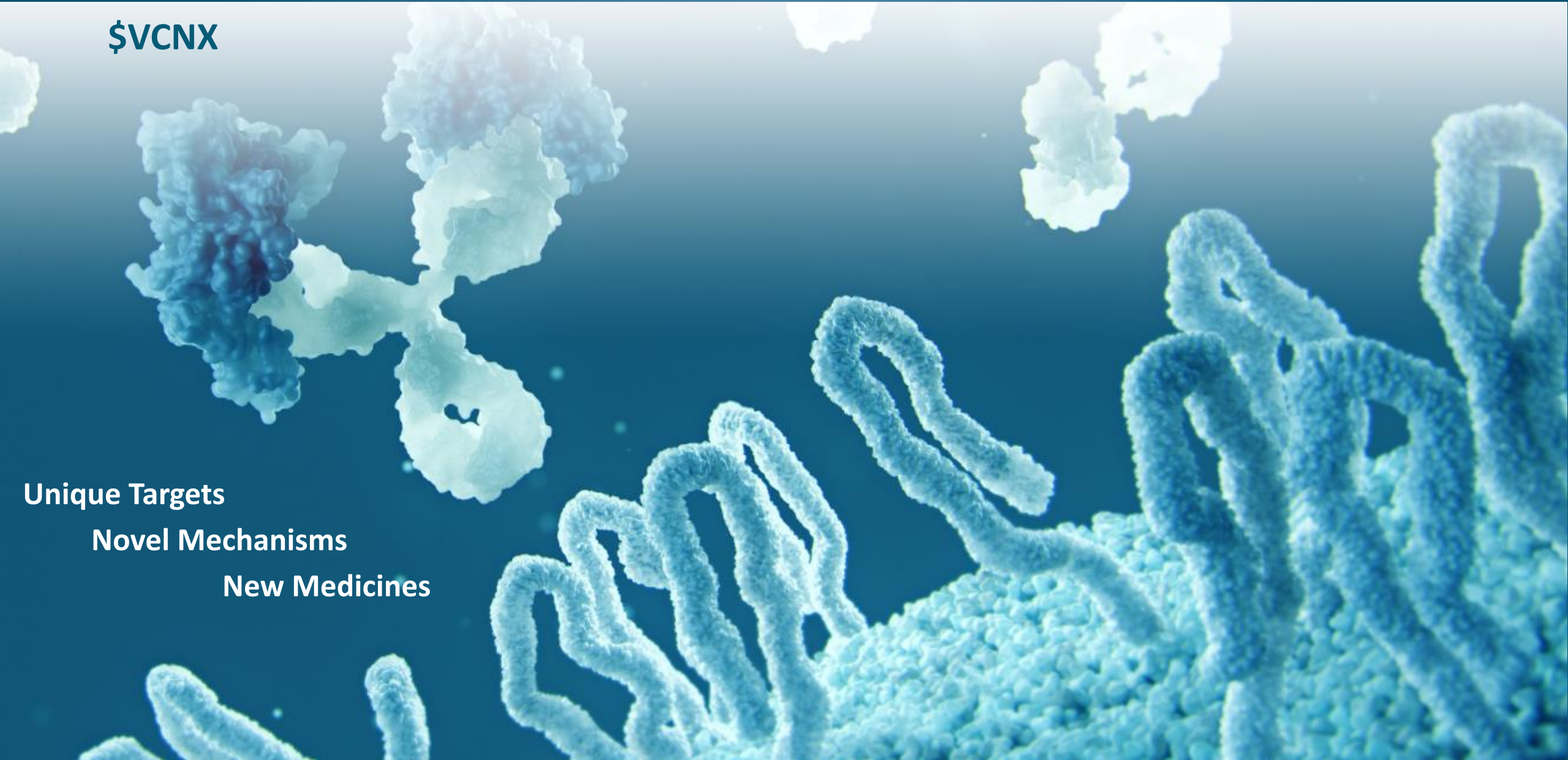


**\$VCNX**

**Unique Targets**

**Novel Mechanisms**

**New Medicines**



# Forward Looking Statements

To the extent that statements contained in this presentation are not descriptions of historical facts regarding Vaccinex, Inc. (“Vaccinex,” “we,” “us,” or “our”), they are forward-looking statements reflecting management’s current beliefs and expectations. Such statements include, but are not limited to, statements about the Company’s plans, expectations and objectives with respect to the results and timing of clinical trials of pepinemab in various indications, the use and potential benefits of pepinemab in Huntington’s and Alzheimer’s disease and other indications, and other statements identified by words such as “may,” “will,” “appears,” “expect,” “planned,” “anticipate,” “estimate,” “intend,” “hypothesis,” “potential,” “advance,” and similar expressions or their negatives (as well as other words and expressions referencing future events, conditions, or circumstances). Forward-looking statements involve substantial risks and uncertainties that could cause the outcome of the Company’s research and pre-clinical development programs, clinical development programs, future results, performance, or achievements to differ significantly from those expressed or implied by the forward-looking statements. Such risks and uncertainties include, among others, uncertainties inherent in the execution, cost and completion of preclinical and clinical trials, uncertainties related to regulatory approval, risks related to the Company’s dependence on its lead product candidate pepinemab, the ability to leverage its ActivMAb® platform, the impact of the COVID-19 pandemic, and other matters that could affect its development plans or the commercial potential of its product candidates. Except as required by law, the Company assumes no obligation to update these forward-looking statements. For a further discussion of these and other factors that could cause future results to differ materially from any forward-looking statement, see the section titled “Risk Factors” in the Company’s periodic reports filed with the Securities and Exchange Commission (“SEC”) and the other risks and uncertainties described in the Company’s Form 10-K for year end December 31, 2021 and subsequent filings with the SEC.

# Novel antibody therapeutics target unmet needs

## ✓ Novel Mechanistic Approach

Lead product: Pepinemab

Humanized IgG4 monoclonal antibody, first in class

Blocks a unique target, Semaphorin 4D (SEMA4D)

## ✓ Clinical Proof of Concept

## ✓ Advanced clinical programs with near term opportunities for monetization by partnering

## ✓ Proprietary Drug Discovery Platform

ActivMAB  
Technology



SEMA4D pathways are activated in immune and central nervous systems in response to stress/injury

### Neurodegenerative Disease

- Targets underlying disease pathology, a trigger of neuroinflammation
- Ability to repair and restore normal functions
- Broad application

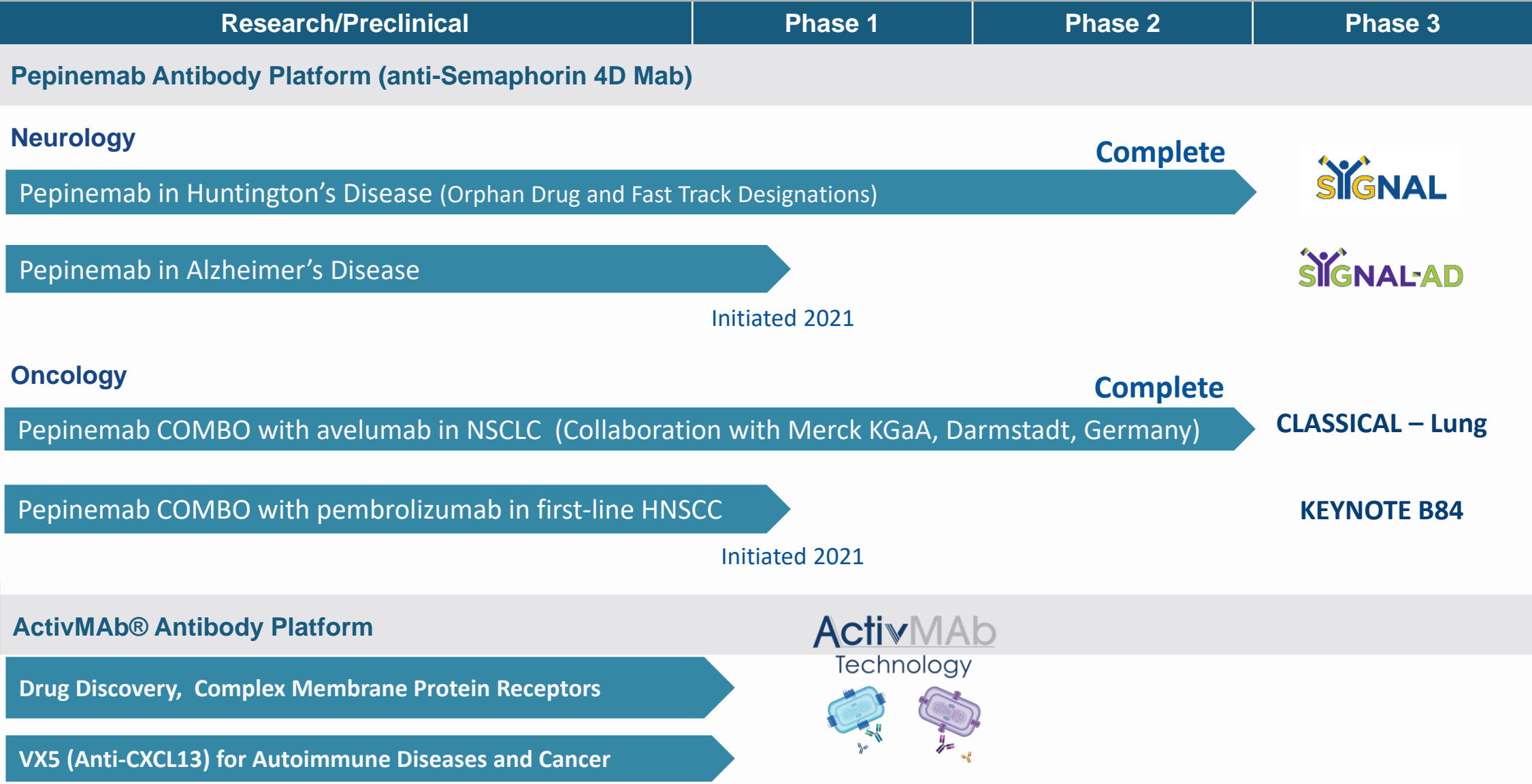


### Cancer Immunotherapy

- Overcomes resistance to existing immunotherapies
- Complements immune checkpoint therapies without added toxicity



# Clinical Pipeline



All studies Sponsored by:



Additional Funding &/or Support by:



Merck KGaA, Darmstadt

**CLASSICAL – Lung**

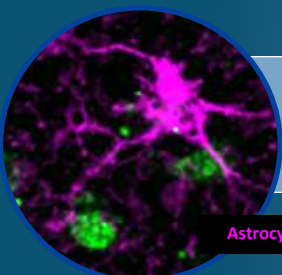
**KEYNOTE B84**



Merck, MSD

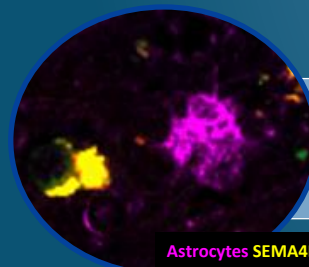
# SEMA4D/PLXN pathways are activated in immune and central nervous systems in response to stress/damage

## Neurodegenerative Disease



Healthy astrocytes interact with neurons to support normal function

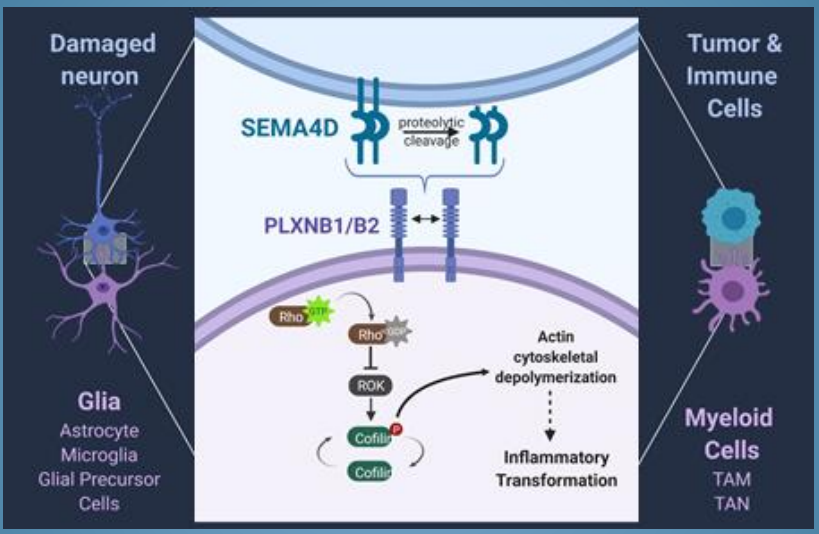
Astrocytes Neurons



Reactive astrocytes lose interactions and function in Huntington's Disease

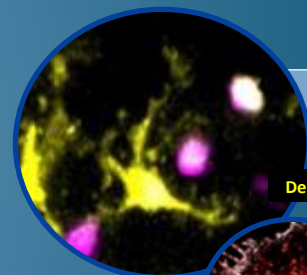
Astrocytes SEMA4D+ neurons

SEMA4D triggers loss of cellular interactions and normal functions, which can exacerbate neurodegeneration



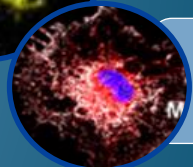
The cell cytoskeleton regulates cellular movement and cell-to-cell interactions  
 SEMA4D signals through PLXNB1/B2 receptors to trigger dissociation of polymerized F-actin and collapse of cell's cytoskeleton, and reprograms inflammatory responses

## Cancer Immunotherapy

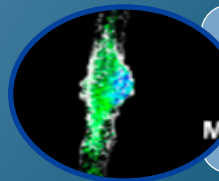


Healthy Dendritic Cells interacting with T cells\*

Dendritic Cells T cells



Dendritic arms of M1 macrophage\*\* facilitate movement and antigen presentation



Suppressor cells (MDSC and M2 Tumor Associated Macrophage\*\*) reduce function and recruitment of T cells in tumor.

Tumors utilize SEMA4D to restrict movement and communication of immune cells, leading to immune exclusion and resistance

\*Lancaster, et al. *Nat Commun* 2019  
 \*\* Xiao, et al. *ACS Cent. Sci.* 2020

# ASSET: PEPINEMAB

## NEURODEGENERATIVE DISEASE

### Pepinemab Mechanism of Action

- SEMA4D is upregulated in response to stress/disease to trigger neuroinflammatory gliosis
- Pepinemab blocks chronic glial activation and restores their normal support functions.

Broadly applicable approach - does not target disease-specific insult, instead targets common trigger of neuroinflammation which contributes to and amplifies neurodegeneration

### STATUS

Phase 2 Huntington's Disease  
Complete 2020  
Double-blind, Placebo-controlled

Phase 1b/2a Alzheimer's Disease  
Initiated Q2 2021  
Data expected late 2022/early 2023  
Double-blind, Placebo-controlled

Currently exploring pharma collaboration in HD and AD

Sponsored by:



**Granted Orphan Disease and Fast Track  
Designation by FDA**

Sponsored by:



Funding by:



### SUMMARY

#### Huntington's Disease (SIGNAL)

- Well tolerated
- Cognitive benefit to patients
- Reduced brain atrophy (vMRI) and restored loss of metabolic activity (FDG-PET)
- **Phase 3-ready asset**



#### Alzheimer's Disease (SIGNAL-AD)

- Primary endpoint: Safety
- Key efficacy endpoints: Cognition and metabolic activity
- Initiated June 2021



# ASSET: PEPINEMAB IMMUNO-ONCOLOGY

## Pepinemab Mechanism of Action

### Overcome Immune resistance

- neutralizes the SEMA4D barrier at the tumor boundary to facilitate movement of anti-tumor immune cells
- Inhibits immune suppressor cells

Novel and independent mechanism → Synergy with immune checkpoint therapy

Well tolerated – does not enhance immune-related toxicities of partner drug

## STATUS

### Phase 1b/2 Non Small Cell Lung Cancer (NSCLC)

Complete 2020

Data published in Clinical Cancer Research, 2021

Pepinemab Combination with Bavencio™

### Phase 1b/2 Head and Neck Cancer (R/M HNSCC)

Initiated Q2 2021

Data expected mid 2022

Pepinemab Combination with Keytruda™

Sponsored by:



Co-funded by:

EMD Serono/Merck KGaA, Darmstadt



Sponsored by:



Drug provided by:  
Merck, MSD



## SUMMARY

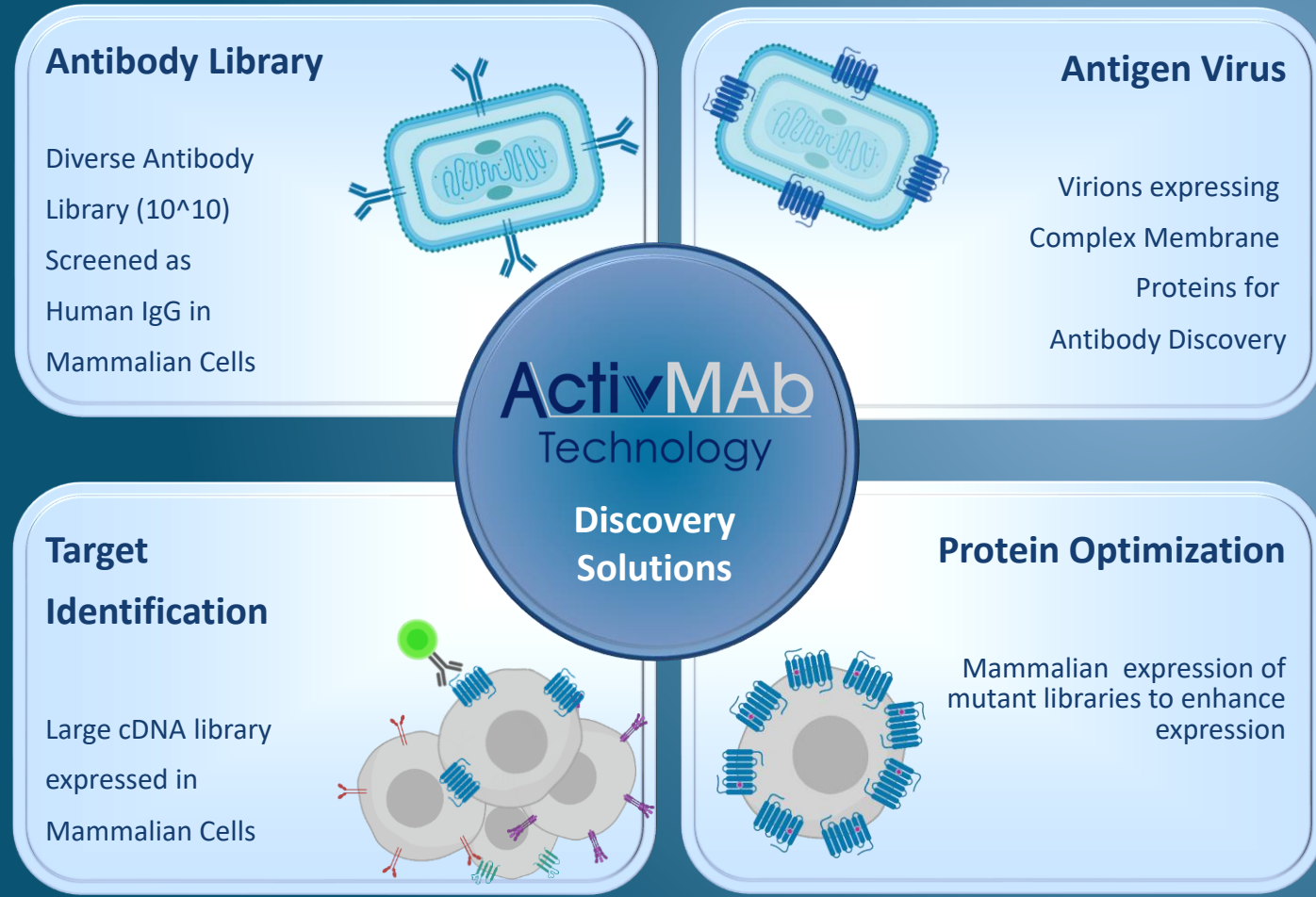
### CLASSICAL-Lung

- Well tolerated
- Anti-tumor activity in some patients whose cancer was resistant to prior therapy with single-agent checkpoint inhibitors
- Anti-tumor activity in some patients with challenging PD-L1 negative or low tumors
- Increased penetration of cytotoxic T cells following treatment

### Head and Neck Cancer (Keynote B84)

- Rationale: High levels of myeloid derived suppressor cells (MDSC) are induced by SEMA4D and a source of resistance to immune checkpoint therapy
- Endpoints: Safety, ORR, and PFS, OS, DOR, biomarkers within TME
- **Initiated June 2021**

# ASSET: ActivMab Discovery Solutions



Unique capability for selection of high value antibodies against hard-to-target multi-pass membrane receptors (i.e. GPCRs, ion channels)

Sustainable engine for value creation through pipeline expansion and strategic collaborations

Active collaborations with two major pharma and multiple biotech partners





# Pepinemab Antibody Neurodegenerative Disease

Science in the Service  
of Medicine



# Glial cells respond to damage in the brain

SEMA4D compromises blood–brain barrier, activates microglia, and inhibits remyelination in neurodegenerative disease



Ernest S. Smith<sup>a</sup>, Alan Jonason<sup>a</sup>, Christine Reilly<sup>a</sup>, Janaki Veeraraghavan<sup>a</sup>, Terrence Fisher<sup>a</sup>, Michael Doherty<sup>a</sup>, Ekaterina Klimatcheva<sup>a</sup>, Crystal Mallow<sup>a</sup>, Chad Cornelius<sup>a</sup>, John E. Leonard<sup>a</sup>, Nicola Marchi<sup>b</sup>, Damir Janigro<sup>b</sup>, Azeb Tadesse Argaw<sup>c</sup>, Trinh Pham<sup>c</sup>, Jennifer Seils<sup>a</sup>, Holm Bussler<sup>a</sup>, Sebold Torno<sup>a</sup>, Renee Kirk<sup>a</sup>, Alan Howell<sup>a</sup>, Elizabeth E. Evans<sup>a</sup>, Mark Paris<sup>a</sup>, William J. Bowers<sup>a</sup>, Gareth John<sup>c</sup>, Maurice Zauderer<sup>a,\*</sup>

<sup>a</sup> Vaccinex, Inc., Rochester, NY 14620, USA

*2014 Neurobiology of Disease*

Anti-semaphorin 4D immunotherapy ameliorates neuropathology and some cognitive impairment in the YAC128 mouse model of Huntington disease

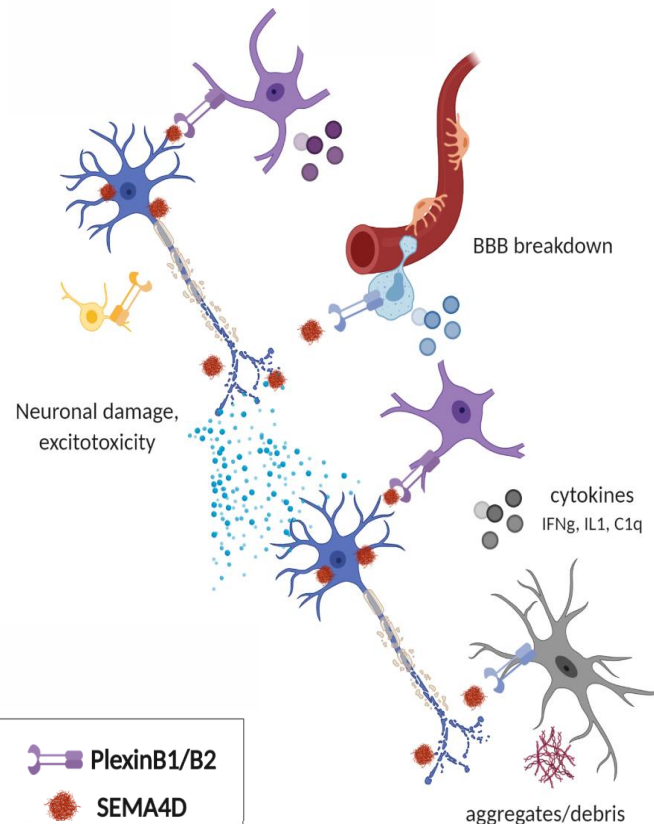
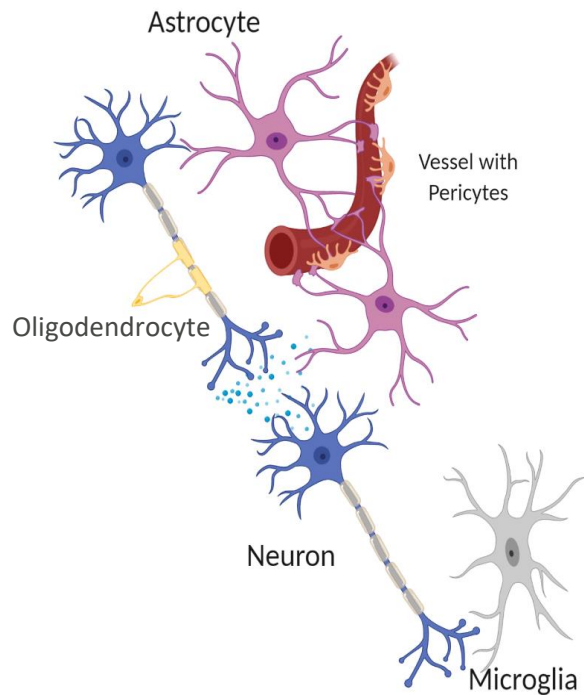


Amber L. Southwell<sup>a</sup>, Sonia Franciosi<sup>a</sup>, Erika B. Villanueva<sup>a</sup>, Yuanyun Xie<sup>a</sup>, Laurie A. Winter<sup>b</sup>, Janaki Veeraraghavan<sup>b</sup>, Alan Jonason<sup>b</sup>, Boguslaw Felczak<sup>a</sup>, Weining Zhang<sup>a</sup>, Vlad Kovalik<sup>a</sup>, Sabine Waltl<sup>a</sup>, George Hall<sup>a</sup>, Mahmoud A. Pouladi<sup>c,d</sup>, Ernest S. Smith<sup>b</sup>, William J. Bowers<sup>b</sup>, Maurice Zauderer<sup>b</sup>, Michael R. Hayden<sup>a,\*</sup>

*2015 Neurobiology of Disease*

## Healthy

## Neurodegeneration/Neuroinflammation



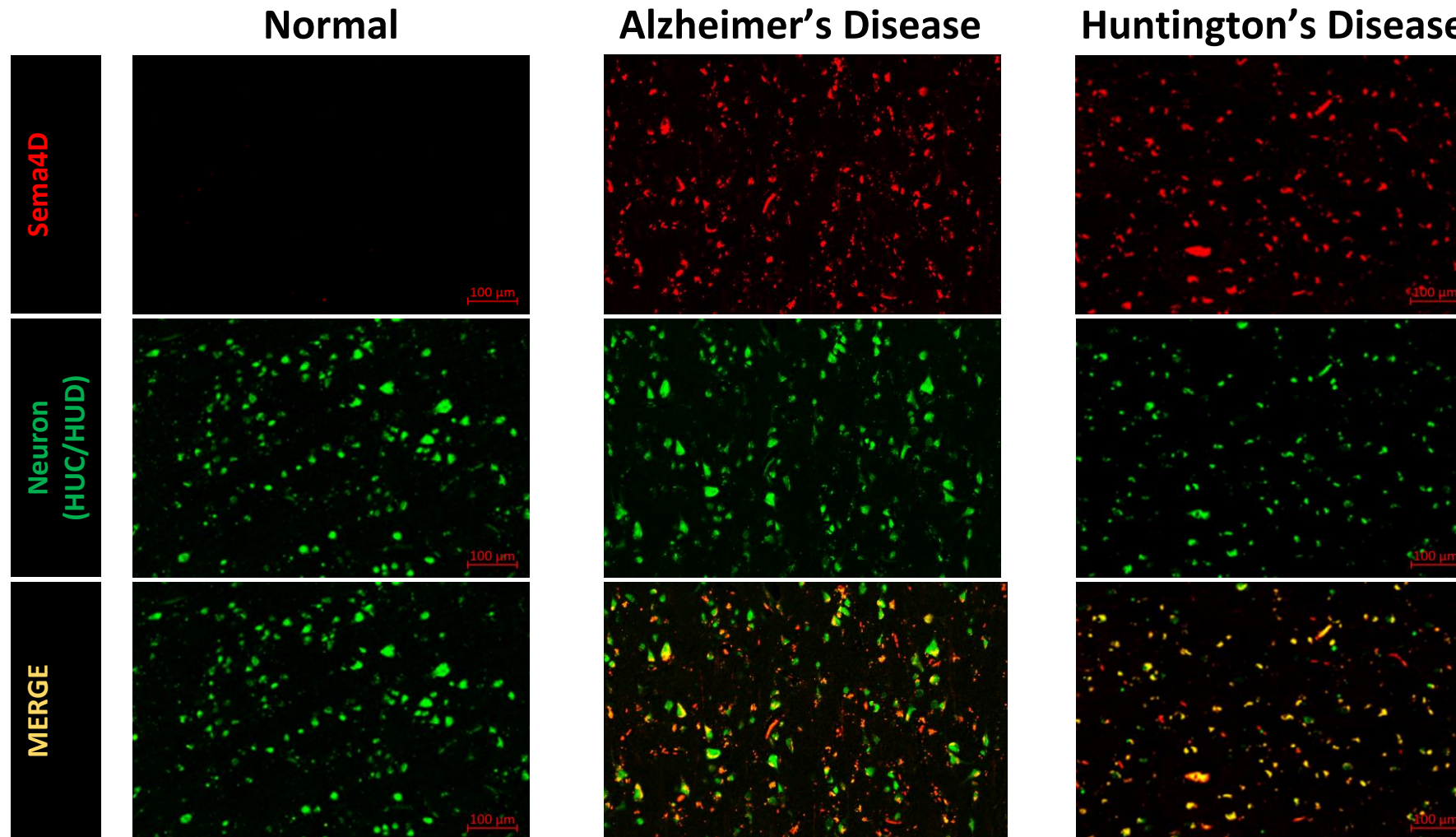
**TARGET:** SEMA4D is upregulated on damaged neurons  
SEMA4D binding to Plexin receptors on glial cells to triggers collapse of cytoskeleton and transformation to reactive inflammatory state

Chronic activation contributes to and exacerbates neurodegeneration

**DRUG:** Pepinemab is a humanized IgG4 Mab that blocks the binding of SEMA4D to its receptors

- Repair and restore normal glial functions
- Reduce neuroinflammation

# SEMA4D is upregulated in neurons during underlying disease progression



Human autopsy sections of frontal lobe

# Huntington's Disease - slowly progressive, fatal neurodegenerative disease

## Genetic Disease

HD is caused by dominant mutation in a single gene.

## Unmet need

There are currently no approved treatments to alter the course of Huntington's Disease.

## Orphan Disease

Estimated patient population in major markets is ~80,000 individuals with manifest disease and >5X more are at risk of having inherited the HD mutation.

Neuronal degeneration, neuroinflammation, and severe **atrophy** is observed in multiple brain regions affecting **cognition**, emotion, and motor function.

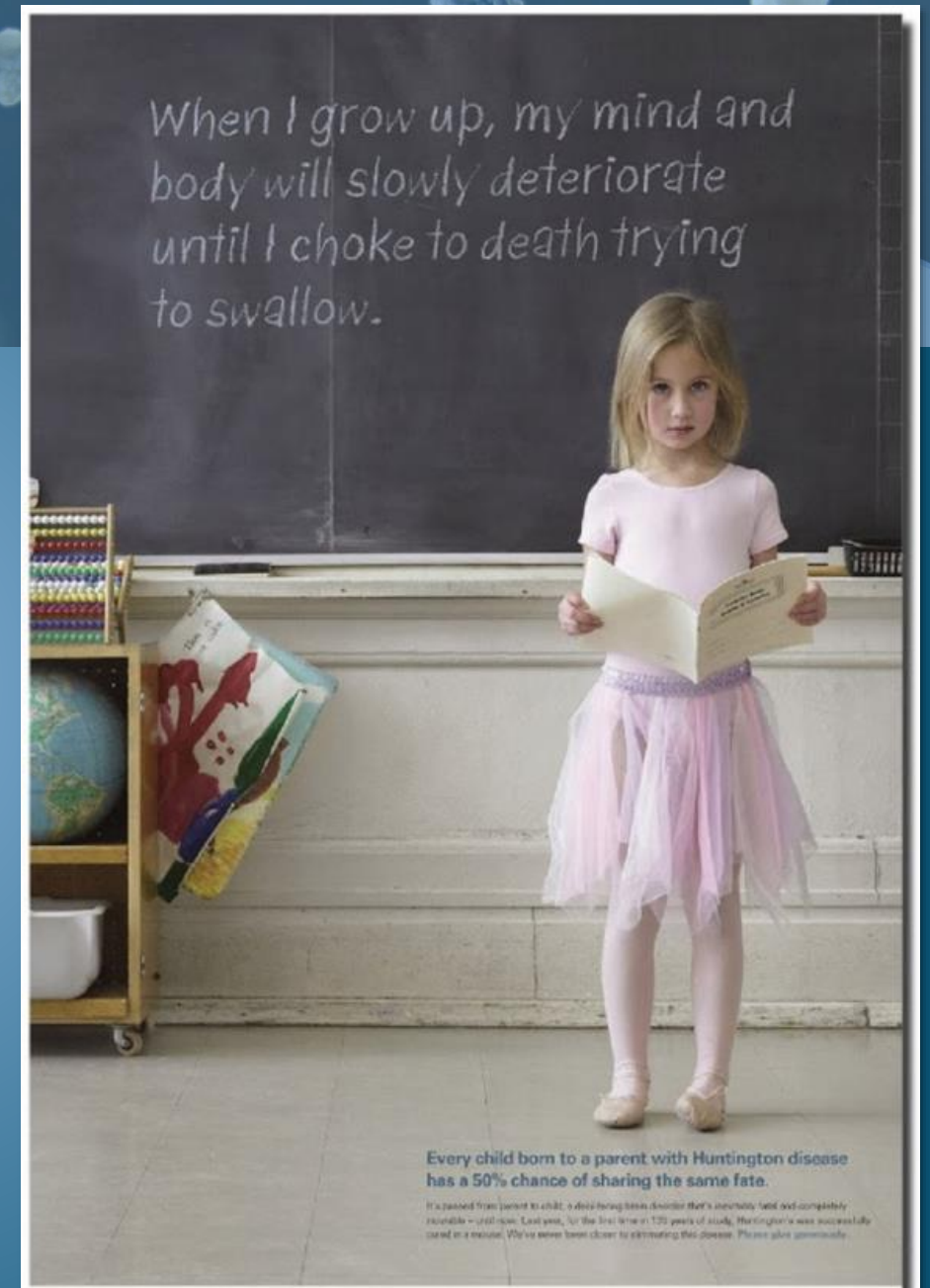
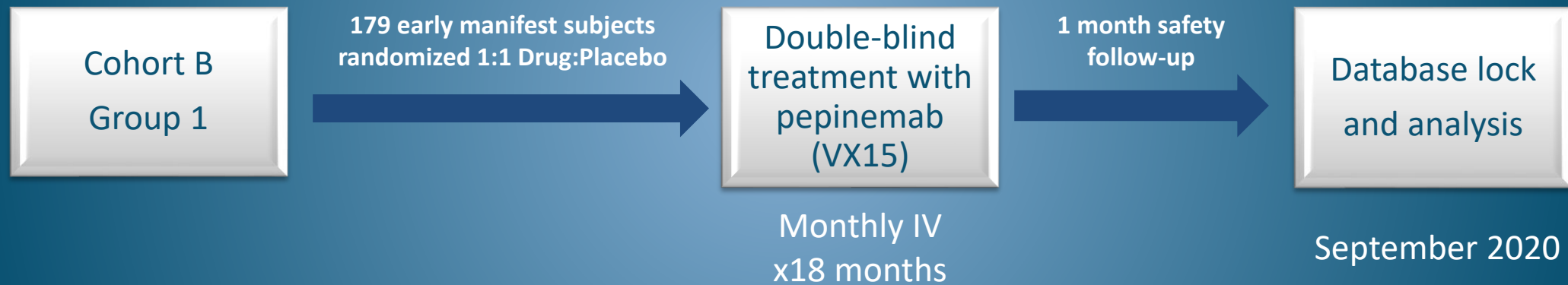


Photo credit: Huntington Society of Canada

# Clinical Trial Design – Group B1, Early Manifest HD



Orphan Disease and Fast Track designations



## Study Objectives

- Safety and tolerability
- Cognitive Function and Clinical global impression of change (CGIC)
- Brain imaging measures

# Abbreviated Safety and Baseline Characteristics ITT population



**Pepinemab (PEPI)  
SEMA4D blocking  
antibody is well tolerated**

	Early Manifest Cohort B1	
	Placebo (n=88)	Pepinemab (n=91)
Discontinued Treatment Early	10	13
Had any SAE (*)	8	4
Had any Grade 3+ AE (*)	14	17
CAG repeat length	44.1	43.5
CAP score**	470	466
UHDRS-DCL at screening DCL-4, Unequivocal HD (>99% confident)	88 (100%)	91 (100%)
UHDRS-TFC at screening, n (%)		
11	33 (38%)	29 (32%)
12	18 (20%)	37 (41%)
13	37 (42%)	24 (27%)

\*pre-COVID era;

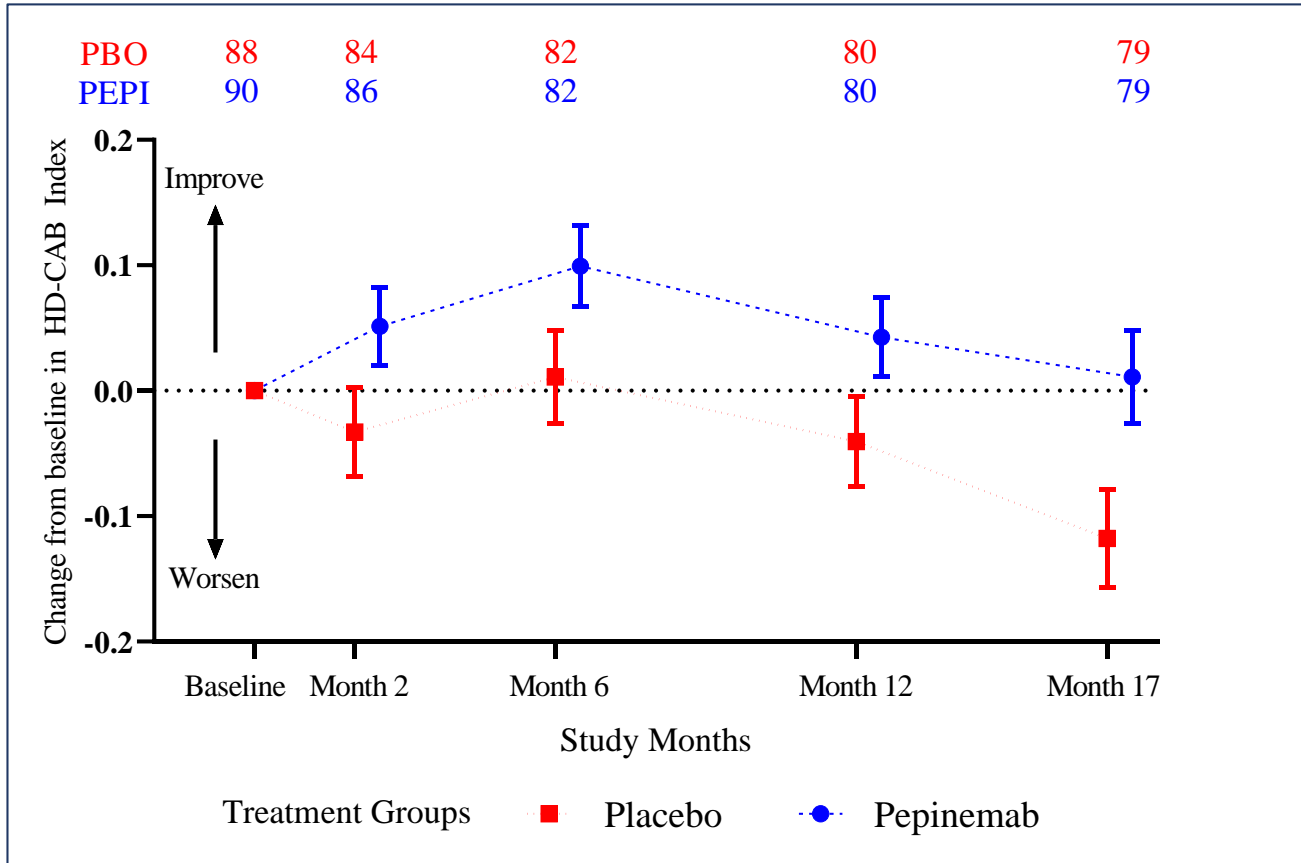
\*\*CAP score = age × (CAG repeat length – 33.66)

# Cognitive Assessment Battery (HD-CAB) Prespecified exploratory analysis – Early Manifest HD



HD-CAB Composite Index of 6 Cognitive Assessments

Early manifest HD



HD-CAB Composite Index:

One-sided p-value	Favors PEPI	Critical value
0.007	Yes	Yes [0.025]

Co-primary endpoints:

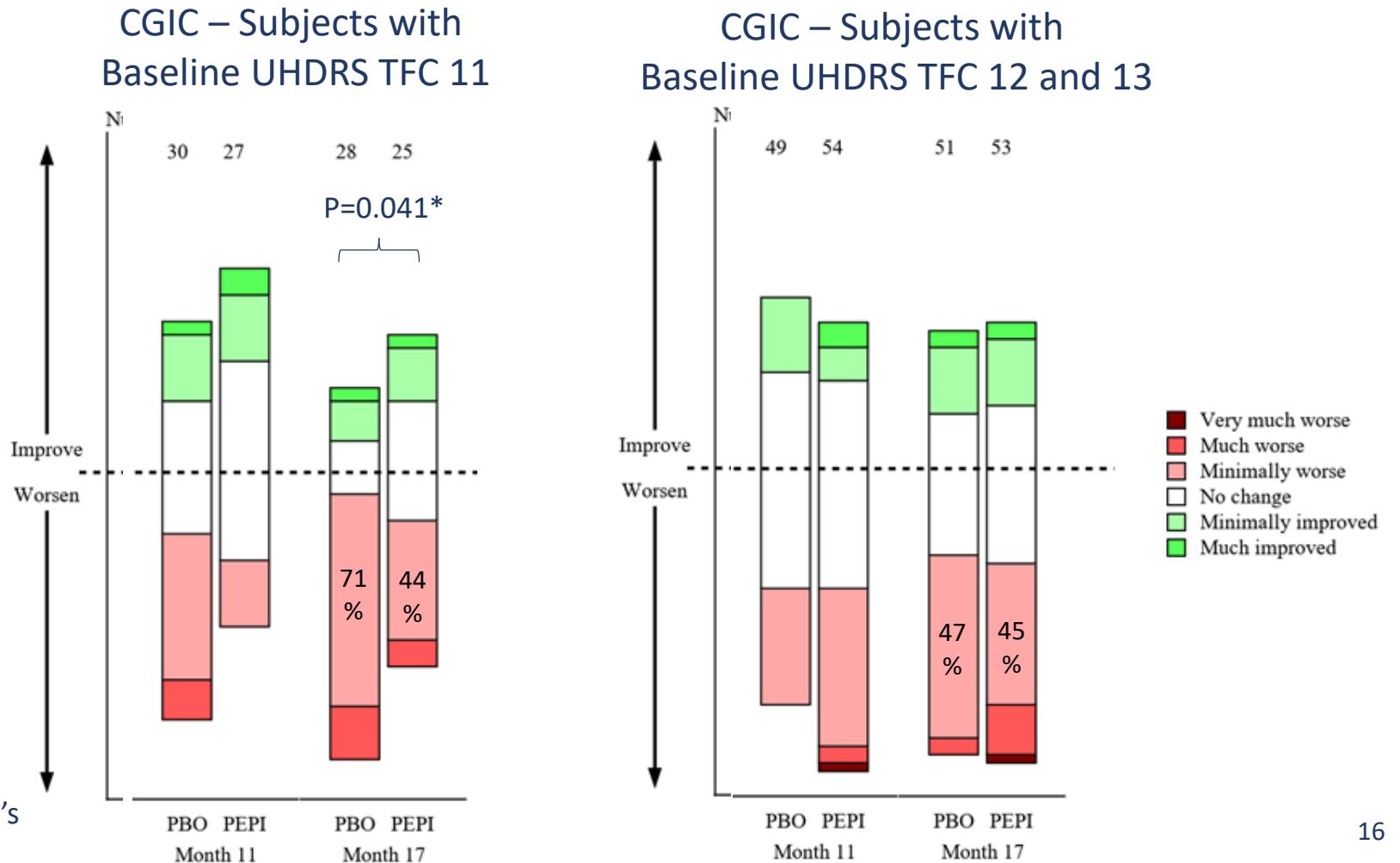
One-sided p-value	Favors PEPI	Success [Critical value]
OTS: 0.028	Yes	No [0.025]
PTAP: 0.06		[0.0125]

# Clinical Global Impression of Change (CGIC) Post-hoc Subgroup Analysis – Early Manifest HD



Subjects were less likely to experience decline in CGIC following treatment with pepinemab compared to placebo.

This difference was evident in subjects with somewhat more advanced disease (TFC 11).



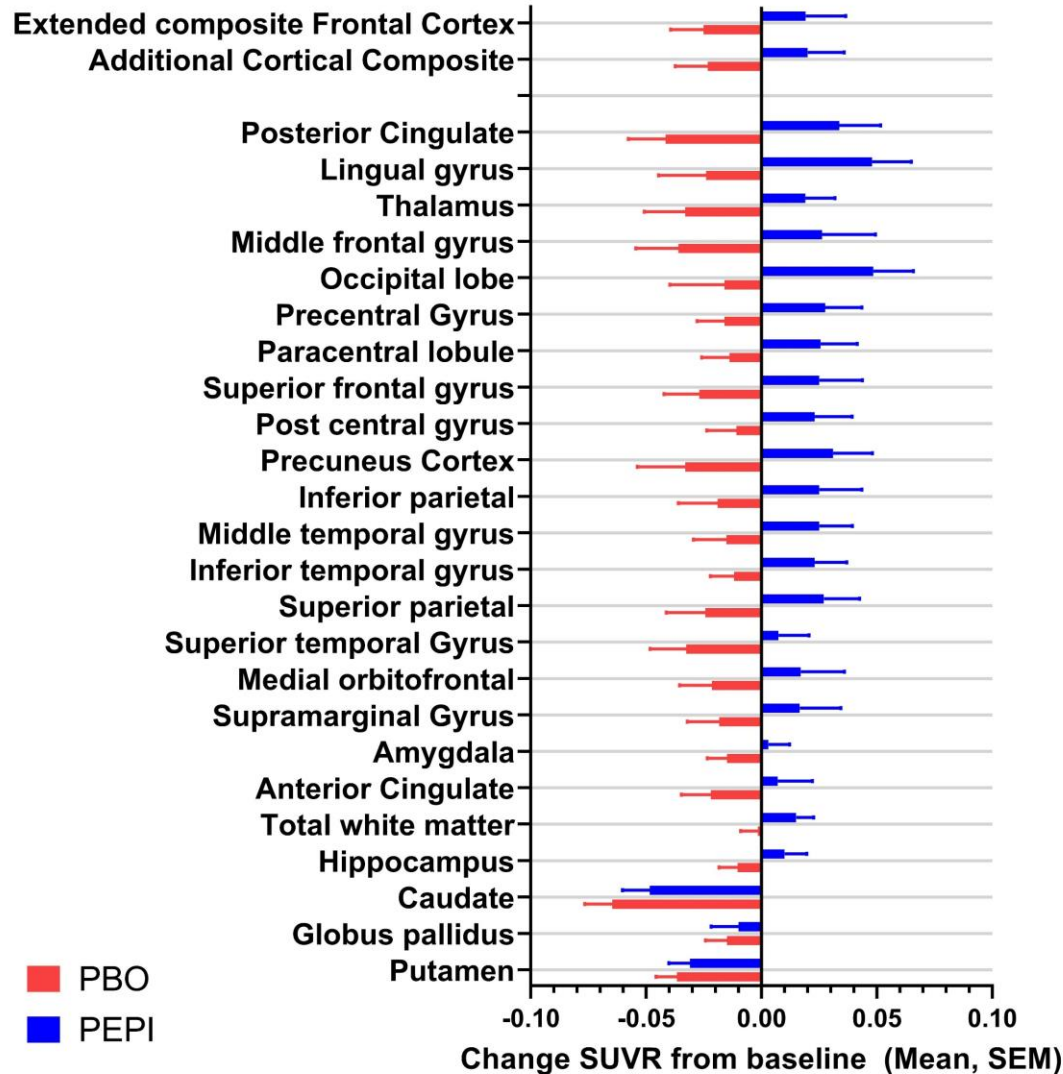
\*nominal one-sided p-value, Fisher's exact test for worsening score



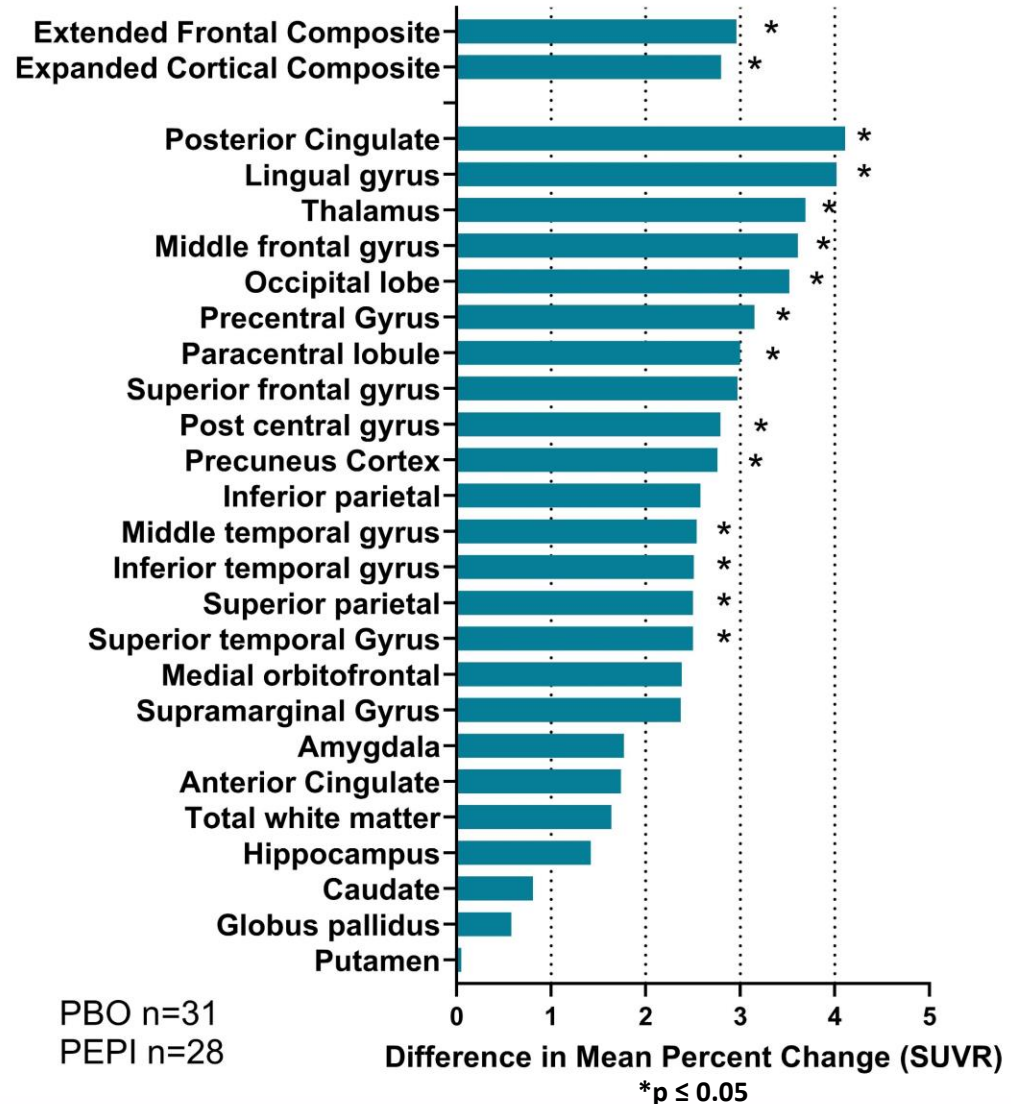
# FDG-PET at 18 Months – Early Manifest HD: Pepinemab treatment reverses loss of metabolic activity



**FDG-PET Change SUVR  
Early Manifest at visit 18**



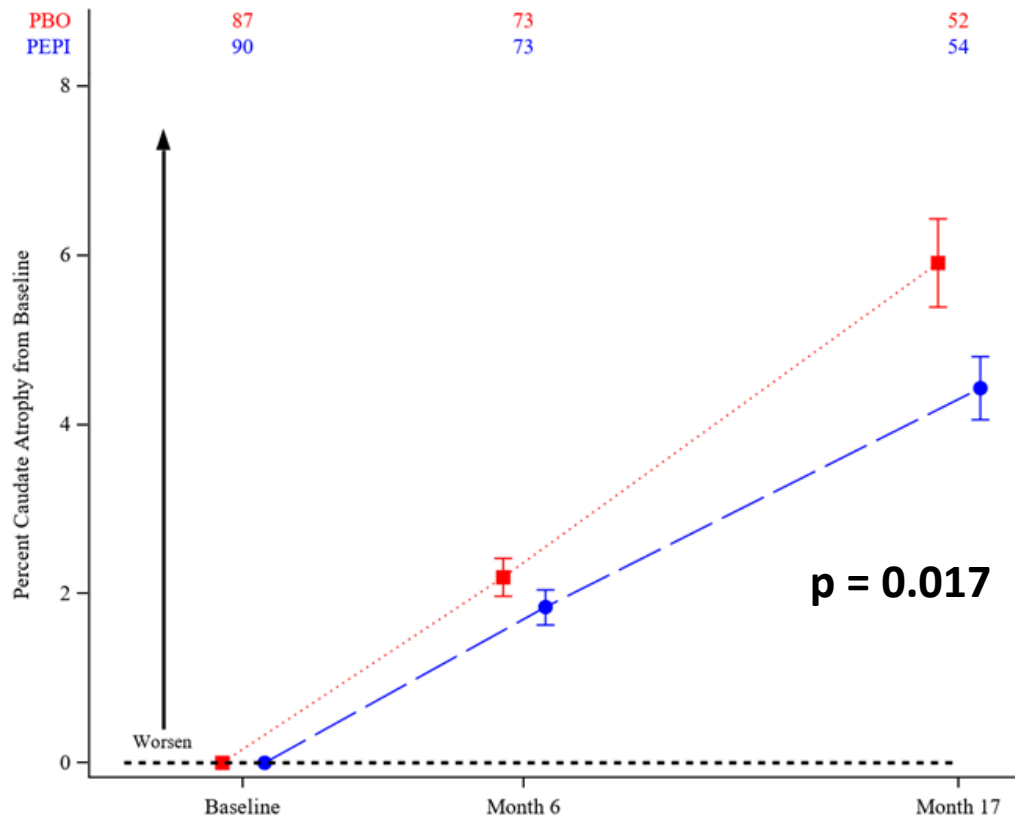
**FDG-PET Difference in % Change SUVR (PEPI-PBO)  
Early Manifest at Visit18**



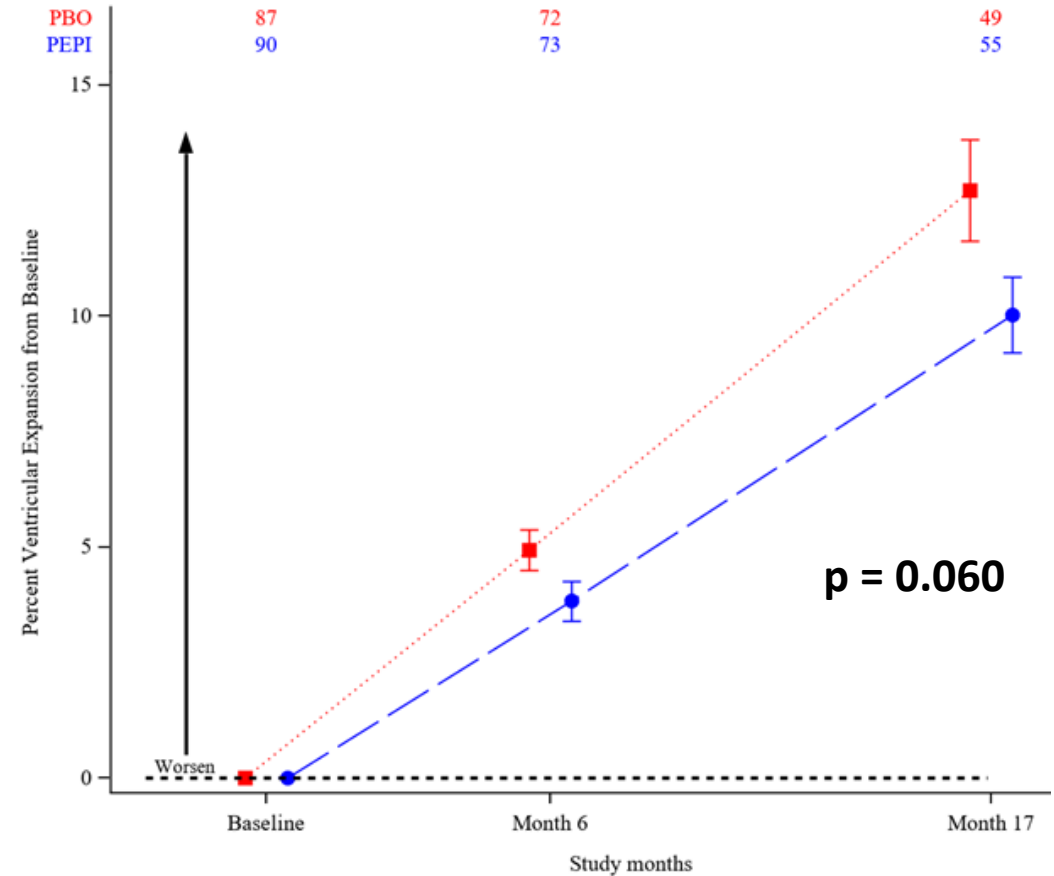
# Volumetric MRI analysis – Boundary Shift Integral Pre-specified exploratory endpoint



### CBSI (caudate atrophy) Early Manifest (B1)



### VBSI (ventricular expansion) Early Manifest (B1)

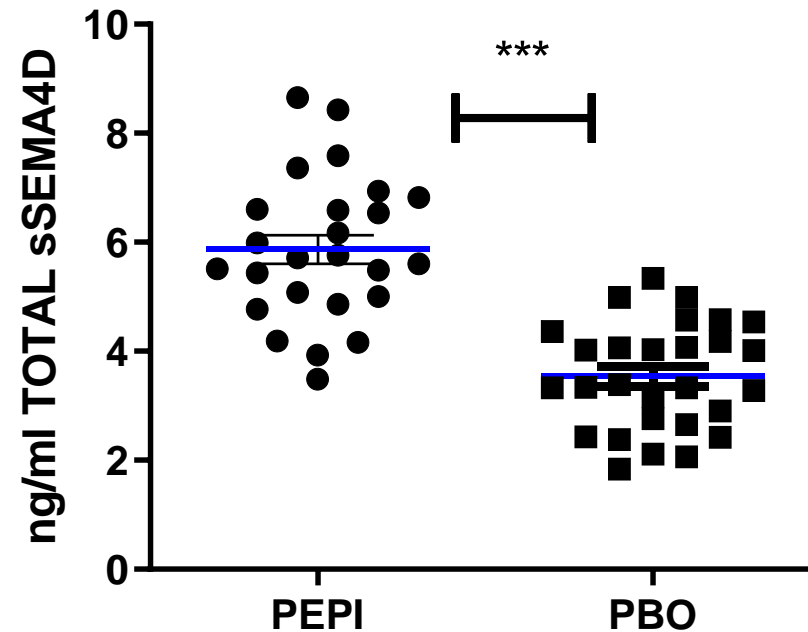
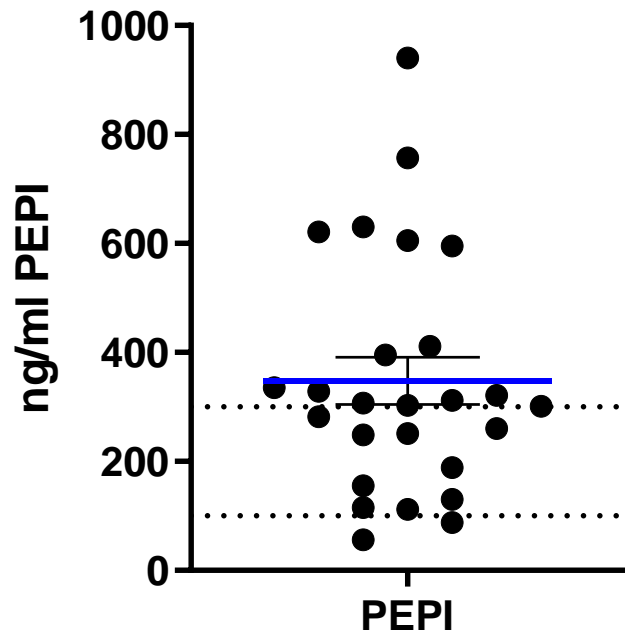


# Pepinemab and sSEMA4D levels in cerebrospinal fluid (CSF)



Most subjects dosed with pepinemab have  $\geq$  saturating levels (100-300 ng/ml) in CSF

sSEMA4D increases in subjects dosed with pepinemab – suggesting target engagement



# SIGNAL: Early Manifest HD Results of Phase 2 trial



Orphan Disease and Fast Track designations



Mechanism of Action: Reduce neuroinflammation and restore normal glia function



Safety and tolerability: Well tolerated  
Intravenous administration



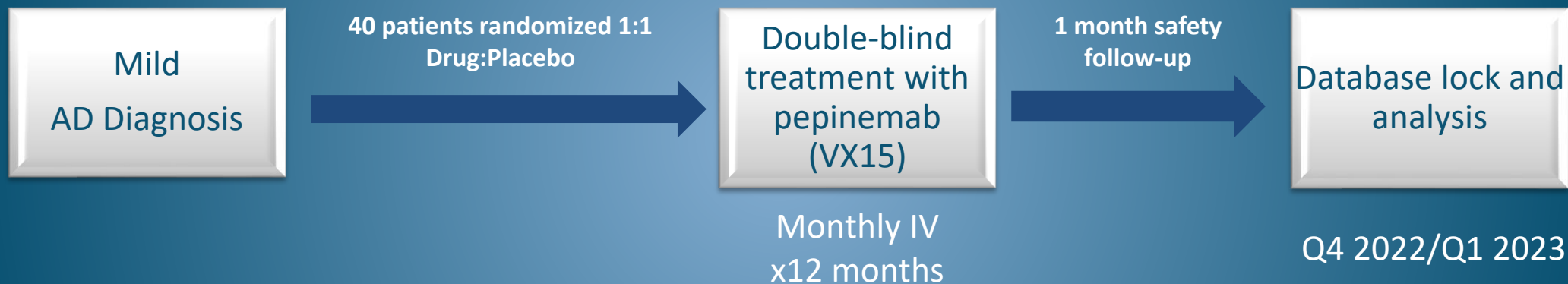
Clinical Efficacy (HD): Improved Cognitive Function and  
Clinical global impression of change (TFC 11)  
Reduced brain atrophy and increased metabolic activity

Target engagement: Confirmed penetration into CNS at expected level  
Antigen-antibody complexes detected

**Phase 3-ready asset for HD**  
**Initiated Phase 1b/2a trial for AD**

**Broad application – targets common pathology in neurodegeneration**

# Clinical Trial Design Alzheimer's Disease



## Study Objectives

- Safety and tolerability
- Cognitive Function measures, CDR-SB, ADAS-Cog13
- Brain imaging measures, FDG-PET

## Funding by



## Broad applications in neurological diseases

The mechanism of action of pepinemab has broad potential applications in neurological diseases that share common neuroinflammatory pathology, including HD, AD, FTD, PPMS.

Antibody blockade ameliorates neuropathology and symptoms of disease in multiple preclinical models

- Huntington's Disease – YAC128 transgenic model
  - Southwell et al. 2015. Neurobiology of Disease
- Alzheimer's Disease – CVN (APP<sup>SwDI</sup>/NOS2<sup>-/-</sup>) transgenic model
  - Available upon request
- Rett Syndrome - Mecp2<sup>T158A/y</sup> mutant transgenic mice
  - Available upon request
- Multiple Sclerosis – EAE models and demyelinating lysolecithin-lesion model
  - Smith et al. 2014 Neurobiology of Disease



# Pepinemab Antibody Cancer Immunotherapy

Science in the Service  
of Medicine



# Pepinemab overcomes immune resistance mechanisms

Research Article

Cancer Immunology Research

## Antibody Blockade of Semaphorin 4D Promotes Immune Infiltration into Tumor and Enhances Response to Other Immunomodulatory Therapies

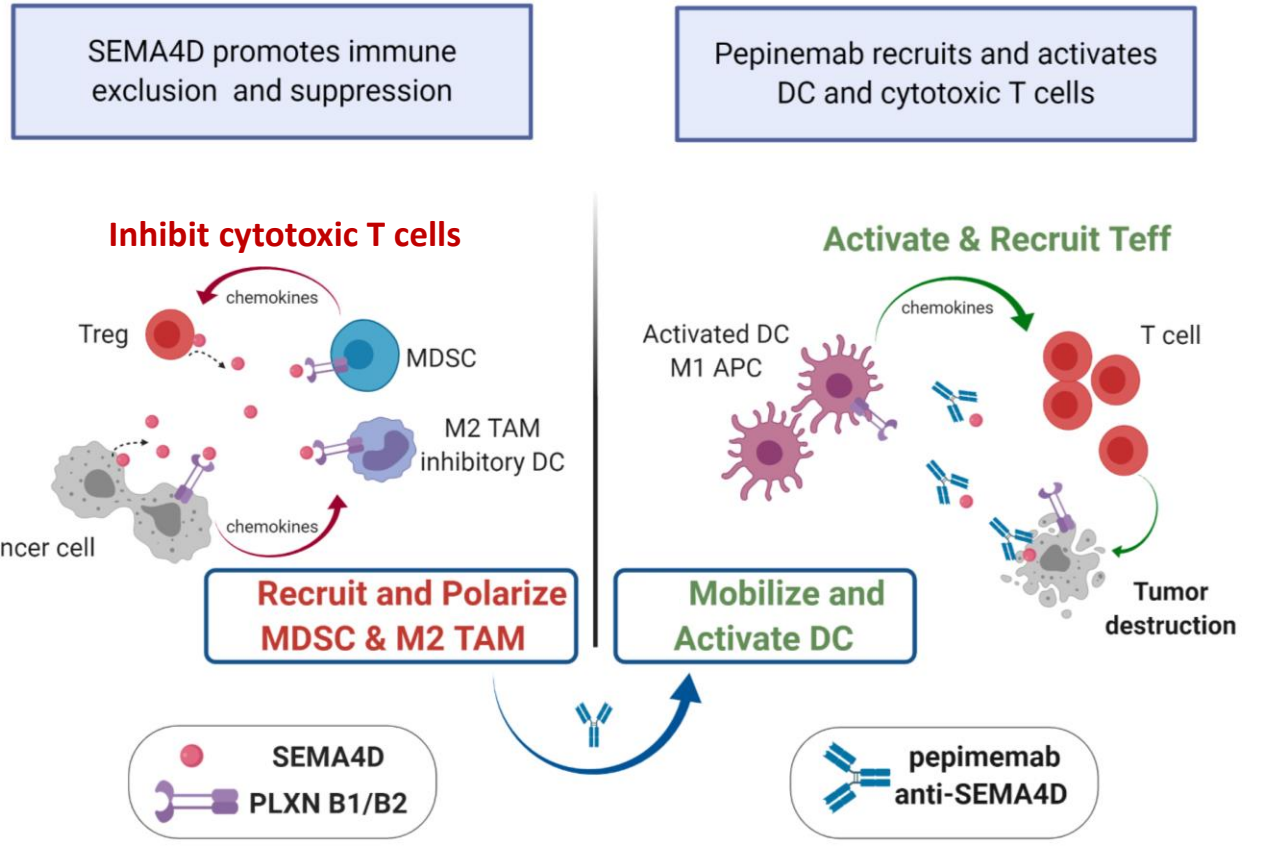
Elizabeth E. Evans, Alan S. Jonason Jr, Holm Bussler, Sebold Torno, Janaki Veeraraghavan, Christine Reilly, Michael A. Doherty, Jennifer Seils, Laurie A. Winter, Crystal Mallow, Renee Kirk, Alan Howell, Susan Giraldo, Terrence L. Fisher, William J. Bowers, M

Research Article

Cancer Immunology Research

## Semaphorin4D Inhibition Improves Response to Immune-Checkpoint Blockade via Attenuation of MDSC Recruitment and Function

Paul E. Clavijo<sup>1</sup>, Jay Friedman<sup>1</sup>, Yvette Robbins<sup>1</sup>, Ellen C. Moore<sup>1</sup>, Ernest Smith<sup>2</sup>, Maurice Zauderer<sup>2</sup>, Elizabeth E. Evans<sup>2</sup>, and Clint T. Allen<sup>1,3</sup>



**TARGET:** SEMA4D in the tumor is a mechanism to avoid destruction by immune system

- Creates barrier to restrict movement of anti-tumor immune cells
- Promotes recruitment and function of inhibitory suppressor cells

**DRUG:** Pepinemab is a humanized IgG4 Mab that blocks the binding of SEMA4D to its receptors

- **Overcomes immune resistance**
- Reduces immune suppression
- Activates and recruits anti-tumor and cytotoxic cells
- Neutralizes SEMA4D barrier at the tumor boundary to facilitate immune infiltration
- Enhances immune checkpoint therapy

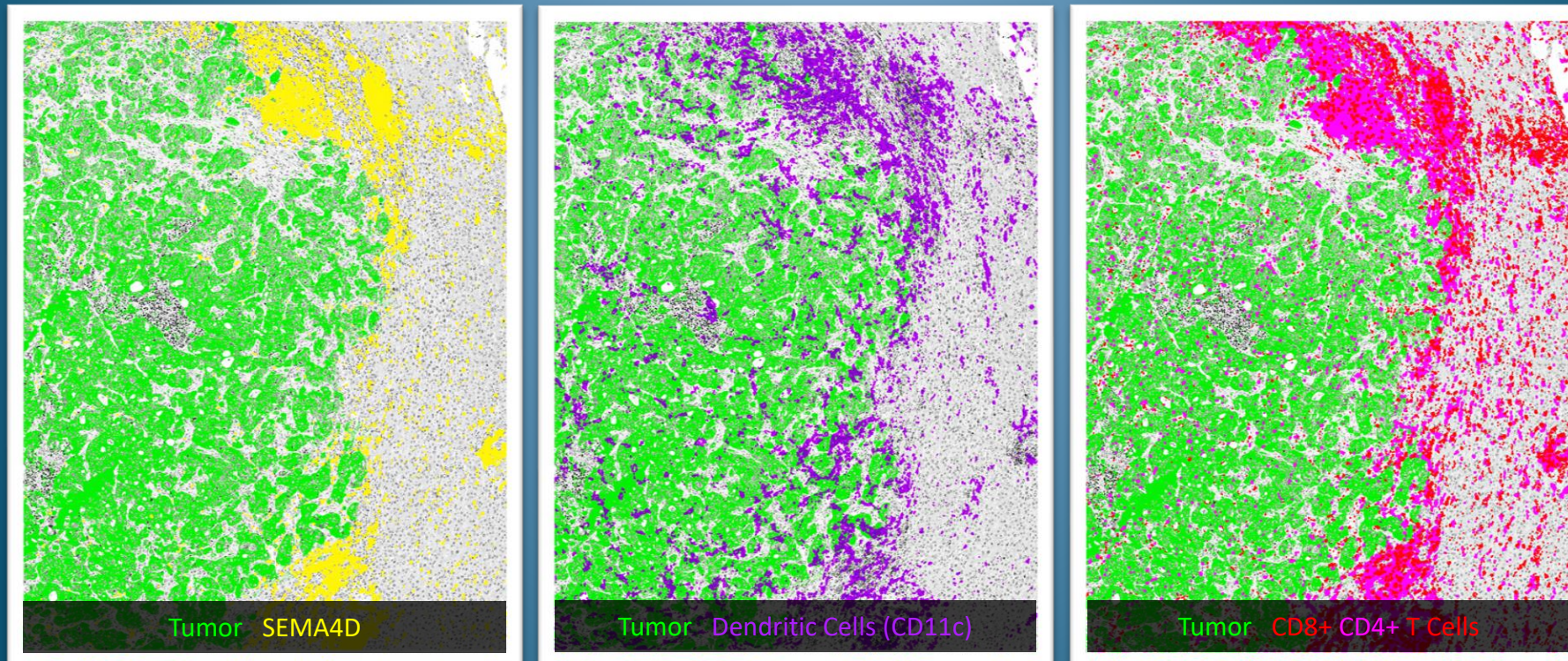


# SEMA4D creates a barrier of immune exclusion in human biopsies

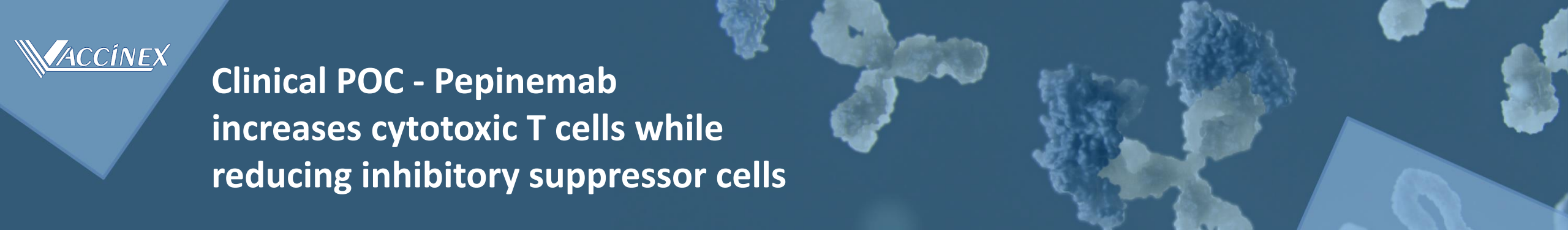
SEMA4D is expressed at tumor margin

SEMA4D binds to PLXN receptors on DC and restricts penetration

T cells are excluded from tumor

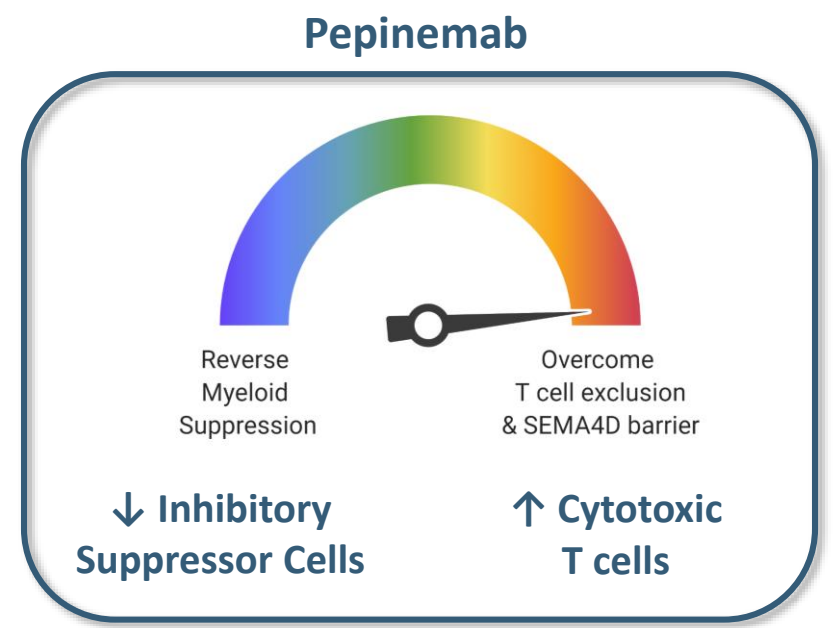
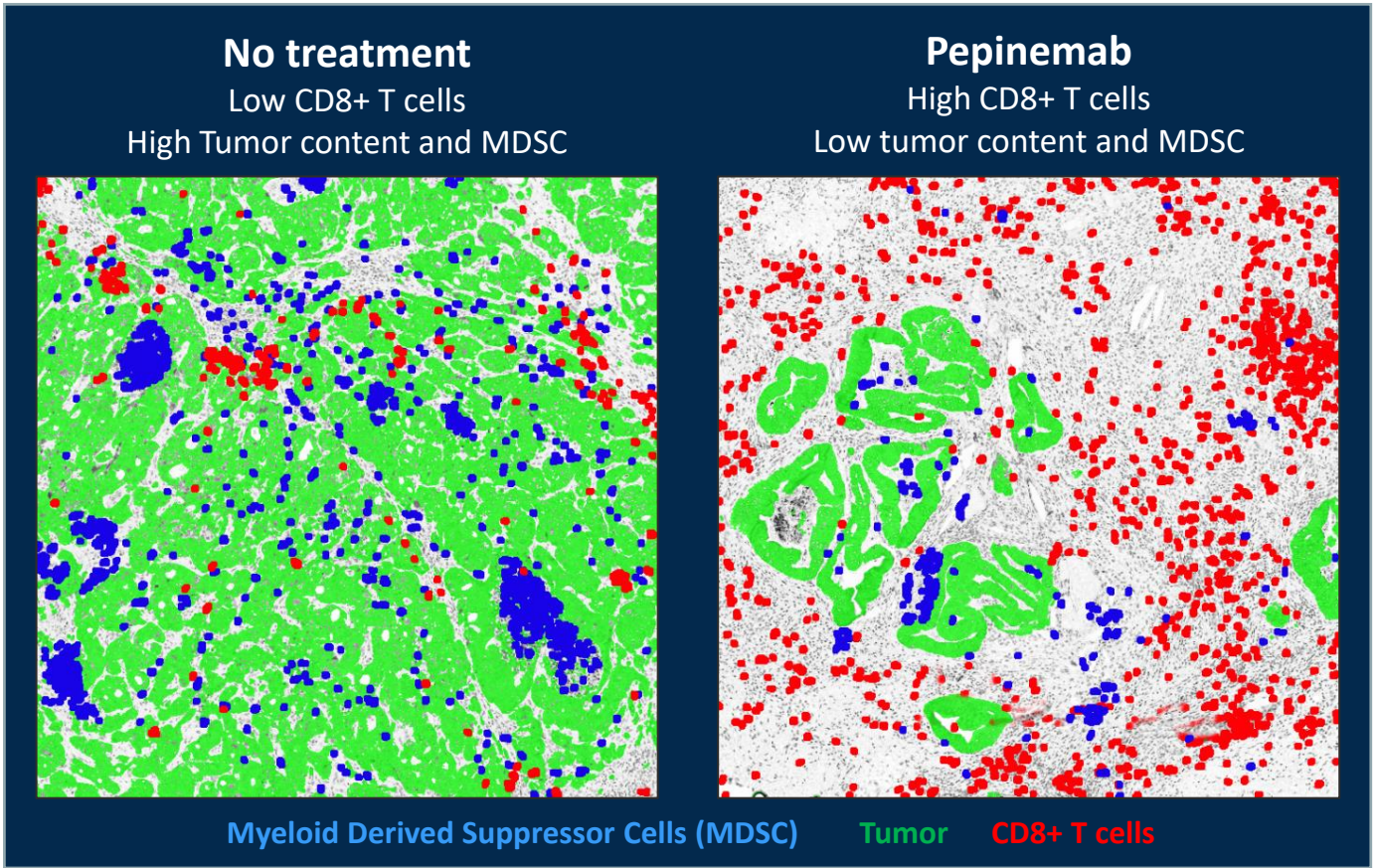


**Pro-inflammatory cells are excluded from the metastatic CRC tumor and build up at the invasive edge**  
 CD8 T cells align with Sema4D at the invasive edge of the tumor. Most of these excluded T-cells express Sema4D.  
 Dendritic Cells express receptors for SEMA4D and are heavily excluded at the invasive edge.



# Clinical POC - Pepinemab increases cytotoxic T cells while reducing inhibitory suppressor cells

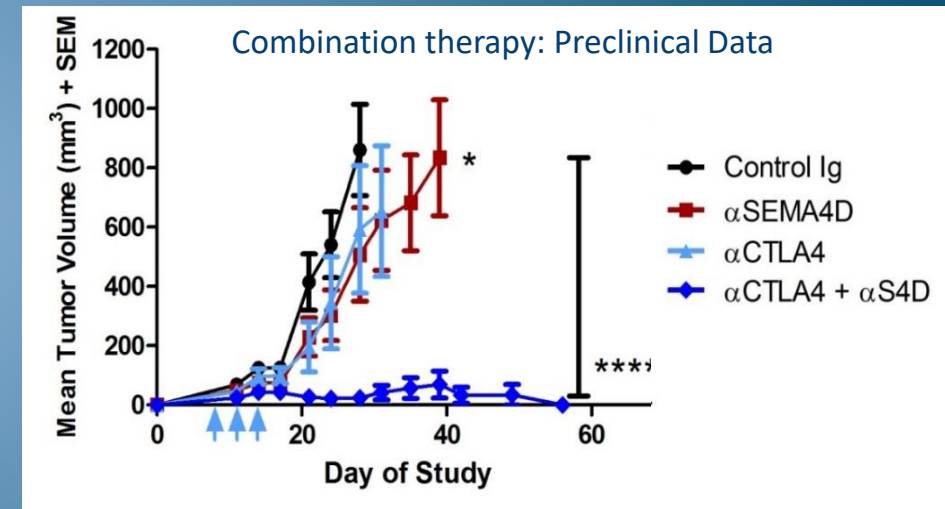
## Biopsies from patients with metastatic MSS Colorectal Cancer



Patients received neoadjuvant chemotherapy before immunotherapy and surgery  
 Winship Cancer Institute, Emory University – neoadjuvant/"window of opportunity" study

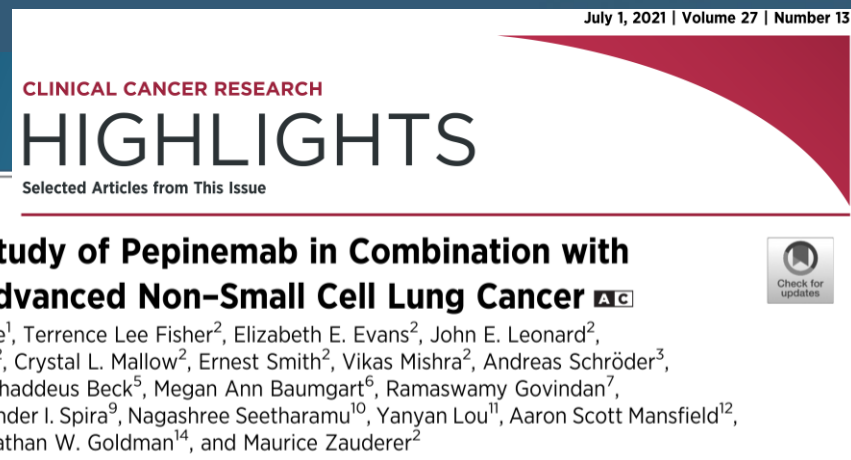
# Pepinemab has a unique mechanism of action that enhances other immunotherapies

Immune Resistance Mechanisms	Therapy
Exclusion of anti-tumor immune cells	Pepinemab
Activation of suppressor immune cells	Pepinemab
Upregulation of immune checkpoint molecules (PD-1, CTLA-4)	Keytruda, Opdivo, Yervoy, etc

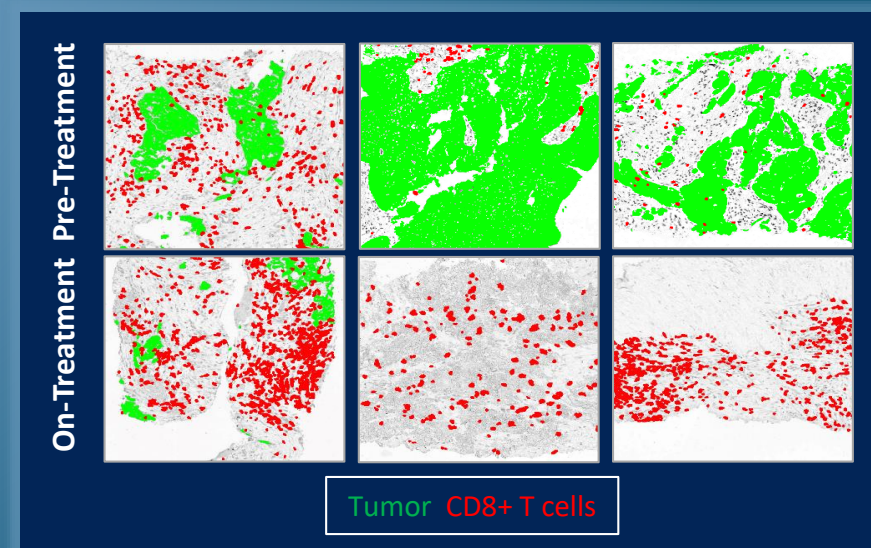


Pepinemab complements other immune-activating therapies - anti-PD1/L1, anti-CTLA-4, anti-LAG3, anti-TGF- $\beta$ , DC vaccine, etc

# Phase 1b/2 CLASSICAL-Lung Highlights

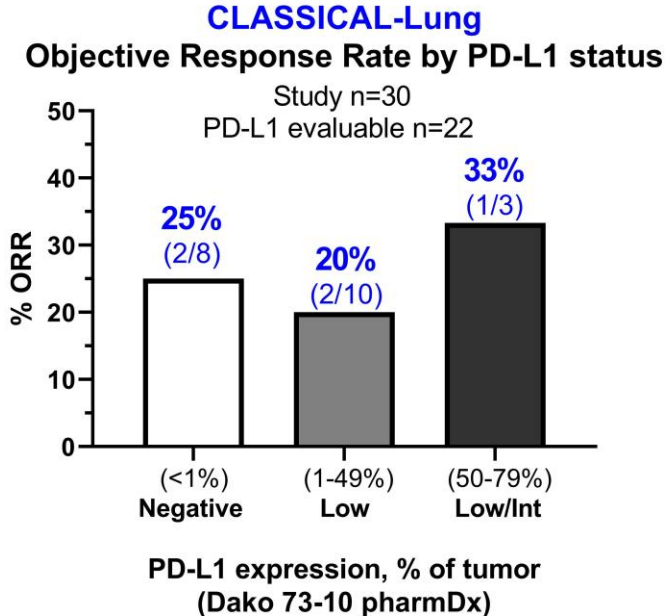
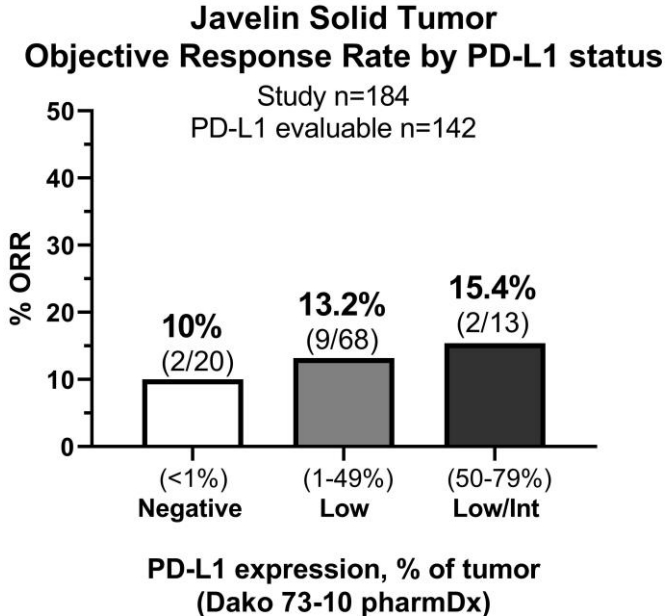


1. Well tolerated. Pepinemab does not enhance immune-related toxicities of partner drug.
2. Antitumor activity in some patients with challenging PD-L1 low or PD-L1 negative tumors
  - **Reported single agent anti-PDx: ORR ~10-15%**
  - **Combination with pepinemab: ORR 25-33%**
3. Antitumor activity in some patients whose cancer was resistant to prior therapy with single-agent checkpoint inhibitors
  - Disease control rate: 59%, and 7/29 patients with durable responses  $\geq$  23 weeks
4. Increased penetration of cytotoxic T cells following treatment



# Phase 1b/2 CLASSICAL-Lung Objective Response Rate in patients with PD-L1 low/negative tumors

Combination therapy achieved a higher overall response rate in difficult to treat PD-L1-low population, compared to historical data in IO naïve patients with avelumab



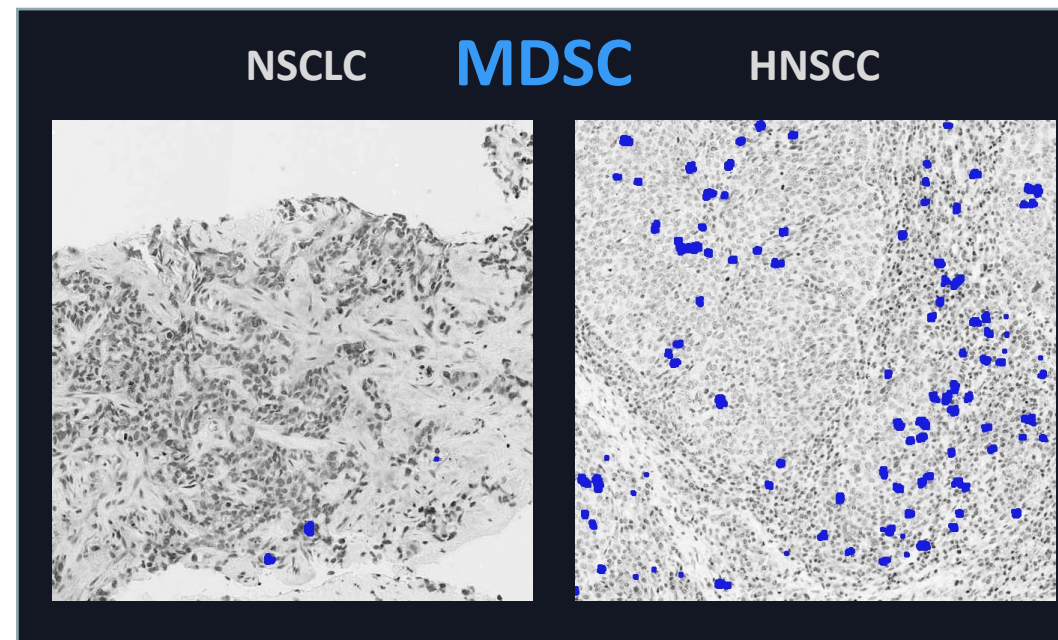
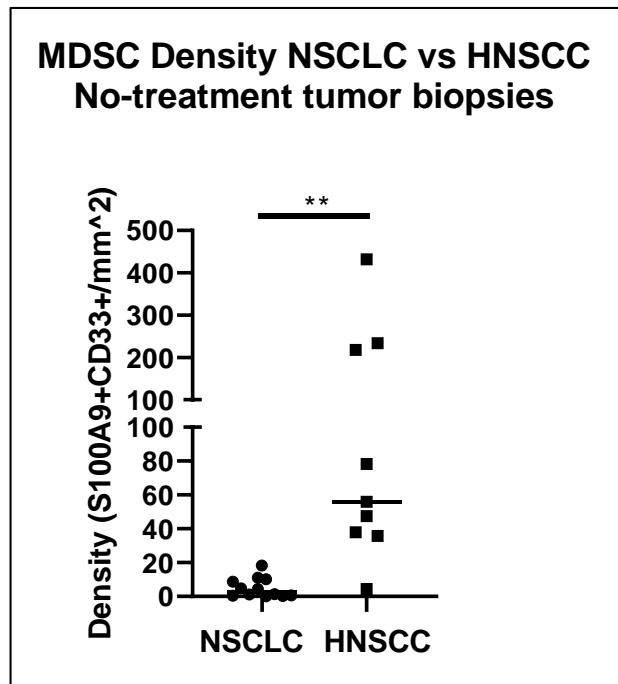
1. Calculated from data published in:  
Gulley JL, Rajan A, Spigel DR, et al. Avelumab for patients with previously treated metastatic or recurrent non-small-cell lung cancer (JAVELIN Solid Tumor): dose-expansion cohort of a multicentre, open-label, phase 1b trial. *Lancet Oncol* 2017; published online March 31. [http://dx.doi.org/10.1016/S1470-2045\(17\)30240-1](http://dx.doi.org/10.1016/S1470-2045(17)30240-1).

Gulley JL, Rajan A, Spigel DR, et al. Exposure Response and PD-L1 expression analysis of second-line avelumab in patients with advanced NSCLC: data from the JAVELIN Solid tumor trial: Abstract No. 9086. Presented at 53<sup>rd</sup> ASCO Annual Meeting; Jun 2-6, 2017

2. 27% (8/30) subjects did not have PD-L1 status reported and 9.5% (2/21) subjects were non-evaluable for post dose scans (included in ORR calculation) due to withdrawal prior to first scan. Note that a score of 80% in Merck KGaA 73-10 assay employed here is equivalent to a score of 50% in The 22C3 assay employed by US Merck.

# NEXT STEPS: Head & Neck Cancer (HNSCC) Combination Immunotherapy with KEYTRUDA®

- HNSCC have high MDSC content relative to NSCLC, therefore, benefit from both major pepinemab mechanisms of action.
- **Rationale**
  - SEMA4D induces high levels of myeloid derived suppressor cells (MDSC) in HNSCC
  - MDSC represent an important mechanism of resistance to immune checkpoint therapy
  - Inhibiting MDSC with pepinemab will enhance response to pembrolizumab



NSCLC: pre-treatment biopsies from CLASSICAL-Lung  
HNSCC: pre-treatment and no treatment biopsies from HNSCC integrated biomarker trial (collaboration at Emory University)

# Keynote B84 for front line treatment in patients with recurrent or metastatic Head & Neck Cancer

Phase 1b  
Safety Run-in

Phase 2  
Efficacy  
(up to 65)

20 mg/kg Pepinemab  
+200 mg Pembrolizumab  
~50% CPS<20  
~50% CPS≥ 20

Sponsored by:



Drug provided by:  
Merck, MSD



## Study Objectives

- Safety, tolerability, RP2D (Phase 1b) and Objective Response Rate (Phase 2)
- Secondary objectives include further evaluation of activity (PFS, OS, DOR), biomarkers within TME
- Data anticipated mid-2022

# Pepinemab for Immuno-Oncology



## **Mechanism of Action:**

Facilitate infiltration of T cells and dendritic cells  
Reduce immunosuppression



## **Safety and tolerability:**

Well tolerated  
Does not enhance immune-related toxicities of partner drug



## **Clinical Efficacy (POC):**

Appears to increase frequency and duration of objective responses  
Durable responses in some patients with PDx-resistant/refractory disease  
Apparent 2-3X increase in ORR in patients with PD-L1 negative/low tumors compared to single agent checkpoint inhibitor

**Initiated Phase 2 trial in HNSCC**

**Broad application in solid tumors – enhances activity of immunotherapies**



A microscopic view of biological structures, likely proteins or antibodies, rendered in shades of blue and white against a dark blue background. The structures are complex and three-dimensional, with some appearing as clusters and others as long, winding chains.

Unique Targets.

Novel Mechanisms.

New Medicines.

# Upcoming Milestones

Final Clinical Data for SIGNAL Cohort B study in Huntington’s Disease	Q2 2021
Publish Clinical Data for SIGNAL study in Huntington’s Disease	2021
Publish Clinical Data for Pepinemab in Combination with Avelumab in NSCLC Clinical Cancer Research, <a href="https://clincancerres.aacrjournals.org/content/27/13/3505">https://clincancerres.aacrjournals.org/content/27/13/3505</a>	April 5, 2021
<b>Enrollment of first patient for phase 2 study of Pepinemab in Combination with Keytruda® in front line Head &amp; Neck Cancer</b>	<b>Q2 2021</b>
<b>Expect interim data mid-2022</b>	<b>Mid-2022</b>
<b>Enrollment of first patient in Alzheimer’s disease phase 1b/2a study</b>	<b>Q2 2021</b>
<b>Expect data from blinded placebo-control study</b>	<b>Q4 2022/Q1 2023</b>

# Robust Patent Estate

## VX15 (pepinemab) US Patents and Patent Applications

<p><b>Key Composition of Matter Claims</b></p>	<p><b>US No. 8,496,938 issued 7/30/13)</b>  <i>Expected Exclusivity to 2030 (before patent term extension)</i></p>
<p><b>Key Additional Method of Use Claims for Treatment of Cancer and Neurodegenerative Diseases</b></p>	<p>US No. 9,243,9068 issued 1/26/16          US No. 9,249,227 issued 2/2/16          Filed: 2014 – 2015          Expected Exclusivity to 2035 (before patent term extension)</p>

Total Patent Franchise	US	International
Granted/allowed	26	11
Pending	15	13



Vaccinex, Inc. (Nasdaq: VCNX) is a publicly traded clinical-stage biotechnology company engaged in the discovery and development of targeted biotherapeutics to treat serious diseases with unmet medical needs, including cancer and neurodegenerative diseases.

VCNX (NASDAQ)	
Incorporated	2001
Headquarters	Rochester, NY
Employees	39
IPO	August 2018
February 2021 Capital Raise	\$32 M
Cash balance*	\$29.4M
Shares Outstanding*	28.4M
Analysts	Oppenheimer (L. Gershell), BTIG (T. Shrader)

## Vaccinex Board of Directors

<b>Albert D. Friedberg</b>	Chairman, President and CEO of Friedberg Mercantile Group, a Toronto-based commodities and investment management firm he founded in 1971. He served as Chairman of the Toronto Futures Exchange from March 1985 to June 1988.
<b>Chrystyna M. Bedrij</b>	Co-Founder and Principal, Griffin Securities
<b>Jacob B. Frieberg</b>	Principal, The WTF Group.
<b>J. Jeffrey Goater</b>	CEO of Surface Oncology, Formerly, CFO of Voyager Therapeutics.
<b>Bala S. Manian, Ph.D.</b>	Founder (or co-founder) of Quantum Dot Corporation, SurroMed, Biometric Imaging, LumisysInc., Molecular Dynamics and ReaMetrix.
<b>Gerald E. Van Strydonck</b>	Formerly, Managing Partner at PricewaterhouseCoopers.
<b>Barbara Yanni</b>	Formerly, Vice President and Chief Licensing Officer at Merck & Co., Inc.
<b>Maurice Zauderer, Ph.D.</b>	Vaccinex Founder, President and Chief Executive Officer. Formerly, Professor at University of Rochester and at Columbia University.

# Vaccinex Scientific Advisors - Neurology

## **Eric Siemers, MD**

President of Siemers Integration LLC. Distinguished medical fellow for Eli Lilly and Company's Alzheimer's Disease Global Development Team, founded and headed the Indiana University Movement Disorder Clinic. Served on the Board of Directors of the American Society of Experimental Neurotherapeutics, as founding member and Chair of the Alzheimer's Association Research Roundtable, and Steering Committee member for the Alzheimer's Disease Neuroimaging Initiative (ADNI).

## **Karl D. Kieburtz, MD, MPH**

President of Clintrex LLC, providing services regarding research and regulatory strategy for therapeutic development of interventions for brain disorders. Chair of the FDA Peripheral and Central Nervous System Drugs Advisory Committee and sits on the American Academy of Neurology (AAN) Clinical Research Subcommittee, the International Executive Committee of the Movement Disorders Society (MDS), the Board of Directors for the American Society for Experimental NeuroTherapeutics (ASENT), and the Council of the American Neurological Association (ANA), chair of the FDA Peripheral and Central Nervous System Drugs Advisory Committee.

## **Ira Shoulson, MD**

Dr. Shoulson is a long time leader in Huntington's disease research. From 2011 to July 2018, Dr Shoulson was Professor of Neurology, Pharmacology and Human Science and Director of the Program for Regulatory Science and Medicine (PRSM) at Georgetown University where he was principal investigator of the FDA-Georgetown University Collaborating Center of Excellence in Regulatory Science and Innovation. From 1990 to 2011, Dr Shoulson was the Louis C. Lasagna Professor of Experimental Therapeutics and Professor of Neurology, Pharmacology and Medicine at the University of Rochester School of Medicine & Dentistry in Rochester, New York. Dr. Shoulson is an elected member of the National Academy of Medicine of the National Academy of Sciences.

## **Ralf Reilmann, MD**

Founding Director and C.E.O. of the George-Huntington-Institute, Dept. of Radiology at the University of Muenster and the Dept. of Neurodegeneration and Hertie Institute for Clinical Brain Research at the University of Tuebingen.

# Vaccinex Scientific Advisors - HNSCC Clinical Advisory Board

**Barbara Burtness,  
MD**

Professor of Medicine (Medical Oncology) at Yale, leader of the Disease Aligned Research Team for the Head and Neck Cancers Program and Co-Leader of the Developmental Therapeutics Research Program at Yale Cancer Center. Chair of ECOG-ACRIN Head and Neck Therapeutics Committee, served on the NCCN and SITC Head and Neck Guidelines Committee, and the NCI Head and Neck Cancer Steering Committee. Co-chair of the NCI Clinical Trials Planning Meeting on TP53-Mutated Head and Neck Cancer and FDA Project 2025 for Head and Neck. Founding Director of the Yale Head and Neck Cancer SPORE and has led numerous clinical trials, including the international phase III trial which led to regulatory approval of immunotherapy in first-line treatment of head and neck cancer.

**Robert Haddad, MD**

Chief, Division of Head and Neck Oncology. McGraw Chair, Head and Neck Oncology, Dana-Farber Cancer Institute. Professor, Medicine, Harvard Medical School.

**Douglas Adkins, MD**

Professor, Department of Medicine, Oncology Division, Medical Oncology, Washington University School of Medicine in St. Louis. NCI Head and Neck Steering Committee and Metastatic and Recurrent Head & Neck Cancer Task Force

**Nabil Saba, MD**

Director of the Head and Neck Cancer Medical Oncology Program at Winship Cancer Institute of Emory University, Professor and Vice Chair for Quality and Safety in the Department of Hematology and Medical Oncology and holds a joint appointment as Professor in the Department of Otolaryngology at Emory University School of Medicine. Chair of the National Cancer Institute's task force for recurrent metastatic head and neck cancer and Chair of the Rare Tumors Task Force of the National Cancer Institute's Head and Neck Cancer Steering Committee. Member of the NRG Oncology and Eastern Cooperative Oncology Group (ECOG) Head and Neck Cancer Core Committees, the ASCO clinical guidelines committee, and the ASCO Head and Neck Guideline Advisory Group.

# Contact us



Elizabeth Evans, COO  
[eevans@vaccinex.com](mailto:eevans@vaccinex.com)



Ernest Smith, CSO  
[esmith@vaccinex.com](mailto:esmith@vaccinex.com)

[www.vaccinex.com](http://www.vaccinex.com)



# Vaccinex Selected References, Oncology

1. Shafique MR, Fisher TL, Evans EE, Leonard JEE, Pastore DRE, Mallow CL, Smith E, Mishra V, Schroder A, Chin KA, Beck JT, Baumgart MA, Govindan R, Gabriel NY, Spira AI, Seetharamu N, Lou Y, Mansfield AS, Sanborn RE, Goldman JW, Zauderer M. **A Phase Ib/2 Study of Pepinemab in Combination with Avelumab in Advanced Non-Small Cell Lung Cancer.** Clin Cancer Res 2021, doi: 10.1158/1078-0432.CCR-20-4792
2. Clavijo PE, Friedman J, Robbins Y, Moore EC, Smith ES, Zauderer M, Evans EE, Allen CT. **Semaphorin4D inhibition improves response to immune checkpoint blockade via attenuation of MDSC recruitment and function.** Cancer Immunol Res. 2019 Feb;7(2):282-291
3. Evans EE, Jonason AS Jr, Bussler H, Torno S, Veeraraghavan J, Reilly C, Doherty MA, Seils J, Winter LA, Mallow C, Kirk R, Howell A, Giralico S, Scrivens M, Klimatcheva K, Fisher TL, Bowers WJ, Paris M, Smith ES, Zauderer M. **Antibody blockade of semaphorin 4D promotes immune infiltration into tumor and enhances response to other immunomodulatory therapies.** Cancer Immunol Res. 2015 Jun;3(6): 689-701.  
<http://www.ncbi.nlm.nih.gov/pubmed/25614511>
4. Amita Patnaik, Glen J. Weiss, John E. Leonard, Drew Warren Rasco, Jasgit C. Sachdev, Terrence L. Fisher, Christine Reilly, Laurie A. Winter, Robert B. Parker, Danielle Mutz, Lisa Blaydorn, Anthony W. Tolcher, Maurice Zauderer and Ramesh K. Ramanathan. **Safety, Tolerability, Pharmacokinetics and Pharmacodynamics of VX15/2503, a Humanized IgG4 anti-SEMA4D Antibody, in a First-In-Human Phase 1 Study of Patients with Advanced Solid Disease.** Clin Cancer Res. 2015 Oct 7. <http://clincancerres.aacrjournals.org/content/22/4/827.full.pdf+html>
5. Leonard JE, Fisher TL, Winter LA, Cornelius CA, Reilly C, Smith ES, Zauderer M. **Nonclinical Safety Evaluation of VX15/2503; a Humanized IgG4 Anti-SEMA4D Antibody.** Mol Cancer Ther. 2015 Feb 5 <http://www.ncbi.nlm.nih.gov/pubmed/25657333>
6. Fisher TL, Reilly CA, Winter LA, Pandina T, Jonason A, Scrivens M, Balch L, Bussler H, Torno S, Seils J, Mueller L, Huang H, Klimatcheva E, Howell A, Kirk R, Evans E, Paris M, Leonard JE, Smith ES, Zauderer M. **Generation and preclinical characterization of an antibody specific for SEMA4D.** Mabs. 2015 Oct 20. <http://www.tandfonline.com/doi/abs/10.1080/19420862.2015.1102813>
7. Fisher, T. L., J. Seils, C. Reilly, V. Litwin, L. Green, J. Salkowitz-Bokal, R. Walsh, S. Harville, J. E. Leonard, E. Smith, and M. Zauderer. 2016. **Saturation monitoring of VX15/2503, a novel semaphorin 4D-specific antibody, in clinical trials.** Cytometry B Clin. Cytom. 90: 199-208.  
<http://onlinelibrary.wiley.com/doi/10.1002/cyto.b.21338/abstract>

# Vaccinex Selected References, Neurology

1. Smith ES, Jonason A, Reilly C, Veeraraghavan J, Fisher T, Doherty M, Klimatcheva E, Mallow C, Cornelius C, Leonard JE, Marchi N, Janigro D, Argaw AT, Pham T, Seils J, Bussler H, Torno S, Kirk R, Howell A, Evans EE, Paris M, Bowers WJ, John G, Zauderer M. **SEMA4D compromises blood-brain barrier, activates microglia, and inhibits remyelination in neurodegenerative disease.** *Neurobiol Dis.* 2014 Oct 18;73C:254-268. doi: 10.1016/j.nbd.2014.10.008. <http://www.sciencedirect.com/science/article/pii/S0969996114003015>
2. Southwell AL, Franciosi S, Villanueva EB, Xie Y, Winter LA, Veeraraghavan J, Jonason A, Felczak B, Zhang W, Kovalik V, Waltl S, Hall G, Pouladi MA, Smith ES, Bowers WJ, Zauderer M, Hayden MR. **Anti-semaphorin 4D immunotherapy ameliorates neuropathology and some cognitive impairment in the YAC128 mouse model of Huntington disease.** *Neurobiol Dis.* 2015 Feb 3; 76:46–56. <http://www.sciencedirect.com/science/article/pii/S0969996115000145>
3. LaGanke, C., L. Samkoff, K. Edwards, L. Jung Henson, P. Repovic, S. Lynch, L. Stone, D. Mattson, A. Galluzzi, T. L. Fisher, C. Reilly, L. A. Winter, J. E. Leonard, and M. Zauderer. 2017. **Safety/tolerability of the anti-semaphorin 4D Antibody VX15/2503 in a randomized phase 1 trial.** *Neurol Neuroimmunol Neuroinflamm* 4: e367. <https://www.ncbi.nlm.nih.gov/pubmed/28642891>
4. Leonard JE, Fisher TL, Winter LA, Cornelius CA, Reilly C, Smith ES, Zauderer M. **Nonclinical Safety Evaluation of VX15/2503; a Humanized IgG4 Anti-SEMA4D Antibody.** *Mol Cancer Ther.* 2015 Feb 5 <http://www.ncbi.nlm.nih.gov/pubmed/25657333>
5. Zauderer M, Fisher TL, Mishra V, Leonard JE, Reader A, Mallow C, Balch L, Howell A, Smith ES, and Evans EE. **SEMA4D upregulation signals neuronal stress and triggers reactive transformation of astrocytes.** *In preparation*
6. Mao Y, Evans E, Mishra V, Zauderer M, Gold WA. **Anti-Semaphorin 4D rescues motor, cognitive and respiratory phenotypes in a Rett syndrome mouse model.** *In preparation*
7. Feigin AS, Evans EE, Fisher TL, Leonard JE, Reader A, Wittes J, Oakes D, Smith ES, Zauderer M, and the Huntington Study Group SIGNAL investigators. **Safety and efficacy of pepinemab antibody blockade of SEMA4D in patients with early Huntington’s Disease: a randomized, placebo-controlled, multicenter, Phase 2 clinical trial (SIGNAL).** *In preparation*
8. Fisher TL, Reilly CA, Winter LA, Pandina T, Jonason A, Scrivens M, Balch L, Bussler H, Torno S, Seils J, Mueller L, Huang H, Klimatcheva E, Howell A, Kirk R, Evans E, Paris M, Leonard JE, Smith ES, Zauderer M. **Generation and preclinical characterization of an antibody specific for SEMA4D.** *Mabs.* 2015 Oct 20. <http://www.tandfonline.com/doi/abs/10.1080/19420862.2015.1102813>