The private securities litigation reform act of 1995 (the act) provides a safe harbor for forward-looking statements made by or on behalf of the company. Statements in this presentation, which relate to other than strictly historical facts, such as statements about the Company’s plans and strategies, expectations for future financial performance, new and existing products and technologies, anticipated clinical and regulatory pathways, and markets for the Company’s products are forward-looking statements within the meaning of the Act. The words “believe,” “expect,” “anticipate,” “estimate,” “project,” and similar expressions identify forward-looking statements that speak only as of the date hereof. You are cautioned that such statements involve risks and uncertainties that could cause actual results to differ materially from historical or anticipated results due to many factors including, but not limited to, the Company's continuing operating losses, uncertainty of market acceptance of its products reliance on third party manufacturers, accumulated deficit, future capital needs, uncertainty of capital funding, dependence on limited product line and distribution channels, competition, limited marketing and manufacturing experience, risks of development of new products, regulatory risks and other risks detailed in the Company’s most recent Annual Report on Form 10-K and other Securities and Exchange Commission filings. You are further cautioned that the foregoing list of important factors is not exclusive. The Company undertakes no obligation to publicly update or revise any forward-looking statements.
Presentation Overview

- Rheumatoid Arthritis Opportunity
- Our Diagnostics Pipeline
- Therapeutics Optionality
Corporate Overview

A precision immuno-diagnostics company focused on inflammatory diseases

1. Building off FDA/EMA-approved diagnostic product **Lymphoseek** (technetium Tc 99m tilmanocept) Injection

2. Non-invasive imaging targeting CD206 receptors on **Activated Macrophages**

3. Initial focus on personalized **Rheumatoid Arthritis Diagnostics**

4. Proprietary **Manocept™** platform applicable to multiple disease states
Why Focus on Rheumatoid Arthritis?

Over 1 million patients in the US are living with RA

1. RA is a $39 billion drag to the US Economy
2. 20-50% patients respond adequately to any RA treatment
3. RA is the 2nd largest drug category globally

>1.3 million
Why are current Dx & Treatment Paradigms Failing?

1. Measurement of treatment response relies on subjective assessments
2. Lack of biomarkers to guide treatment selection and/or monitor response
3. Development of tolerance to current therapies\(^1\)

Our Solution and Value Proposition

Quantitative Imaging of Activated Macrophages in Rheumatoid Arthritis Patients using Tc 99m Tilmanocept

1. Increasing evidence of the role of activated macrophages in therapy response
2. Selecting most appropriate treatment modality for patients based upon pathotype
3. Convenient, safe, rapid, non-invasive detection
What the Experts Think (KOL Testimonials)

“Tilmamocept not only provides the opportunity to objectively measure and follow RA disease activity in my patients’ joints, but it also may eventually ... predict which therapy ... will be most effective for that patient, a tool that is desperately needed in today’s rheumatology clinic.”

- Key Opinion Leader at a leading university with a large RA patient population

“If I had a tool that could give me early information regarding how my patient is responding to treatment, or not responding, it would be a game changer.”

- L. Moreland, Chief of the Division of Rheumatology and Clinical Immunology at the University of Pittsburgh School of Medicine
Our First Rheumatoid Arthritis Indication

Quantitative Imaging with Tc 99m Tilmanocept for candidates of Anti-TNF Therapy

Choosing an Effective Therapy: Imaging before treatment

Early Indication of Treatment Effectiveness: Imaging shortly after initiation of a new Rx

Objective Therapy Monitoring Tool: Imaging later in Rx duration to evaluate effectiveness of current treatment
Tilmanocept Detects and Quantifies Disease Burden by Detecting Activated Macrophages
Activated Macrophages are Typically Present in RA Joints

Normal Joint

RA Joint
Activated Macrophages are Important in RA
Our Core Tilmanocept Technology

Targeted Binding to Activated Macrophages

1. Best-in-class CD206 affinity allows sensitive detection of all types of activated macrophages in vivo

2. Disease agnostic provides robust pipeline beyond RA

3. FDA/EMA approved (favorable regulatory pathway)
# The Tilmanocept Difference - Diagnostics

<table>
<thead>
<tr>
<th></th>
<th><strong>Manocept™</strong></th>
<th><strong>Key Differentiator</strong></th>
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<tbody>
<tr>
<td><strong>Target</strong></td>
<td>Activated Macrophages</td>
<td>Highly specific target correlated to active inflammatory response</td>
</tr>
<tr>
<td><strong>Molecular Weight</strong></td>
<td>~2-20 kilo-daltons</td>
<td>Able to penetrate circulating and deep tissue macrophages while maintaining industry leading specificity</td>
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<tr>
<td><strong>Backbone (BB)</strong></td>
<td>Natural and synthetic polymers</td>
<td>Negligible cost and ability to achieve robust gross margin profile</td>
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<tr>
<td><strong>Half life</strong></td>
<td>minutes</td>
<td>Clearance limits radiation exposure, and allows for recurrence and monitoring applications</td>
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<tr>
<td><strong>Binding affinity</strong></td>
<td>$10^{-9}$ - $10^{-13}$</td>
<td>Binding affinity greater than or equal to the best mAbs – highest levels of specificity but at much lower cost</td>
</tr>
<tr>
<td><strong>Drug loading</strong></td>
<td>Multiple “copies” of radiolabel can be added to Tilmanocept backbone</td>
<td>Increases resolution of diagnostic imaging</td>
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</table>
Tilmanocept Localization - Objective Diagnostic Scoring

Tilmanocept localization to joints in patients with active RA

These images are quantified for determination of macrophage disease activity

3D SPECT/CT - Orange/green areas show high RA inflammation

2D Planar - Darker regions are RA inflammation
Our Product Workflow

1. Rheumatologist Orders Imaging
2. Radiologist Acquires Images
3. Images Analyzed by Navidea’s Core Lab
4. Report informs:
   • The Likely Efficacy of Anti-TNF Rx
   • Early Indication of Effectiveness of Anti-TNF Rx
   • Monitoring Treatment Efficacy

Source: vecteezy
US RA Market Opportunity is Large and Untapped

Potential with Expanded Label

$>1$ bn

Includes: (1) Initial label, (2) Early detection of RA, (3) Therapy indiscriminate treatment response

Initial Label

$500$ mn

Quantitative Imaging with Tc 99m Tilmanocept for candidates of Anti-TNF Therapy
The Goal of Our Upcoming RA Studies*

- Confirm Reproducibility
- Correlate with Immuno-histochemistry
- Correlate with Symptomatology

*Specific trials designs are under discussion
Our Diagnostics Pipeline

**Cardiovascular Disease (CVD)**

- **92 million** Americans living with Cardiovascular disease
  - Ph 2 Study ongoing

**Kaposi Sarcoma (KS)**

- Orphan Disease that is highly life threatening in a minority of patients
  - Ph 2 Study ongoing
CVD is Another Blockbuster Dx Opportunity

CVD is the leading cause of death in the US

1 in 3
U.S. Adults are living with Cardiovascular Disease

92 million
Americans

Source: heart.org
Tilmanocept as a CVD Detection Tool

Detecting High Risk Plaque

Atherosclerosis is an Activated Macrophages Mediated Disease

Activated macrophages are potential markers of CVD Risk and Response to Therapy
Ongoing CVD Phase 2 Trial at Mass General

Evaluating imaging and detection of vulnerable plaque

- Ph 1 study completed
- Published J Infection Diseases 16 Jan 2017
- Additional study funded to expand to IV administration
Therapeutics Optionality

Leveraging our core Manocept platform to deliver therapeutics
Therapeutics Concept

Platform for THERAPEUTICS that target CD206+ (and CD209+ dendritic cells)

Activated Macrophages

1. GPS
   Mannose Moiety
   With One Hardwired Address - CD206 Activated Macrophages

2. Delivery
   Manocept™ Backbone

3. Targeted Payload
   - Immune-modulators
   - Chemotherapeutics
   - Tc99
   - Other Isotopes
Therapeutics Pipeline

1000 class

- **Killing TAMs & Altering the Tumor Microenvironment to Enhance Immunotherapies**
  - Depleting Through Apoptosis
  - Depletes disease causing M2 Macrophages

2000 class

- **Altering Activated Macrophage Function & Treating the Mechanism of Disease**
  - Inhibiting Inflammatory Activity
  - Targeted steroid converts M1 to M2

- **2000 class**
Aberrant macrophages are associated with several major disease states:

**Current Programs**

- **Inflammation**: Aberrant activated Macrophages can drive excessive inflammation and autoimmune diseases
  - RA, OA, Lupus, MS, myocarditis, Uveitis

- **CNS**: Improper clearance of certain compounds are responsible for macrophage driven inflammation seen in Alzheimer disease and implicated in MS, Parkinson’s, lipid storage, and CNS diseases.

- **Cancer**: Tumors convert anti-tumor macrophages to pro-tumor macrophages, called Tumor Associated Macrophages (TAMs). TAMs inhibit the endogenous immune system from effectively fighting the tumor and also drive tumor angiogenesis.

**Pipeline**

- **Fibrosis**: Overactive M2 Macrophages are a key driver of fibrosis
  - NASH, nephropathies, fibrotic disorders

- **Cardiovascular**: Lipid-containing macrophages can exacerbate atherosclerosis, an inflammatory condition

- **Infectious Disease**: The macrophage acts as an incubator in certain infectious diseases
  - HIV
  - TB, assorted drug-resistant bacteria

**Therapeutics Program Focus**
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