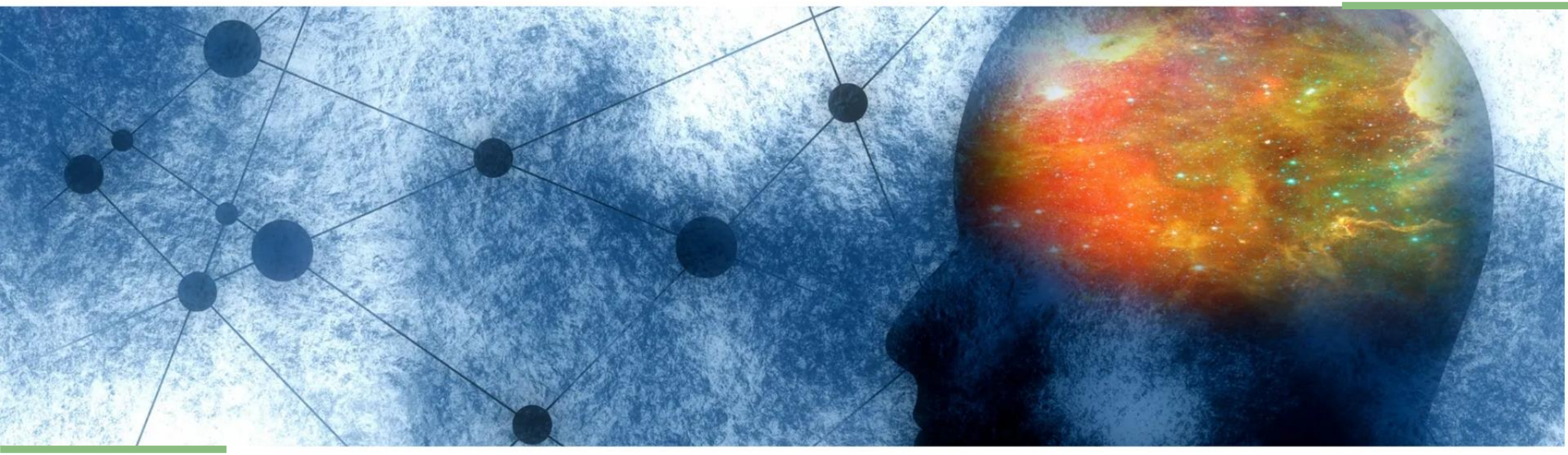
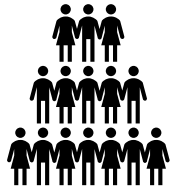
Accelerating Breakthrough Discoveries in Brain Disease



It is the mission of ZelosDx to provide researchers with novel blood testing tools that accelerate breakthrough discoveries in the development of effective treatments for brain disease and health.

Marie Wesselhoft, President & Co-Founder

The Problem: Lack of Therapies to Halt Disease Progression in Brain Disorders



- **Neurological Diseases Affect the Lives of Over 100 Million People in the US**
- **Unsuccessful Drug Trials**
  - **Complex Diseases**
  - **Diverse Patient Populations**
- **Tools Currently Used for Trials are Suboptimal**

Significant & Growing Problem

Tools Used For Today's Trials

Clinical Symptoms

Subjective

Imaging

Expensive

Spinal Tap

Invasive

Blood Plasma

Lack Sensitivity

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Source: The Burden of Neurological Disease in US 2017 American Neurological Association

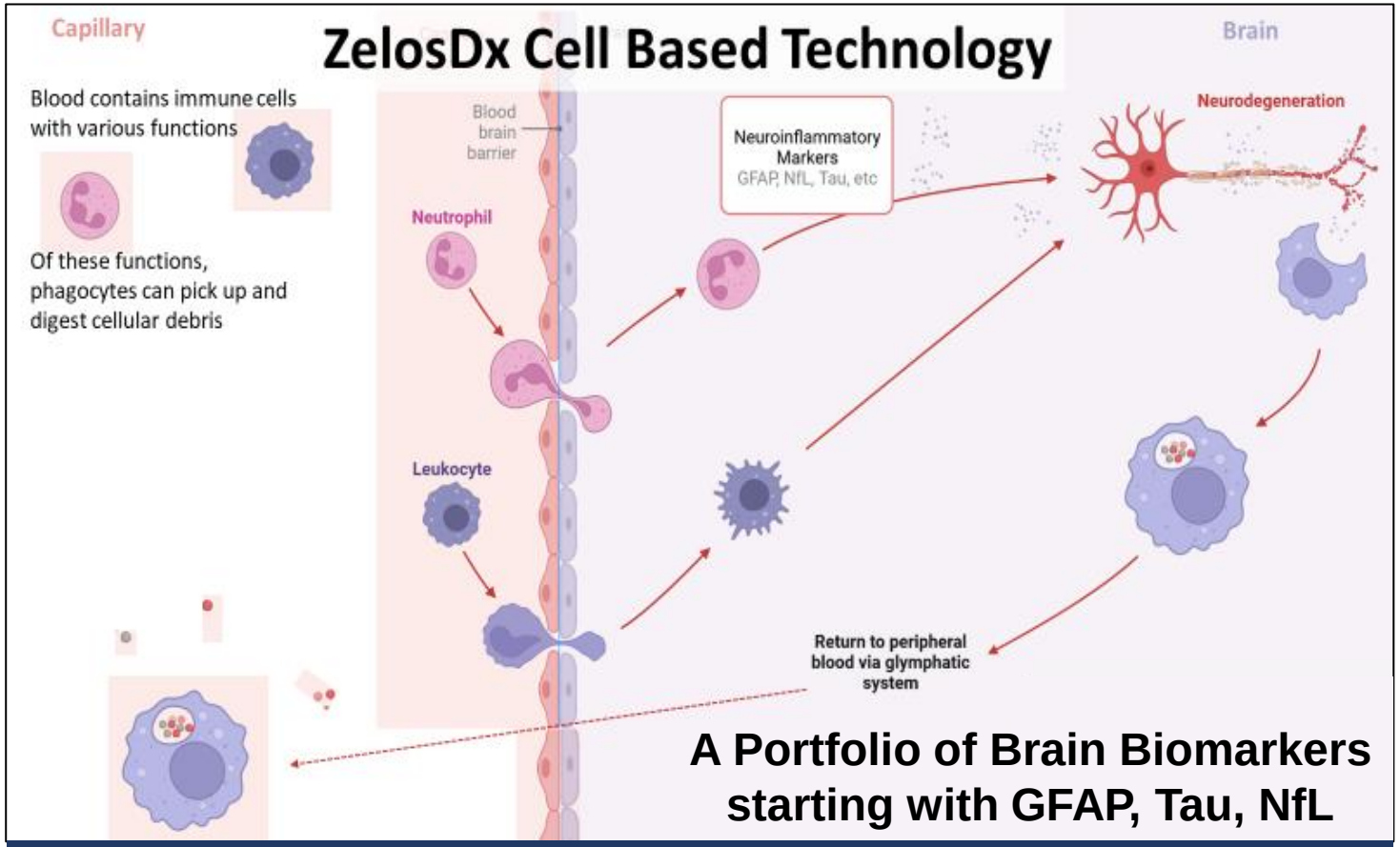
The ZelosDx Proprietary Technology: **WINDOW INTO THE BRAIN™**

Competitive Differentiation

Mining Debris in Phagocyte

Indicators of Nerve Cell Damage

Indicators of Neuroinflammation



A Portfolio of Brain Biomarkers starting with GFAP, Tau, NfL

6 Issued Patents: US, Europe, and Canada

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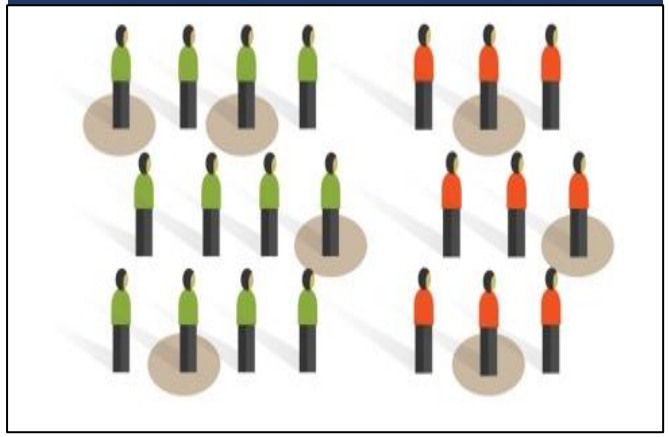
How Will Researchers Use the ZelosDx Offering?

Cellular Biomarkers for Drug Discovery

Monitor Treatment Effect

Patient Stratification



Customer Discovery Findings

Over 45% of the researcher interviewed are still not including blood-based biomarker testing in their studies, and within those laboratories 62% are interested in exploring blood-testing in the future.

What is surprising is that even the researchers (55%) currently including blood-based biomarker testing in their studies, almost 90% of those people interviewed expressed an interest in exploring additional blood tests.

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Monitoring Brain-Specific Biomarkers with ZelosDx Single Cell Technology

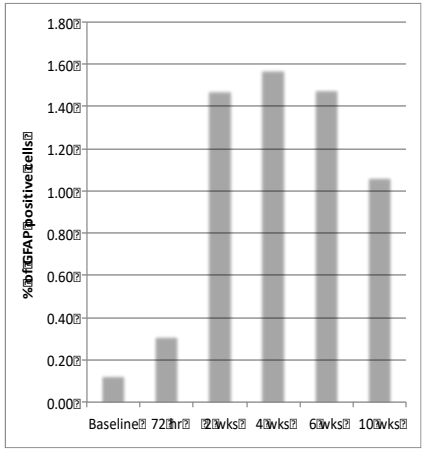
Using an animal model, ZelosDx demonstrated that neurodegeneration resulting from induced brain trauma, can be measured by both, Flow cytometry and ELISA.

About the Analysis

A total of 11 rats in cohorts of 2-5 rats in 3 separate experiments received brain surgery with implants of microelectrodes, followed by electro-stimulation for 4 weeks. Blood samples (200 – 250 ul) were analyzed by flow cytometry after lysis of red cells and staining white cells with fluorescent antibodies for GFAP as well as cell surface markers to identify an differentiate phagocytes. The results show that single cell analysis can detect:

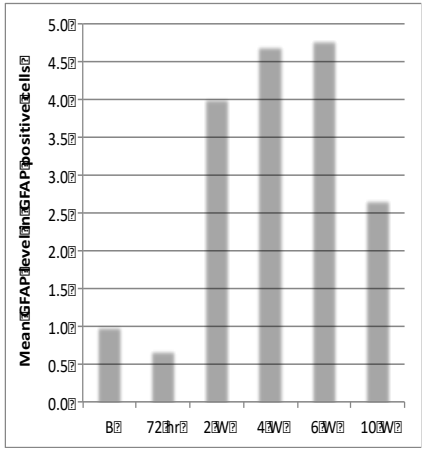
1. Increase in cells carrying brain-specific biomarkers

Increase in GFAP Positive Phagocytes. The percentage of gated cells (averaged over 3 experiments) specific for GFAP before treatment (Baseline), and 2-, 4-, 6- and 10-weeks post surgery are shown.



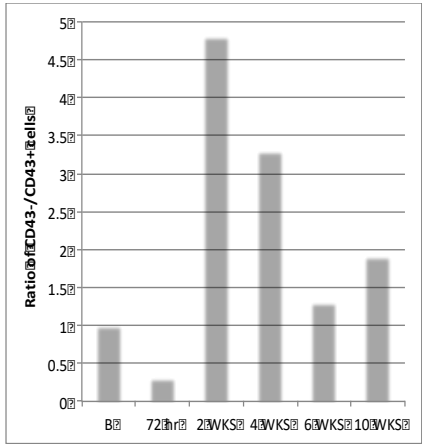
2. Increase in the amount of biomarker per cell

Increase in GFAP level in GFAP Positive Phagocytes. The mean GFAP specific fluorescence was averaged for all rats and normalized to Baseline.



3. Relative increase in the phagocytes responsible for debris removal

Change in the Ratio of Classical vs Non-classical Monocytes. The fraction CD43-low/CD43-high cells of all cells in the window gated for GFAP positive rat monocytes was determined, suggesting a surge in classical monocytes 3-14 days after brain surgery, which remains for at least 4 weeks.



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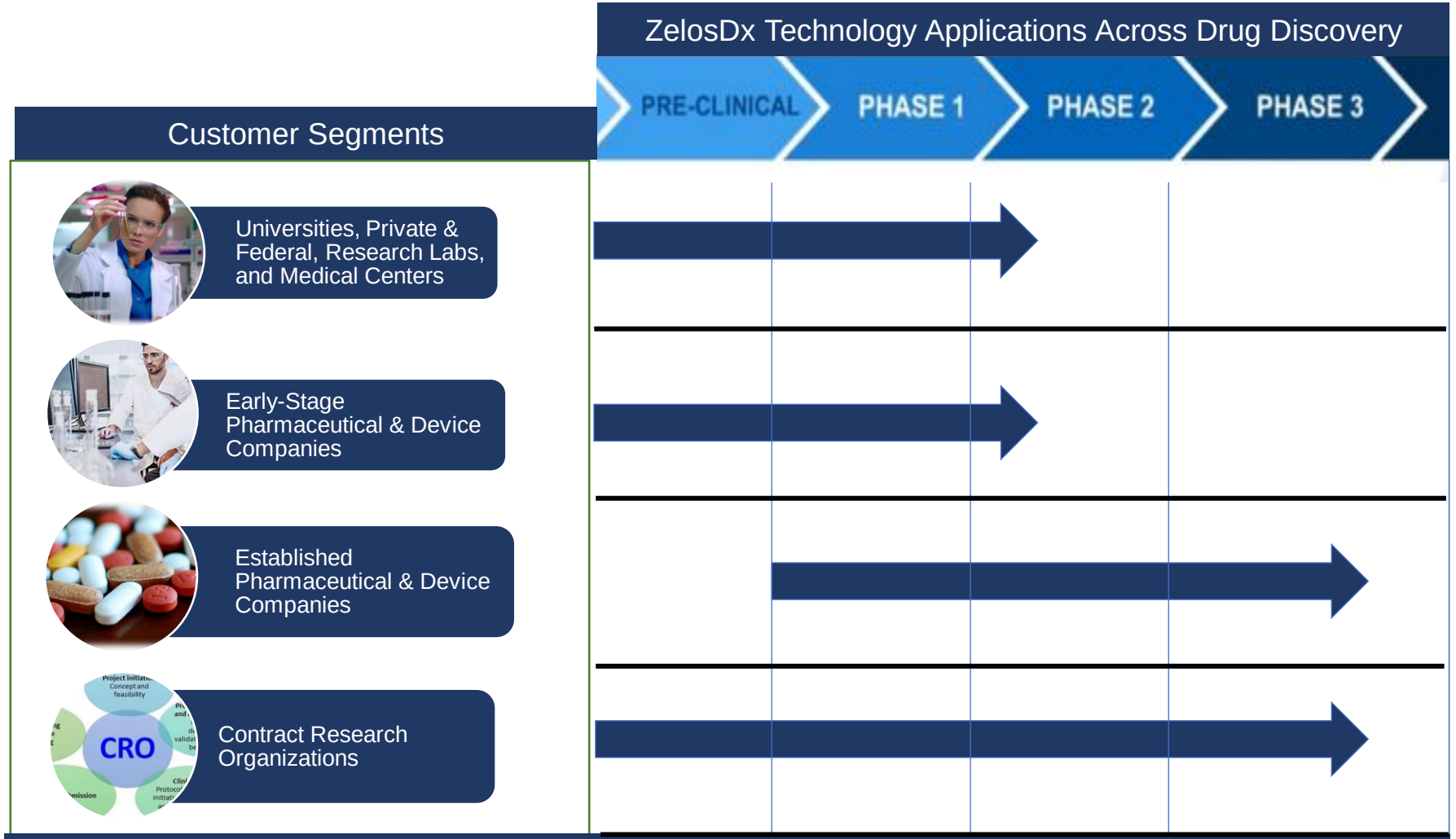
Target Customer Segments

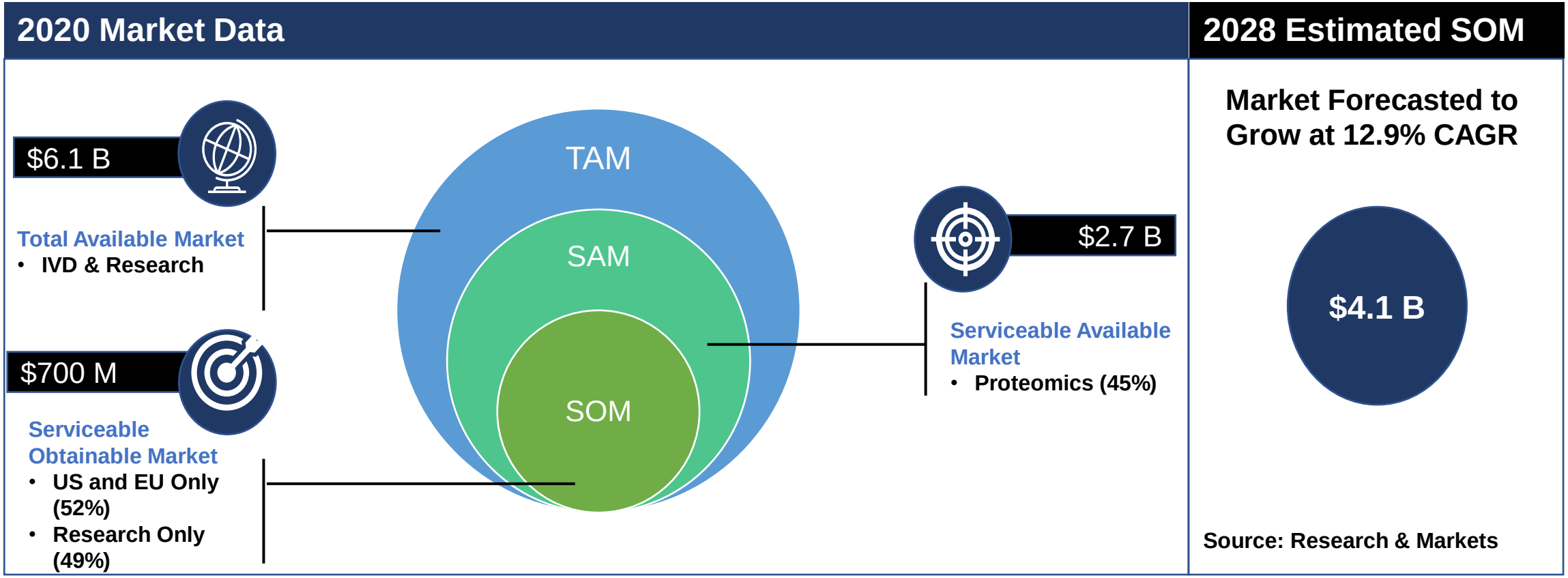


***There are over 11,000 CNS clinical trials represented in "cinicaltrials.gov" in 2022**

"Biomarkers of drug efficacy should be a part of the drug discovery pathway as early as possible. Even in the pre-clinical phases. The goal is to know early on whether the drug will have the desired effect."

Customer Discovery Quote

Neurological Biomarkers Market



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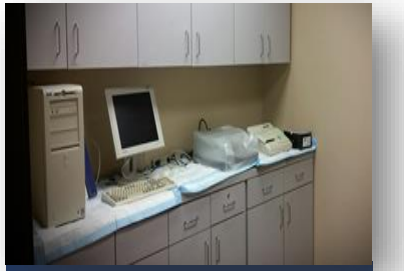
The Business Model: Multiple Revenue Streams



ZELOSDX SERVICE LAB REVENUE

ZELOSDX REAGENT KIT REVENUE

REAGENT & PARTNER INSTRUMENT LICENSE PACKAGE

ZELOSDX DEVICE & REAGENT PACKAGE

LAUNCH YEAR	2023	2024	2025	2026
REVENUE	$55 - $175 / Test	$700 – 1500 / Kit	3% – 5%	$700 – 1500 / Kit
ANNUAL # OF CUSTOMERS	Growing from 6 to 110+	Growing from 18 to 250		Growing from 5 to 13
CUSTOMER USAGE	9–20 / Tests per Month	6-23 Kits / Year		10-27 paks / Year

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Market Adoption: A Collaborator Today is a Customer Tomorrow

Leads	Generate Interest	Pilot Study	Convert to Revenue
			
• Application Specialists • Conferences • Publications • Implement Contact Management System	• AZO Networks • Content • Social media • Webinars • Newsletters • Meetings • Inside Sales	• Design Pilot Study for New Indication • Implement Start-up process • Provide Data to Researcher • Convert to Revenue	• New or Existing Funding • Add ZelosDx to ongoing studies • Start as a Service & Convert to Kits

100 CUSTOMER DISCOVERY INTERVIEWS

CORPS NSF Innovation Corps

COLLABORATORS TESTING ZelosDx

ASU Arizona State University

Arizona

Kantor Neurology

Georgia Tech

FIRST REVENUE

mi Movement Interactive

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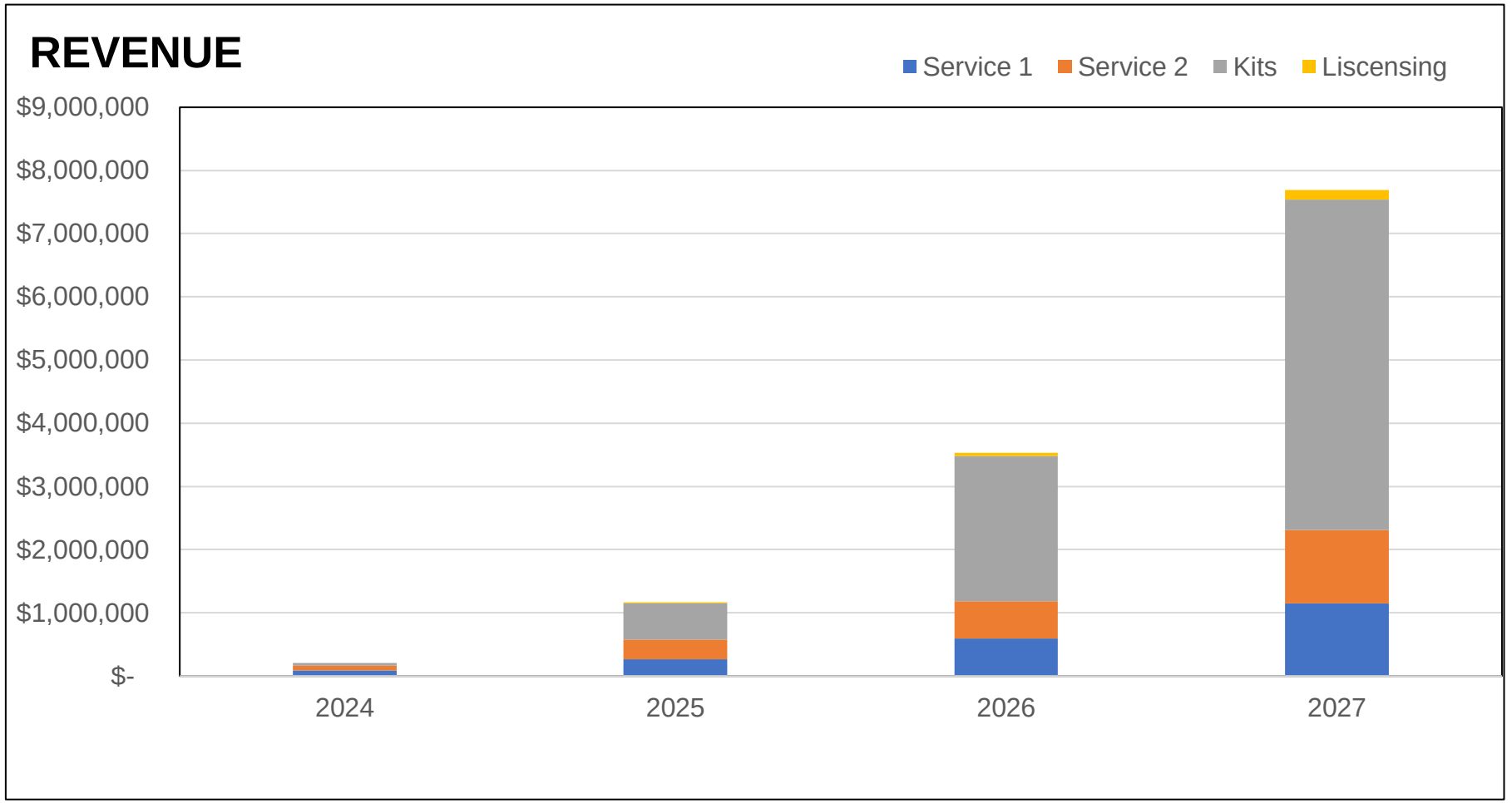
Revenue Generation: 2023 - 2027



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Break Even in 2027

Revenue Streams

Service
Kits
Licensing Fees

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ZelosDx Team with Expertise

Board of Directors

Conrad Plimpton - Chairman

SBI | McKinsey & Company | INOLEX

Mike Sember - Vice Chairman

élan | ACORDA THERAPEUTICS | DESERT ANGELS | UVC

David McCaleb - Member

AMGEN | MERCK | CV THERAPEUTICS

Marie Wesselhoft – President & CoFounder

Baxter | CardinalHealth | THE UNIVERSITY OF ARIZONA CENTER FOR INNOVATION | Humana

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Scientific Advisors

David A Stumpf, MD, PhD

Professor Emeritus Neurology at Northwestern University

Northwestern University

Stefania Mondello, MD, MPH, PhD

Physician Scientist, Critical Care Medicine, Neurotrauma, Biomarker Research at Univ. of Messina, Italy

Università degli Studi di Messina

Daniel Kantor, MD, FAAN

Neurologist in Coconut Creek, Florida
PI in multiple CNS clinical trials

Business Advisors

John L. Grant, PhD

Northwestern University | 3M | TECH COAST ANGELS

Phil Lefebvre, MS

APEX BIOCONSULTING | Abbott | Nanosphere A LUMINEX COMPANY | Feinberg

Dan Martens

ALPS ASSISTED LIVING PHARMACY SERVICE | Misix. | CardinalHealth

Staff

Uwe Muller, PhD – VP of R & D

JUSTUS-LIEBIG-UNIVERSITÄT GIESSEN | K-STATE | Abbott | BANYAN BIOMARKERS | Nanosphere A LUMINEX COMPANY

Ramesh Naya, PhD - Inventor

MIT | HMS | LUND UNIVERSITY

Betty Weaver, CPA - Controller

regla gene | Stormhill Investments | UNT

Melita Ball, CQA – Director of Regulatory & Quality

ALARIS | ThirdWave | VENTANA

Vanessa White, MS – Research Scientist | Lab Mgr.

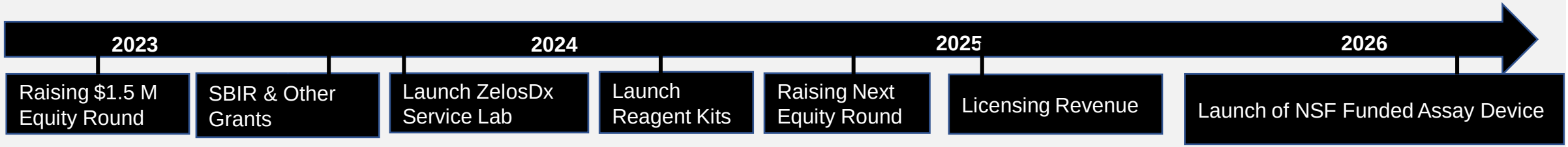
Astronautics | DC

Evan Craig, PhD – Research Scientist

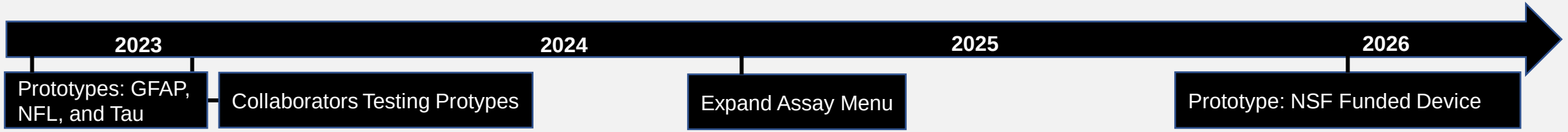
UF UNIVERSITY of FLORIDA | MIDDLE TENNESSEE STATE UNIVERSITY

Timeline: 2023 - 2026

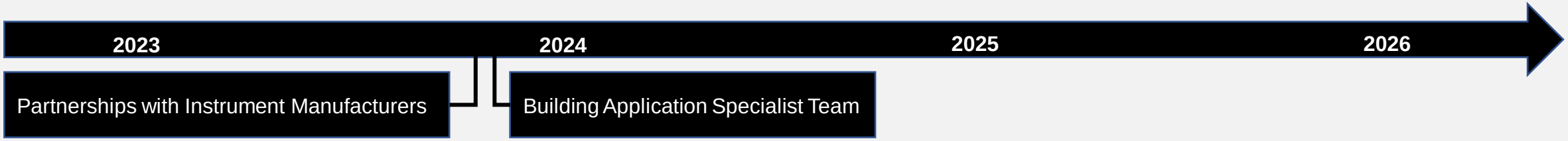
Funding & Revenue Generation



Product Development



Partnership & Resources



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Competitive Landscape: Blood Based Neurological Biomarkers

	Research Market	Clinical Diagnostics – IVD Market
	Organizations are focused on multiple Neurological Diseases and CNS Biomarkers	**Organizations are focused on specific Neurological Disease for FDA & Reimbursement, plus specific Biomarker'(s) for each indication.**
Serum Plasma	Quanterix, MSD, MilliporeSigma, BioLegend, Luminex, abcam, biotechne	**Alzheimer's:** AltPep, C2N Diagnostics, Diadem, Roche **Multiple Sclerosis:** OCTAVE **Parkinson's:** AMPRION **TBI:** Abbott, Banyan Biomarkers, Brain Box Solutions
Cellular Approach	zēlosDx, TiMaScan, **Glioblastoma:** cytognos	**Alzheimer's:** Pre Diagnostics

Raising a Preferred Equity Round of $1.5 M

- **Offering Preferred Stock**
- **$1.5 M Round**
- **First Close: $175k**
- **Additional $100k Committed**
- **Pre-Money Value $5.0 M**
- **Current Burn Rate ~ $25k**

- **Use of Capital:**
  - Sales and Marketing
  - Development
  - Building a Revenue Lab
  - Build Team
- **Milestones:**
  - Launch Service Lab Revenue
  - Publications
  - Signed Agreement with Instrument Partner
  - Secure Additional Grants – Phase II NSF

Equity to Date: $2.7 M

DESERT ANGELS · UVC · pipeline ANGELS · propel(x) · MERGELANE

Grants to Date: $1.0 M

NSF · THE MICHAEL J. FOX FOUNDATION FOR PARKINSON'S RESEARCH · ARIZONA COMMERCE AUTHORITY

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Exit Strategy : Acquisition

Summary:

- High value exit possible due to neurological market growth, target scarcity and technology platform(s).
- Exit timing dependent on gaining accelerated sales ramp (LOI), solidifying relations with potential instrument / test kit partners and gaining market traction. Early exit potential 2026; 2026-2030 with higher value build.
- Establish process to monitor/guide strategic programs (2023).
- Active acquisition landscape of diagnostics heavyweights and drug delivery tools specialist, many serial acquirors (Danaher, BioTechne, EMD Millipore, etc) and emerging consolidators (Berkeley Lights, others).

Tactics (2023):

- Establish initial dialog with targeted US based flow cytometry and ELISA kit manufacturers.
- Increase industry visibility through publication, tradeshow attendance and other means of developing/nurturing relevant industry relationships.

Life Science & Diagnostics Company

Relevant Comparables:

- **Public market trading comps:** Quanterix (NASDAQ: QTRX) Untrasensitive biomarker detection; $476M Cap; TTM Revenue $108M (= 2X 2019 Revenue)

.

- **Relevant transactions:**
  - Berkeley Lights / Isoplexis: $58M public company combination (2022)
  - Quest/So. Fla. Natl. Lab. Svcs.: $85M transaction; $18M revenue (2021)
  - Perkin Elmer/Oxford Immunotech(UK): $591M transaction; $75M Revenue (2021)
  - Perkin Elmer/Nexcelon Bioscience: $260 M transaction; $40M Revenue (2021)
  - Abcam (UK) /Biovision (UK): $340M transaction; $34M revenue (2021).

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An Attractive Business Opportunity with Momentum

Large and Growing Market

Razor / Razor Blade Revenue Model

Attractive Pre-money Valuation

10X

Possibility for a 10X Return

EXIT

High Value Exit Opportunity

Strong and Experienced Team

Without FDA & Reimbursement Risk

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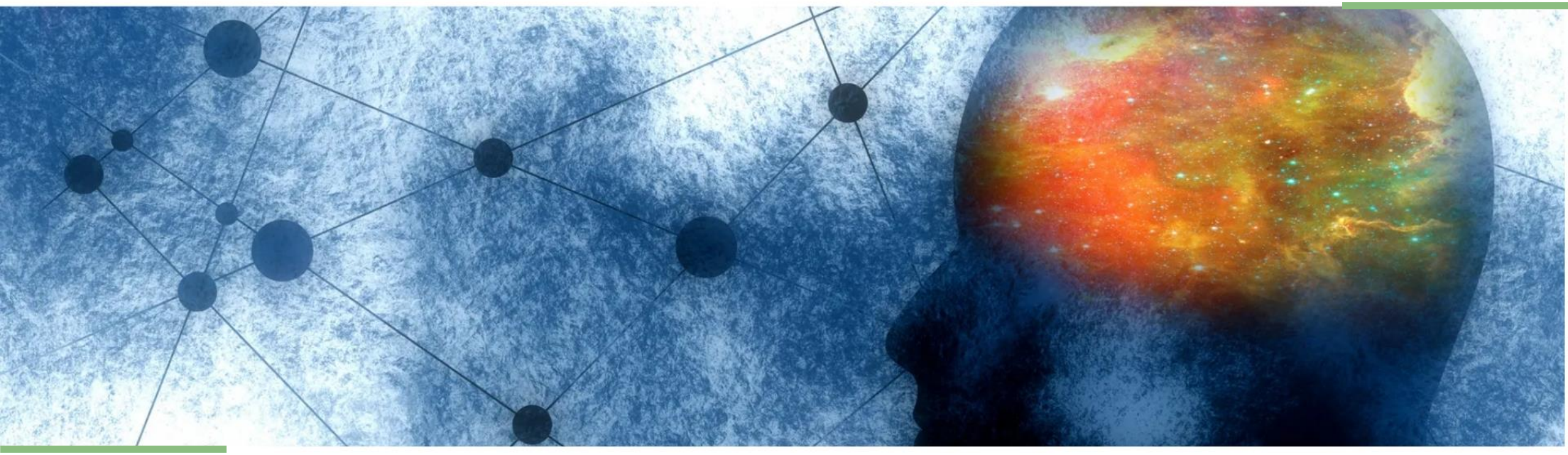

Thank you!

Marie Wesselhoft: mwesselhoft@zelosdx.com

Back-up Slides

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Team with Expertise

Marie Wesselhoft

President & Co-founder

- 1976-83 Healthcare- Laboratory Director
  - Humana Hospital, Alexian Brothers Hospital
- 1983-2003 Baxter/Allegiance/Cardinal Health
  - Director, Marketing
  - Midwest Area VP Sales & Operations
  - VP/GM Scientific Products
- 2004-Present Southern Arizona Bio Start-ups
  - Director of Arizona Center for Innovation Incubator
  - UA Tech Launch AZ- Mentor in Residence
  - Co-Founder of ZelosDx
  - Advisory Boards of UA BIO5 and Bio Start-ups
- Education
  - University of Wisconsin, La Crosse,
  - University of Chicago Booth School of Business

Uwe Muller, PhD

Vice President of R&D

- 1971 BS from Justus-Liebig University, Germany
- 1973/6 MS, PhD from Kansas State Univ. (microbiology)
- 1977 Postdoc in Biochemistry, Univ. of Wisconsin, Madison
- 1979-88 Assistant/ Associate Prof. (tenured) ECU School of Medicine, Greenville, NC
- 1988 – start of industrial career including positions as:
  - Director, Advanced Technology, **Vysis, Inc., (Abbott**)
  - Technology Director**, Corning**, Inc.
  - CSO, **Neoclon**e Biotechnology International
  - Executive V.P., Product Development, **Banyan Biomarkers**
- ZelosDx
  - 2015 Scientific Advisor,
  - 2019 VP Product Dev
  - 2021 VP Research & Development

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Pivot to Accelerate Pathway to Market

Pivoted to **Research Use Only** (RUO) focus to accelerate a pathway to market in advance of FDA and reimbursement.

Narrowed technology focus to the **Window into the Brain™** IP platform technology that can be used across a broad set of diseases and biomarkers and multiple product formats.

A business model of service revenue, product kits, and partner with instrument companies

Moved from research mode into product development to get to market more rapidly. New Leadership with Uwe Muller, PhD moving to VP R&D

.

Filed additional IP to strengthen and lengthen our **Window into the Brain™** Product

Funded by $750 K of Equity and $250 K in Grants.

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ZelosDx Intellectual Property

3 Issued Patents for WINDOW INTO THE BRAIN

US 8,506,933
EP 2,356,459
CA 2,744,196

2 New Patent Filings

Strengthening and Broadening Patent Claims
Lengthening Patent Validity Timeline

Subject Matter

Method Claims:

- Cover Detecting Brain Debris in Circulating Phagocytes

Dependent Claims:

- Specific Methods of Detection
- Specific Diseases
- Specific Biomarkers

NTIP
NGUYEN TARBET LLC
PATENT TRADEMARK LAW | www.ntiplaw.com

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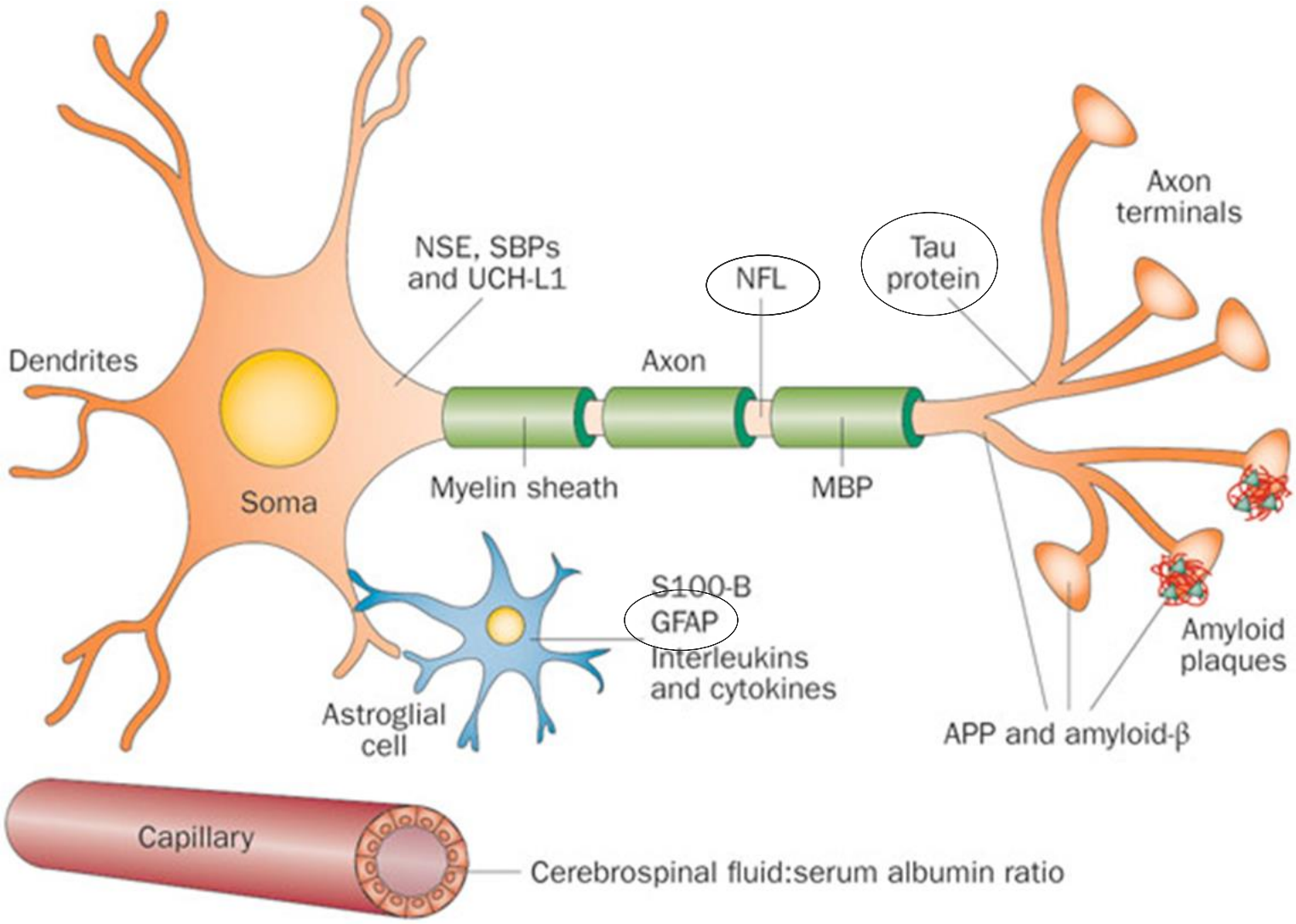
WINDOW INTO THE BRAIN is a Platform Technology that Can Be Used to Analyze Brain Biomarkers and the Cells that Carry Them



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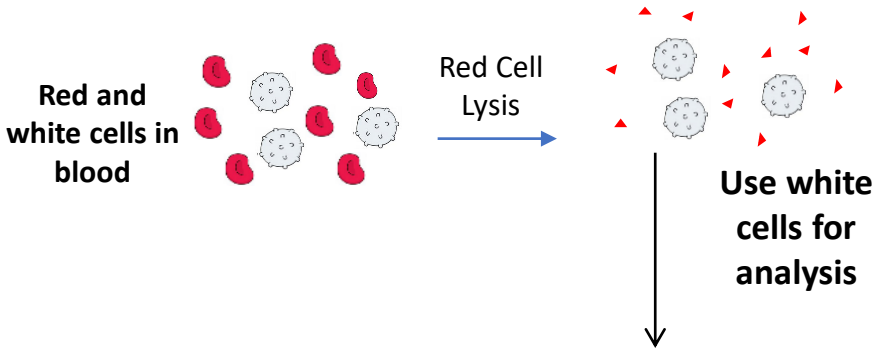
ZelosDx Product Development

ZelosDx is the first to find and demonstrate that phagocytes that were recruited to the brain upon inflammation can return to the peripheral blood stream

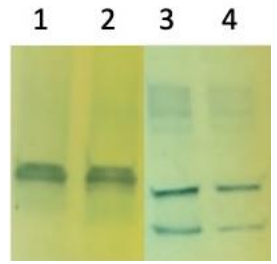
(White, V. and N. Ramesh, *Re-circulating Phagocytes Loaded with CNS Debris: A Potential Marker of Neurodegeneration in Parkinson's Disease?* AIMS Medical Science, **2015**. **2**(1): p. 26-34.

Develop **protocols for preparation of phagocytes from peripheral blood** and extraction of biomarkers for analysis



Proof that peripheral blood phagocytes contain brain-specific biomarkers, which may be processed (modified) by the phagocyte

The brain-specific biomarker GFAP can be detected in white cell extracts from normal human donor (lanes 1 & 2) by western blotting. Purified GFAP protein as control in lanes 3&4



Ongoing Development of Multiplex Assays and Automation Systems with Collaborating Partners for Assessment of Brain Health

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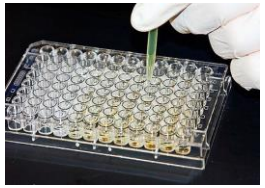
Platform Technology Allows for Broad Revenue Streams

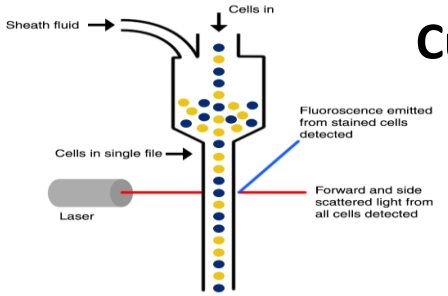
Multiple Product Formats, Multiple Biomarkers

Analysis of Biomarker Levels by ELISA
Currently 3 products; on-going development of several additional biomarkers



ZELOSDX REAGENT KITS

Analysis of Biomarker Levels by WESTERN BLOTs
On-going development to port assays to BioTechne Automated System



Analysis of Cells by FLOW CYTOMETRY
Currently 3 products; on-going development of several additional biomarkers and reagent/instrument

Analysis of Cells by FLUORESCENCE MICROSCOPY
Products are similar to Flow Cytometry; development of reagent/ instrument package funded by NSF

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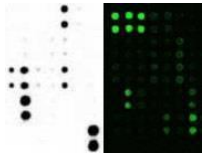
Attracting Partners with Expertise for Assay and Instrument Package Development

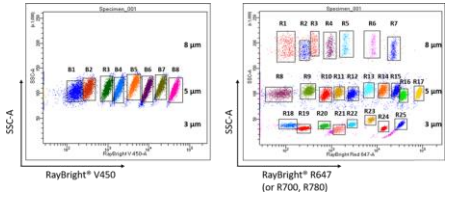
REAGENTS

RayBiotech

Source for poly- and monoclonal antibodies



Antibody Arrays



Multiplex Bead Immunoassay by flow cytometry

INSTRUMENT

Azure Biosystems:
Flow Cytometry

Bio Techne: Jess
Western Blotting

Nano Mosaic:
Digital Multiplex ELISA on arrays of nano needles

MACHINE LEARNING

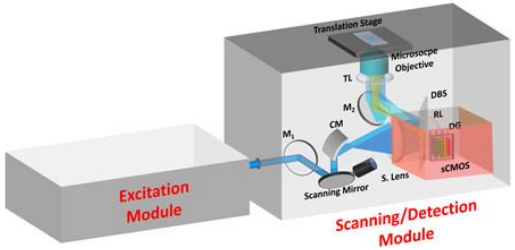
AHEAD

AHEAD Medicine:
Improving Cell Analysis with AI

CELL ANALYSIS SYSTEM

UNIVERSITY of WISCONSIN
UWMILWAUKEE

Univ. of Wisconsin:
Imaging of slides for cells and antibody arrays



Monitoring Brain-Specific Biomarkers with ZelosDx Single Cell Technology

Using an animal model, ZelosDx has demonstrated that neurodegeneration resulting from induced brain trauma, can be measured by both, Flow cytometry and ELISA.

***What is particularly exciting to me about this proposed clinically translatable approach is that it allows us to make assessments of GFAP expression in longitudinal experiments for the first time.*”**

Jitendran Muthuswamy, PhD, Biomedical Engineering, Arizona State University, and the primary investigator we worked with at the NSF BRAIN Center.

“

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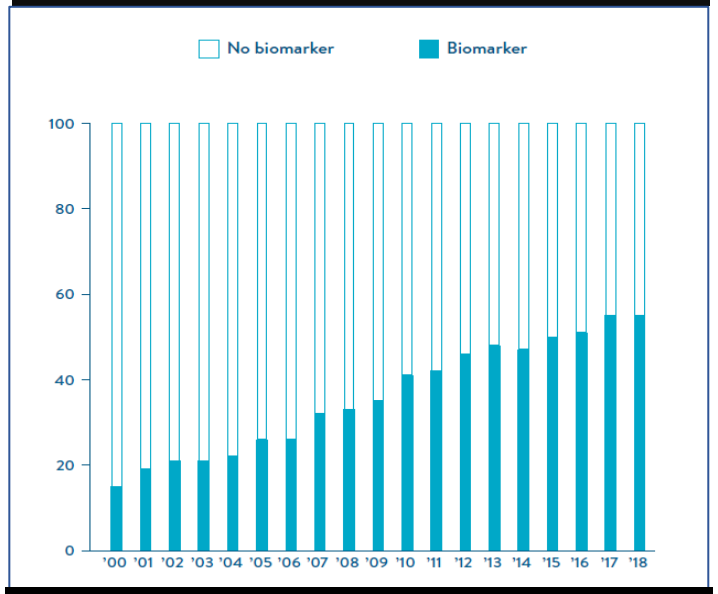
"**A Critical Missing Piece** is the Lack of Biomarkers That Can Be Used for Measuring Treatment Effect in Brain Disorders" -**NIH**

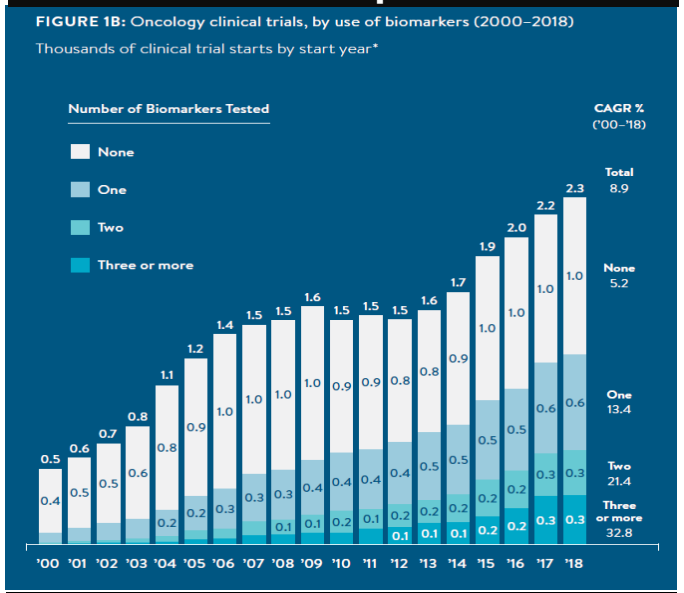
A Case for Biomarkers: A Report from the Personalized Medicine Coalition 2018

55% of oncology trials in 2018 used biomarkers as compared to 15% in 2000.



Percentage of oncology trials using biomarkers (2000-2018)

50% of the Biomarker trials now examine two or more biomarker per trial



Number of biomarkers tested per trial (2000-2018)

The use of neurological biomarkers can reduce the time required for drug development and improve the success rate of a drug trial.

This is the primary market focus of ZelosDx.

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THE EVOLUTION OF BIOMARKER USE IN CLINICAL TRIALS FOR CANCER