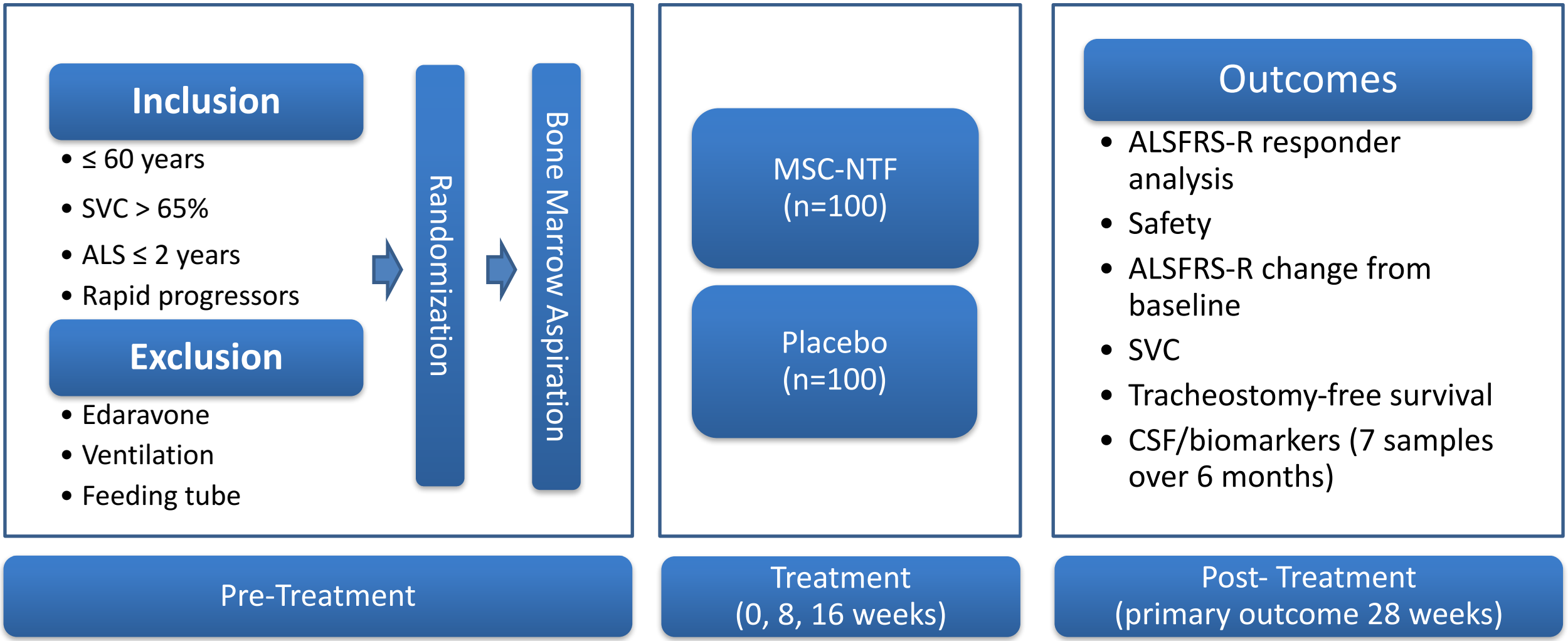


CSF MCP-1 inverse correlation with ALSFRS-R



Berry et al Neurology 2019; Nagata Neurol Res 2007

NurOwn® ALS Phase 3 Study



ClinicalTrials.gov Identifier: NCT03280056

Phase 3 ALS Clinical Trial Status

- Phase 3 enrollment completed October 2019
- DSMB safety review conducted end of October 2019
  - Trial to continue
  - No protocol changes
- Agreement with FDA on potential regulatory pathways for approval in ALS- February 2020
- Seeking additional grant support for innovative biomarker studies in ALS- ongoing
- Top line data Q4, 2020

Phase 2 Progressive MS Clinical Trial Status

- IND granted December 2018
- Repeat intrathecal dosing MSC-NTF cells every 2 months
- Validated clinical endpoints and biomarkers
- 5 clinical trial sites in US
- First subjects enrolled March 2019
- DSMB safety review conducted end of December 2019
  - Trial to continue; No protocol changes
- Top Line data Q4, 2020

Brainstorm Senior Leadership Team

Chaim Lebovits, President & Chief Executive Officer

Arturo Araya, MBA Chief Commercial Officer

Ralph Kern, MD, MHSc Chief Operating Officer & Chief Medical Officer

Preetam Shah, PhD, MBA EVP & Chief Financial Officer

Uri Yablonka EVP & Chief Business Officer

Revital Aricha, PhD VP Research & Development

Yael Gothelf, PhD VP Scientific & Regulatory Affairs

Yossef Levy, PhD VP Cell Production

Mary Kay Turner VP Patient Advocacy & Government Affairs

Susan Ward, PhD Head of Clinical Operations

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Thank You