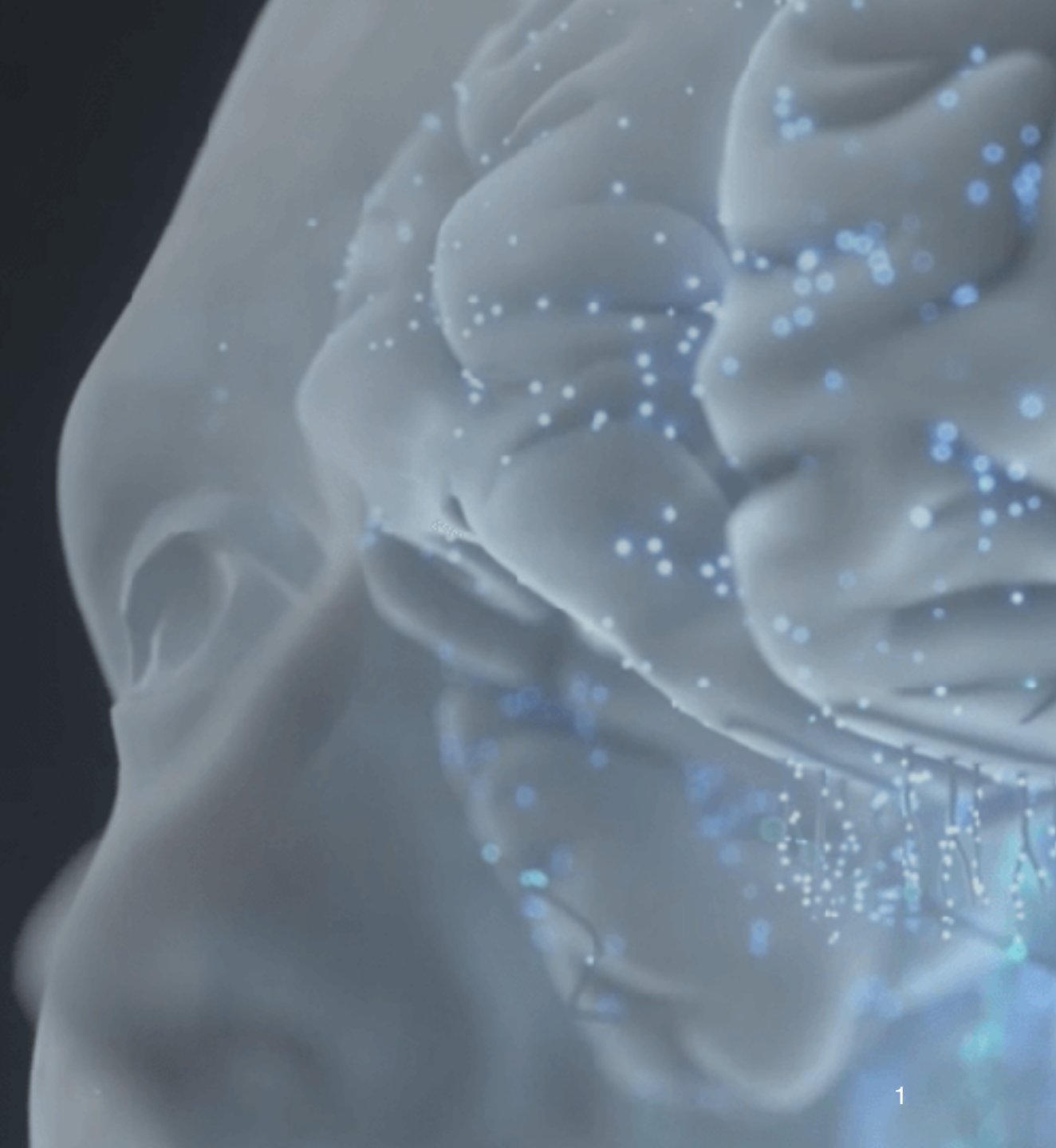
MyMD

NOVEL IMMUNOTHERAPIES
TARGETING AUTOIMMUNE AND
AGE-RELATED DISEASES



Corporate Presentation

May 2021

Important Information for Investors and Stockholders

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Cautionary Statement Regarding Forward-Looking Statements

Certain statements contained in this presentation regarding matters that are not historical facts are forward-looking statements within the meaning of Section 21E of the Securities and Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995, known as the PSLRA. These include statements regarding management's intentions, plans, beliefs, expectations or forecasts for the future, and, therefore, you are cautioned not to place undue reliance on them. No forward-looking statement can be guaranteed, and actual results may differ materially from those projected. MyMD undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise, except to the extent required by law. We use words such as "anticipates," "believes," "plans," "expects," "projects," "future," "intends," "may," "will," "should," "could," "estimates," "predicts," "potential," "continue," "guidance," and similar expressions to identify these forward-looking statements that are intended to be covered by the safe-harbor provisions of the PSLRA. Such forward-looking statements are based on our expectations and involve risks and uncertainties; consequently, actual results may differ materially from those expressed or implied in the statements due to a number of factors, including, but not limited to, risks relating to MyMD's ability to, obtain and maintain regulatory approvals for clinical trials or eventual marketing of MyMD's pharmaceutical candidates; the timing and results of MyMD's planned clinical trials for its pharmaceutical candidates; the amount of funds MyMD requires for its pharmaceutical candidates; increased levels of competition; changes in political, economic or regulatory conditions generally and in the markets in which MyMD operates; MyMD's ability to retain and attract senior management and other key employees; MyMD's ability to quickly and effectively respond to new technological developments; MyMD's ability to protect its trade secrets or other proprietary rights, operate without infringing upon the proprietary rights of others and prevent others from infringing on MyMD's proprietary rights; and the impact of the ongoing COVID-19 pandemic on MyMD's results of operations, business plan and the global economy.

New factors emerge from time to time and it is not possible for us to predict all such factors, nor can we assess the impact of each such factor on the business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. A discussion of these risks and other factors with respect to MyMD is set forth in the registration statement on Form S-4 filed by MyMD on January 15, 2021. Additional risks and uncertainties are identified and discussed in the "Risk Factors" section of MyMD's Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and other documents filed from time to time with the SEC. Forward-looking statements included in this presentation are based on information available to MyMD as of the date of this release. MyMD undertakes no obligation to update such forward-looking statements to reflect events or circumstances after the date of this release.

Company Overview

- MyMD is developing novel immunotherapies focused on aging disorders and autoimmune diseases.
- Two drug candidates:
  - MYMD-1, a clinical-stage immunometabolic regulator
  - Supera-CBD, a preclinical patented synthetic cannabidiol (CBD) derivative
- Phase 2 clinical trials at Johns Hopkins University in 2021.
- Peer-reviewed publications from distinguished journals, including *The Journal of Neuroimmunology, The Journal of Immunology,* and *PLOS One* by researchers from The Johns Hopkins University School of Medicine, with additional pending publications.
- Management team from renowned organizations including The Johns Hopkins University School of Medicine and IQVIA.

Management Team

Chris Chapman, M.D.
President & Chief Medical Officer

Adam Kaplin, M.D., Ph.D.
Chief Scientific Officer

Paul Rivard, Esq.
Executive Vice President of Operations and General Counsel

The Science of Immunometabolic Regulation

- MYMD-1 is being developed as an orally available immunometabolic regulator designed to regulate the release of inflammatory cytokines, including tumor necrosis factor-α (TNF-α).
- Immunometabolic regulation is the science of regulating inflammatory cytokines, including TNF-α, to prevent and treat age-related and autoimmune diseases.
- TNF-α blockers are first generation drugs designed to treat immunometabolic dysfunction.
- Currently available TNF-α blockers, which all require delivery by injection or infusion, are among the most prescribed
- TNF-α blockers are the most prescribed drugs by revenue, globally $40 billion per year (e.g. Humira, Enbrel and Remicade).*

MYMD-1 is seeking to be the next generation immunometabolic regulator

* October 09, 2019 Tumor Necrosis Factor (TNF) Inhibitor Drugs Market I Acumen Research and Consulting

MYMD-1: Problems & Solutions

Age-Related Diseases

- Age-related diseases such as heart disease, cancer, Alzheimer's disease, rheumatoid arthritis and diabetes are immuno-metabolic diseases.
- 80% of older adults have at least one chronic disease, and 77% have at least two.
- The market for drugs treating aging is estimated to reach $87.2 billion by 2024.
- The U.S. and global population aged 65+ is 52 million and 700 million, respectively.

Autoimmune Diseases

- 23 million Americans suffer from autoimmune diseases.
- There are more than 80 autoimmune diseases, including diabetes, multiple sclerosis, lupus and rheumatoid arthritis.
- Diabetes affects 12.2 million Americans aged 60+.
- The global drug market for autoimmune diseases is estimated at $100 billion.
- The diabetes care drugs market reached $69.7 billion in 2019.

MYMD-1: At A Glance

Seeks to target the cause, not the underlying mechanisms that drive autoimmunity and inflammation

Designed to eliminate the underlying source of inflammation (immunometabolic dysregulation leading to the production and release of unwanted TNF-α), before symptoms even begin. By inhibiting initial production of TNF-α before release, there's no need to chase down and control its damage.

Non-toxic

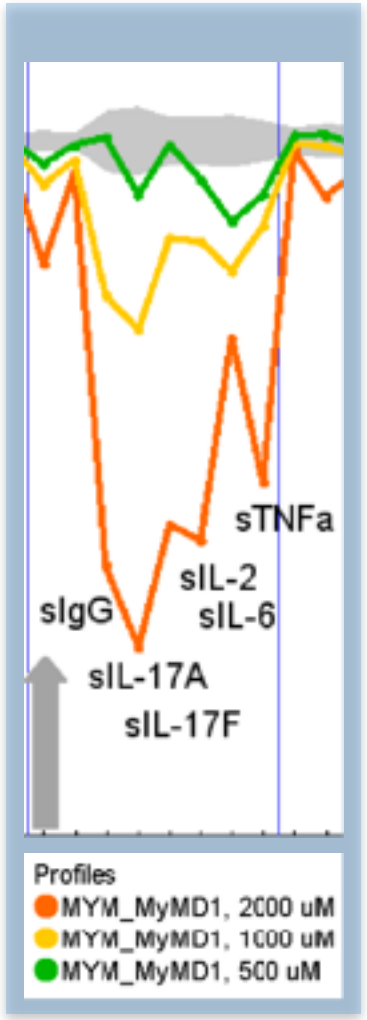
- At doses used, there is minimal impact expected on cell viability, as opposed to significant detrimental side effects triggered by leading currently available medications.

Small enough to reach the brain

- At only about 146 Daltons, we believe MYMD-1 is the first oral TNF-α regulator capable of crossing the blood-brain barrier, which we believe enable it to address Alzheimer's and other brain-related diseases.

MYMD-1: Inhibition of Multiple Cytokines

The following assay was developed from **human primary cell types** *pooled from ≥ 3 healthy donors cultured at low passage,* stimulated *with disease-relevant cytokines or factors, and used to measure compound-mediated impacts on* protein-based biomarkers.



TNF-α:

The initiator of the acute phase pro-inflammatory cytokines.

IL-6:

Activated by TNF-α in pro-inflammatory cascade. Also primary cytokine implicated in depression.

MYMD-1:

Antiproliferative to human primary cell types: T cells, B cells, fibroblasts, endothelial cells.

MYMD-1: Selectivity

A selective TNF-alpha inhibitor

TNF-α, in addition to causing trouble when overactivated leading to autoimmune diseases, is an essential first line responder to an acute infection anywhere in the body.

Humira and the other currently marketed TNF-α inhibitors act by indiscriminately blocking TNF-α and **can cause serious and even fatal infections,** which is the primary limiting factor in their use.

MyMD-1 on the other hand is selective—it is designed to block TNF-α when it becomes over activated in autoimmune diseases and cytokine storms, but to not block it from doing its normal job of being a first responder to any routine type of moderate infection.

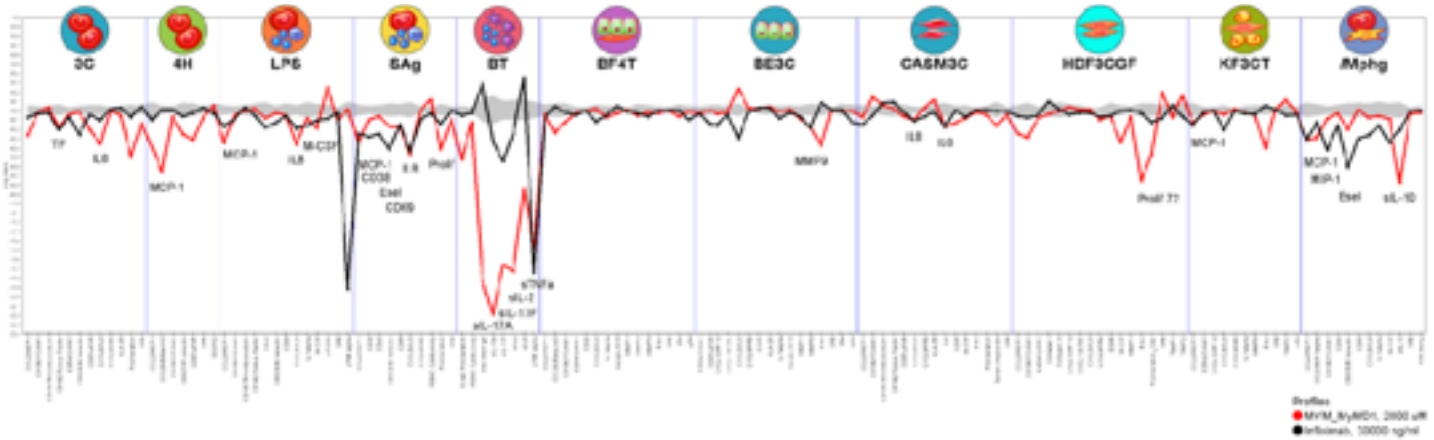
MYMD-1: Inhibition of TNF-α in human PBMCs

Adalimumab (Humira®) is a fully humanized monoclonal antibody to TNFα approved for the treatment of rheumatoid arthritis, psoriatic arthritis, plaque psoriasis, ulcerative colitis, Crohn's Disease, and ankylosing spondylitis.

$19.73 billion in 2019 global sales

Infliximab (Remicade®) is a chimeric monoclonal antibody against TNF alpha approved for the treatment of psoriasis, Crohn's disease, ankylosing spondylitis, psoriatic arthritis, rheumatoid arthritis and ulcerative colitis.

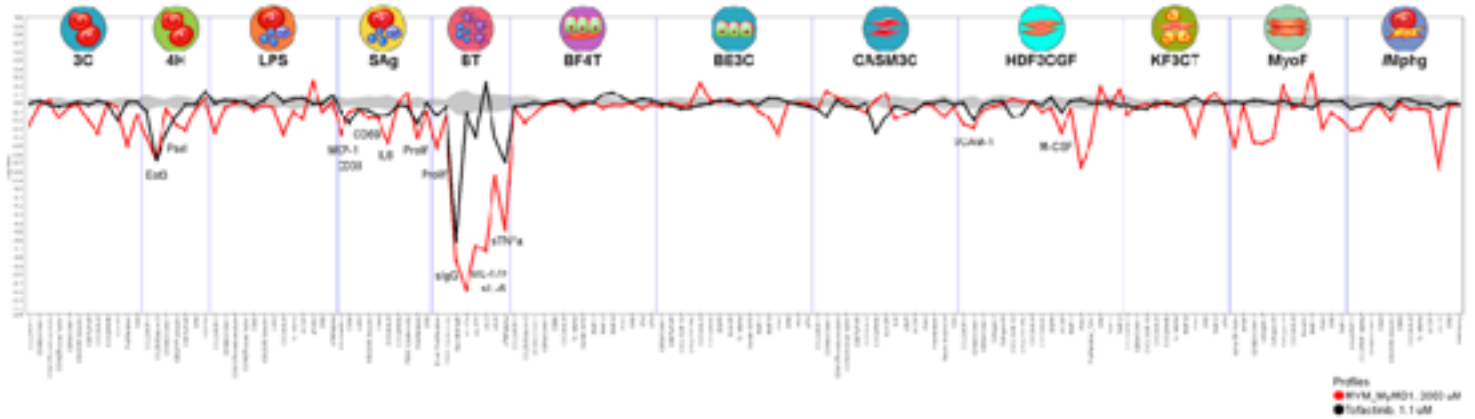
$5.03 billion in 2019 global sales



* July 27, 2020 Humira I FiercePharma
** July 27, 2020 Enbrel I FiercePharma
*** July 27, 2020 Remicade I FiercePharma

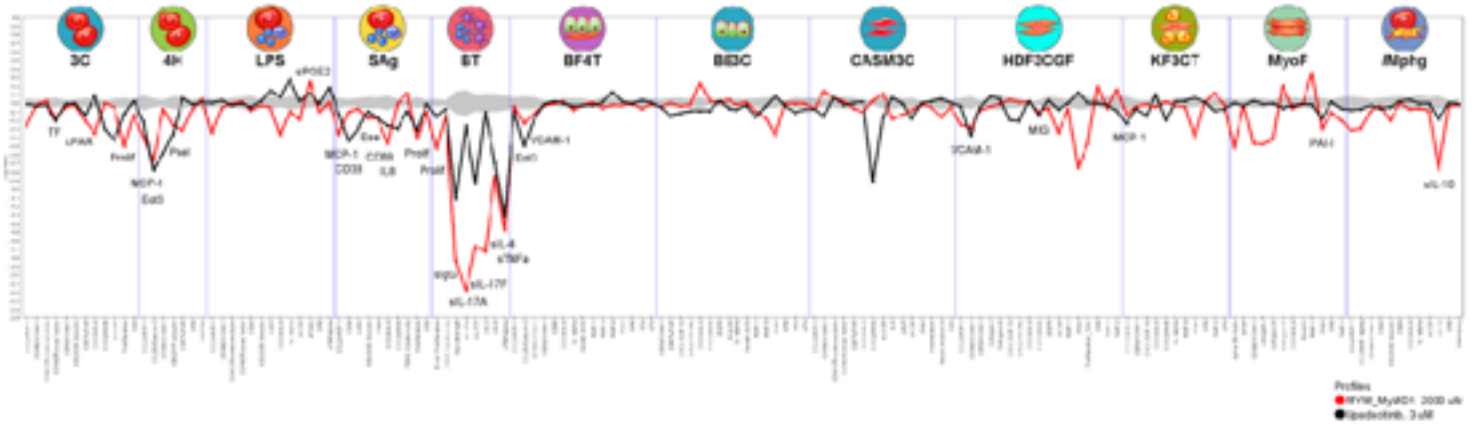
MYMD-1 and JAK Inhbitors in human PBMCs

Tofacitinib (Zeljanz®) is a JAK1/3 kinase inhibitor approved in 2012 for the treatment of rheumatoid arthritis.
$2.24 billion in 2019 global sales



Upadacitinib (RINVOQ™) is a small molecule inhibitor of JAK1 that is under clinical evaluation (Ph 3) for the treatment of rheumatoid arthritis, Crohn's disease, ulcerative colitis, and psoriatic arthritis.
$2.18 billion estimated in annual sales by 2024

Launched in August 2019



MYMD-1: Anti-Fibrotic Effects

- Data from the translationally relevant study reported ability of MYMD-1 to inhibit key biomarkers associated with fibrotic diseases including idiopathic pulmonary fibrosis (IPF) and interstitial lung disease (ILD).
- Eurofins Discovery human phenotypic screening platform revealed potential of MyMD-1 to be developed as a therapy for fibrosis.
- The study was completed using the BioMAP Phenotypic Screening and Profiling Platform from Eurofins Discovery. This platform addresses the need for translationally relevant, predictive in vitro models of human disease, including fibrosis.
- The BioMAP Fibrosis Panel models complex human tissue and disease biology driving the aberrant inflammation involved in fibrosis and wound healing and preserves the complex multicellularity of organs such as the lung and kidney with their cell-cell physical communications and signaling events that occur to influence disease.

MYMD-1: Clinical Studies

In progress…

Pre-clinical

- Genomic RNA fibroblast
- Animal studies - 26 weeks and 39 weeks
- 2-year aging mouse

Clinical

- Phase 1a Dosing
- Phase 1 Radio labeled

COVID-19 Immune-Mediated Depression

- Phase 2a Immune-mediated Depression in COVID-19

Upcoming…

Pre-clinical

- Rheumatoid Arthritis model
- Idiopathic Pulmonary Fibrosis model

MS Immune Mediated-Depression

- Phase 2a Depression in Multiple Sclerosis

Frailty/Sarcopenia

- Phase 2a Inflammatory markers

Rheumatoid Arthritis

- Phase 2a Inflammation

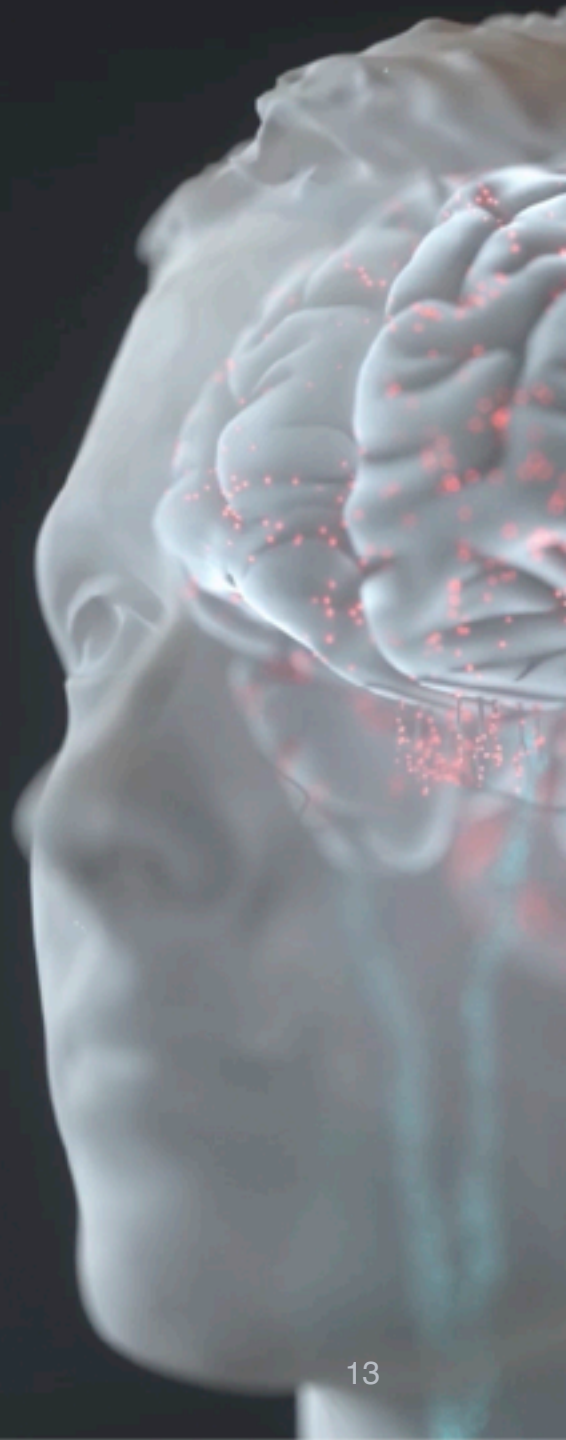
MYMD-1: Inflammation and Depression

MyMD-1 behaves like an antidepressant when tested using human immune cells to reproduce various scenarios where the immune system gets activated.

All of the autoimmune diseases for which TNF-α inhibitors are approved, such as Crohn's Disease and Rheumatoid Arthritis, have associated with them a high rate of depression—**because it turns out chronic inflammation leads to depression**.

Recent studies have found that over 60% of all depressions that occur even without having an autoimmune disease are associated with overactivation of the immune system.

One in ten people over the age of 12 in the US take an antidepressant, that makes it an annual **$15B industry.***



*April 21, 2020 Antidepressants Global Market Report 2020-30: COVID-19 Implications and Growth I Research and Markets

MYMD-1: Study in COVID-19 Patients

Accumulating evidence suggests that the severity of COVID-19 is associated with an increased level of inflammatory mediators including cytokines*

- On April 13, 2021, MyMD announced an agreement with a major medical school to conduct a Phase 2 clinical trial to investigate the effectiveness of MYMD-1 to treat immune mediated depression in patients affected with COVID-19.
  - MYMD-1 targets the symptoms of immune dysfunction that present with COVID-19.
  - The drug seeks to suppress the cytokine storm that leads to death from COVID-19.

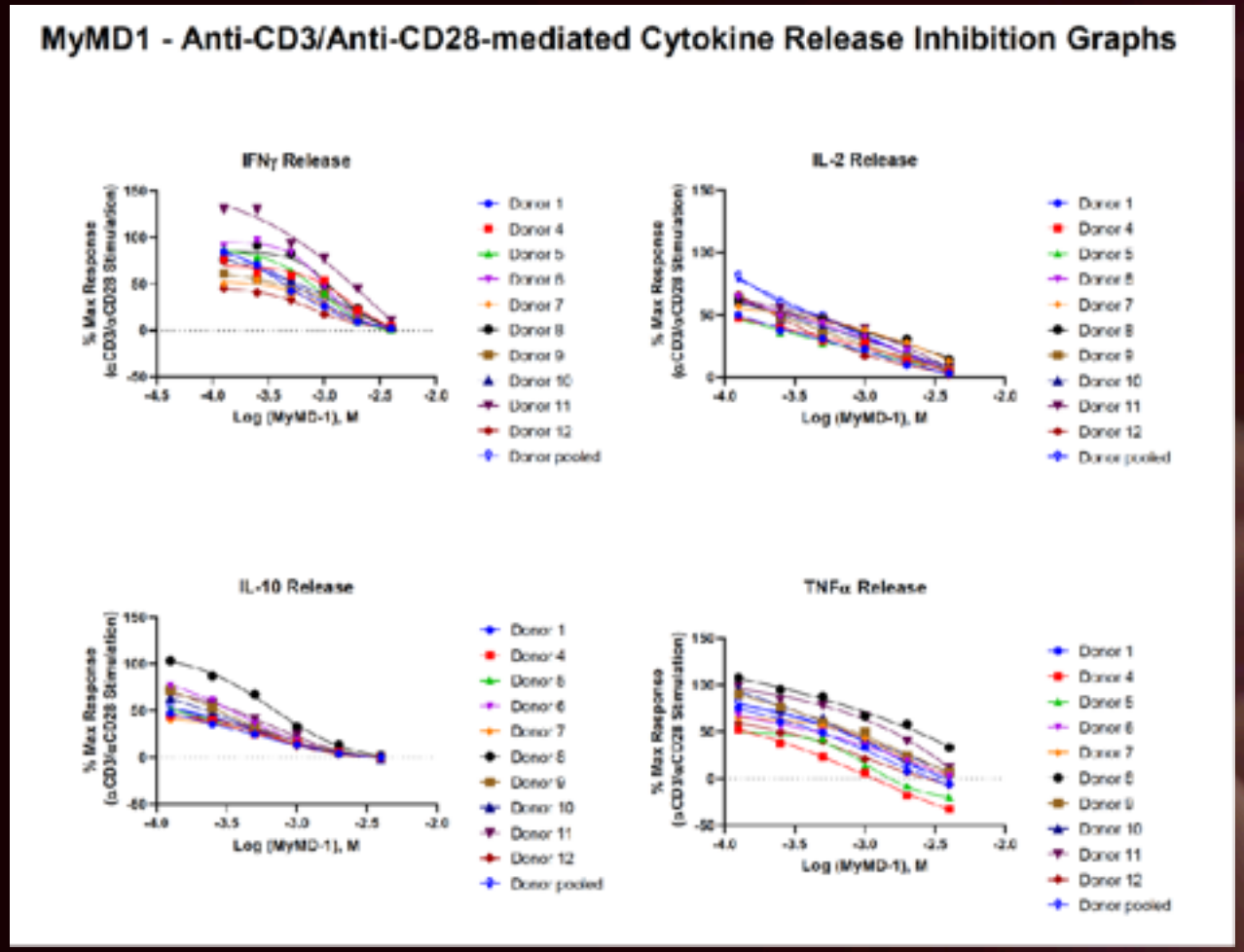
MYMD-1 properties

- It can conveniently be administered by mouth instead of intravenously (as with Remdesivir); we believe it is the only orally bioavailable key cytokine inhibitor being developed.

MYMD-1 has the potential to gain rapid approval through a special emergency program created by the FDA to move new treatments into the clinic as quickly as possible.

*National Center for Biological Information

MYMD-1: Inhibition of Cytokine Storm in Multiple Cytokines in human PBMCs



MYMD-1 inhibited the T-cell activation-induced release of cytokines, including IFNy, IL-2, IL-10, and TNF-α, from human PBMCs in a dose-dependent manner.

* June 23, 2020 Evaluation of Two Compounds for Potential Inhibitory Activity in a Custom Cytokine Storm/Cytokine Release Syndrome Inhibition and Cytotoxicity Assay I **Eurofins Discovery**

Peer Reviewed Published Data

Journal of Neuroimmunology

MYMD-1, a Novel Alkaloid Compound, Ameliorates The Course of Experimental Autoimmune Encephalomyelitis

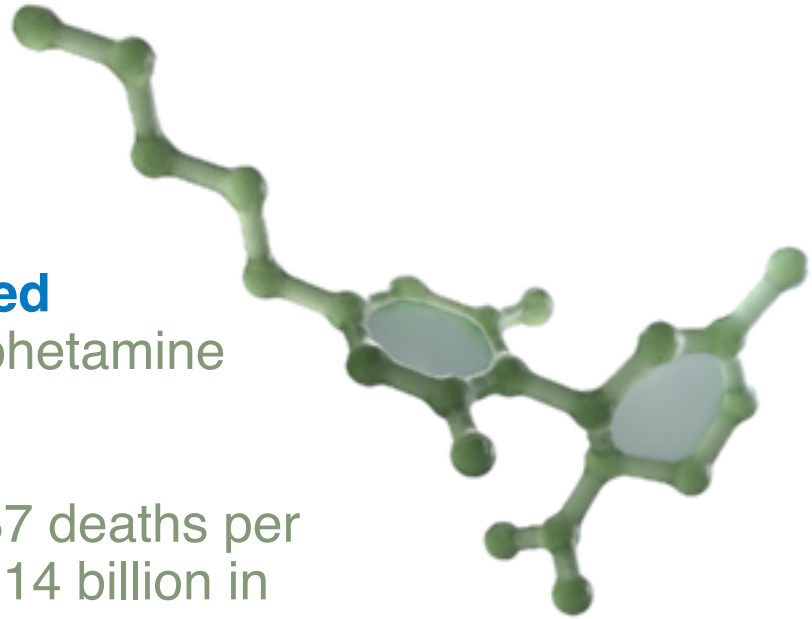
The Journal of Immunology

MYMD-1, a Novel Immunometabolic Regulator, Ameliorates Autoimmune Thyroiditis via Suppression of Th1 Responses and TNF-α Release

PLOS ONE

Evidence and magnitude of the effects of meteorological changes on SARS-CoV-2 transmission

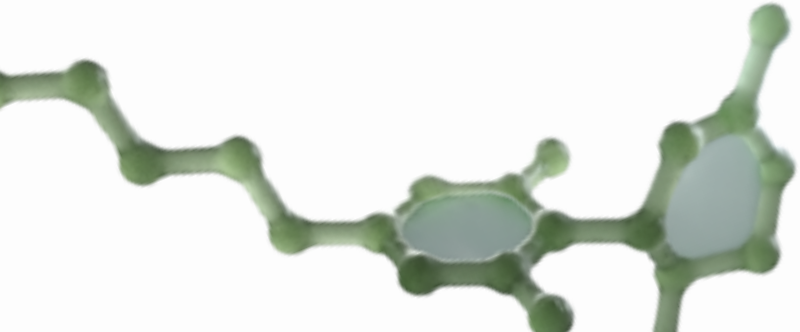
Supera-CBD: Problems & Solutions



Supera-CBD has the potential to address the **significant unmet need for medications to treat addictions**, specifically cocaine, methamphetamine and opioids, which currently have no approved treatment.

In 2019, 50,000 people died from overdosing on opioids, which is 137 deaths per day. Opioid Use Disorders (OUD) market size was valued at US $1.14 billion in 2020. All currently FDA approved drugs for OUD are opioid agonists or antagonists. Supera-CBD would be a non-opioid based treatment.

Supera-CBD is a synthetic CBD (patented new molecular entity) that is being developed as a pharmaceutical drug to address pain, anxiety, sleep disorders and seizures.



Supera-CBD: At A Glance

A drug platform based on a patented synthetic derivative of cannabidiol (CBD) that targets numerous key cannabinoid receptors, being developed to address pain, anxiety, sleep disorders and seizures

Similar safety profile to plant-based CBD

- Initial studies have demonstrated that Supera-CBD has a similar safety and toxicity profile to plant-based CBD.

Robust platform

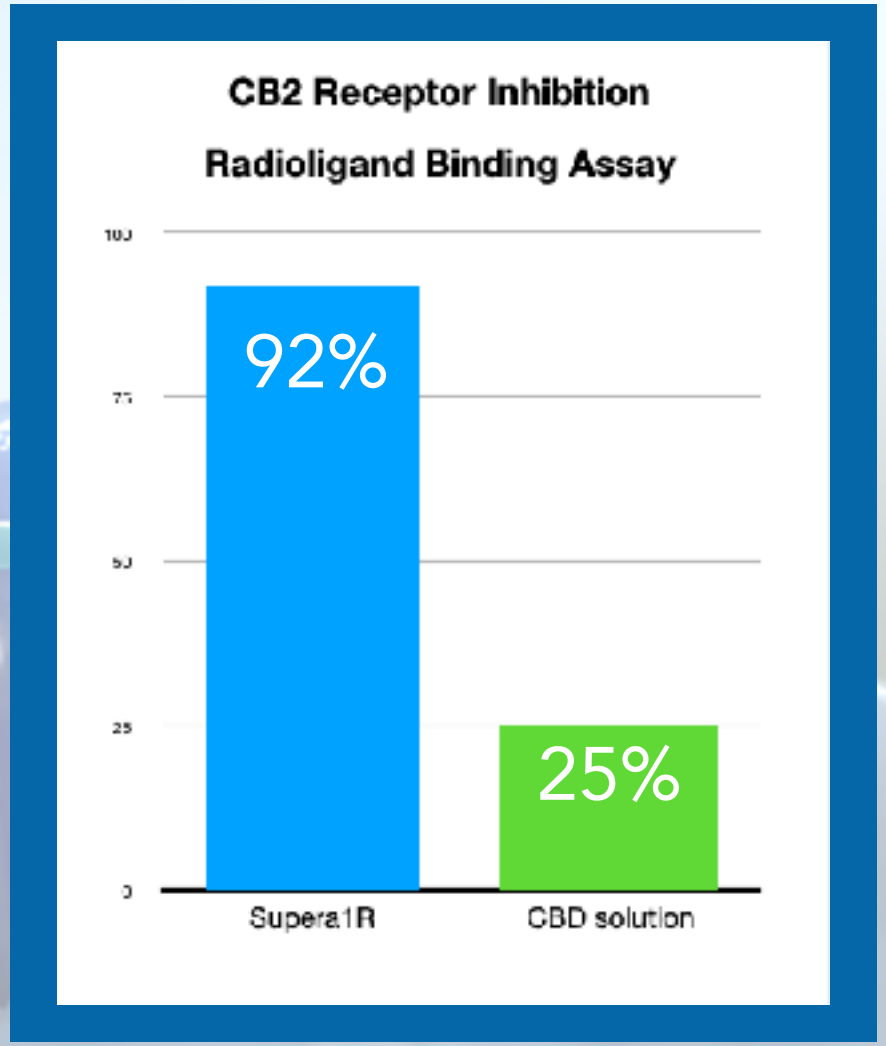
- Complete platform for supporting multiple indications. De-risked commercialization as compared to other drug candidates. FDA's declared receptiveness to moving forward in this space. Positioned to become a prescription drug alternative to unregulated CBD.

Potentially more effective than Epidiolex

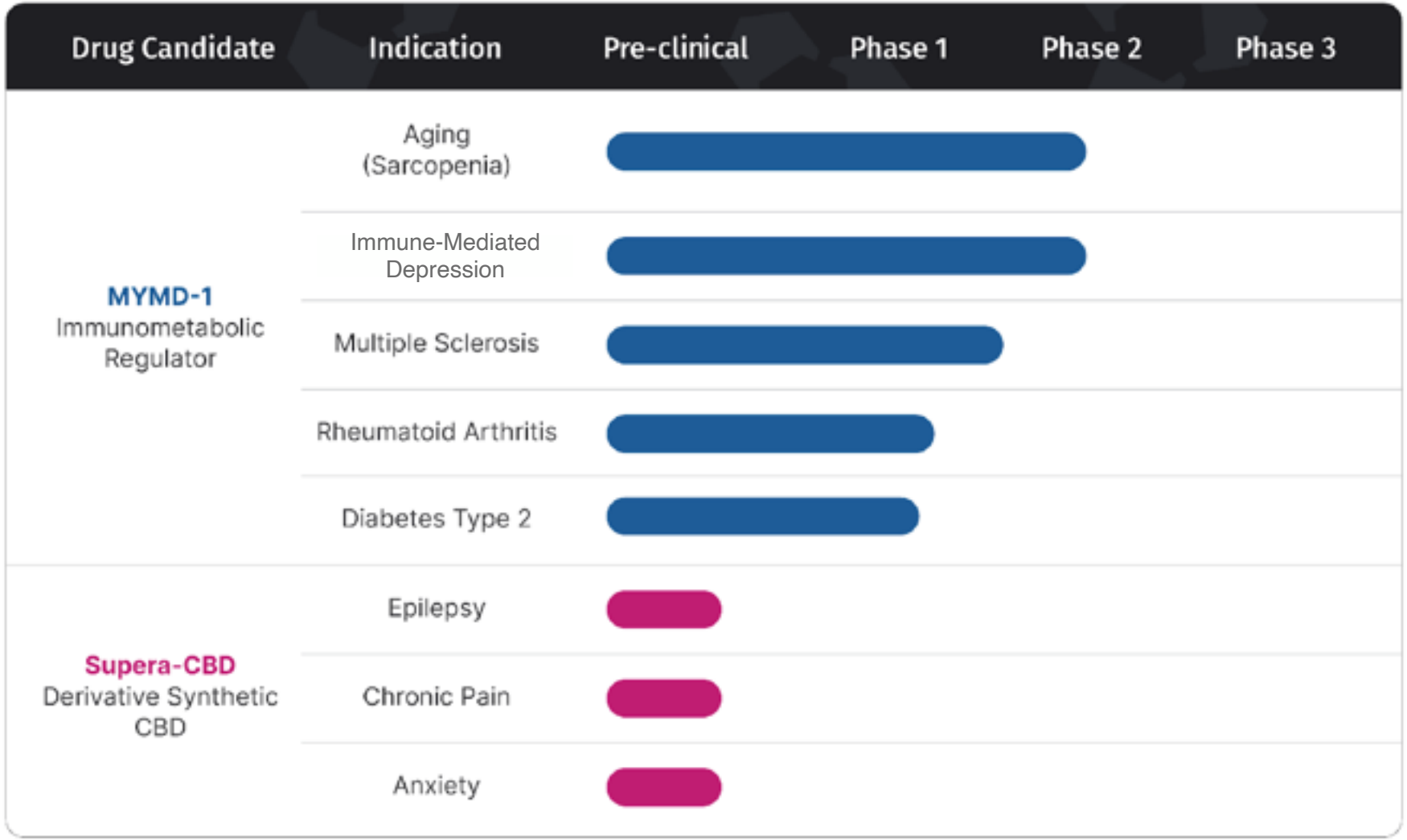
- Preliminary studies show it is potentially 7-8 times more effective than Epidiolex or plant-derived CBD in reducing MAO-A and MAO-B (which play a role in substance addiction) in a dose-dependent manner.

Supera-CBD:CB2 Receptor Activity of Supera-CBD

- Pre-clinical studies have demonstrated the ability of **Supera-CBD to inhibit CB2 receptors**, comparing it side-by-side with plant-based CBD.
- In the immune system, one of the important functions of the cannabinoid receptors, is the regulation of **cytokine release**.
- Agonists targeting CB2 receptors have been proposed as therapies for the treatment or management of a **range of painful conditions, including acute pain, chronic inflammatory pain, neuropathic pain** and may also be helpful in treating several neurological diseases.
- Results show that Supera-CBD is dramatically stronger than plant-based CBD in the **ability to effectively target CB2 receptors**.



Projected Pipeline



Aging Study
Journal Publication
In preparation

Initiation of First
Phase 2 Trial
Expected by
Q3 2021

Phase 2
Data Results
Expected by Year
End 2021

Intellectual Property

- MYMD-1 and Supera-CBD are protected by robust patent portfolios that include 11 granted patents and more than 25 patent applications pending worldwide
    - MYMD-1 patented indications include leveraging TNF-α in treating age-related diseases and ailments, autoimmune disorders, viral infections, cancers, diabetes, multiple sclerosis, and addictions.
    - An allowed U.S. application covers the new molecular entity Supera-CBD and pharmaceutical compositions containing the compound. Counterpart applications are pending worldwide. Supera-CBD indications include leveraging CB2 in treating pain, inflammation, and neurodegeneration.

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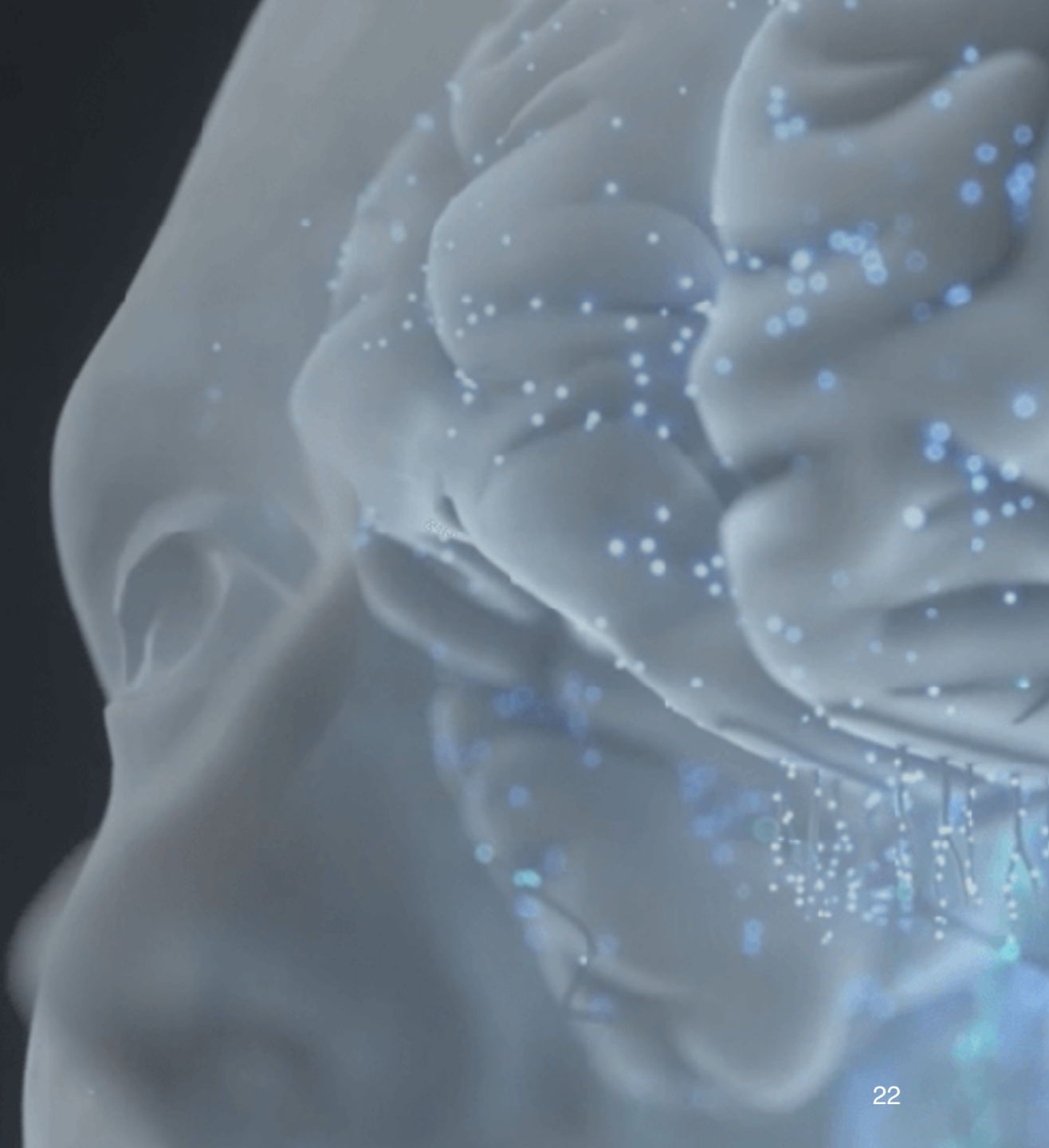

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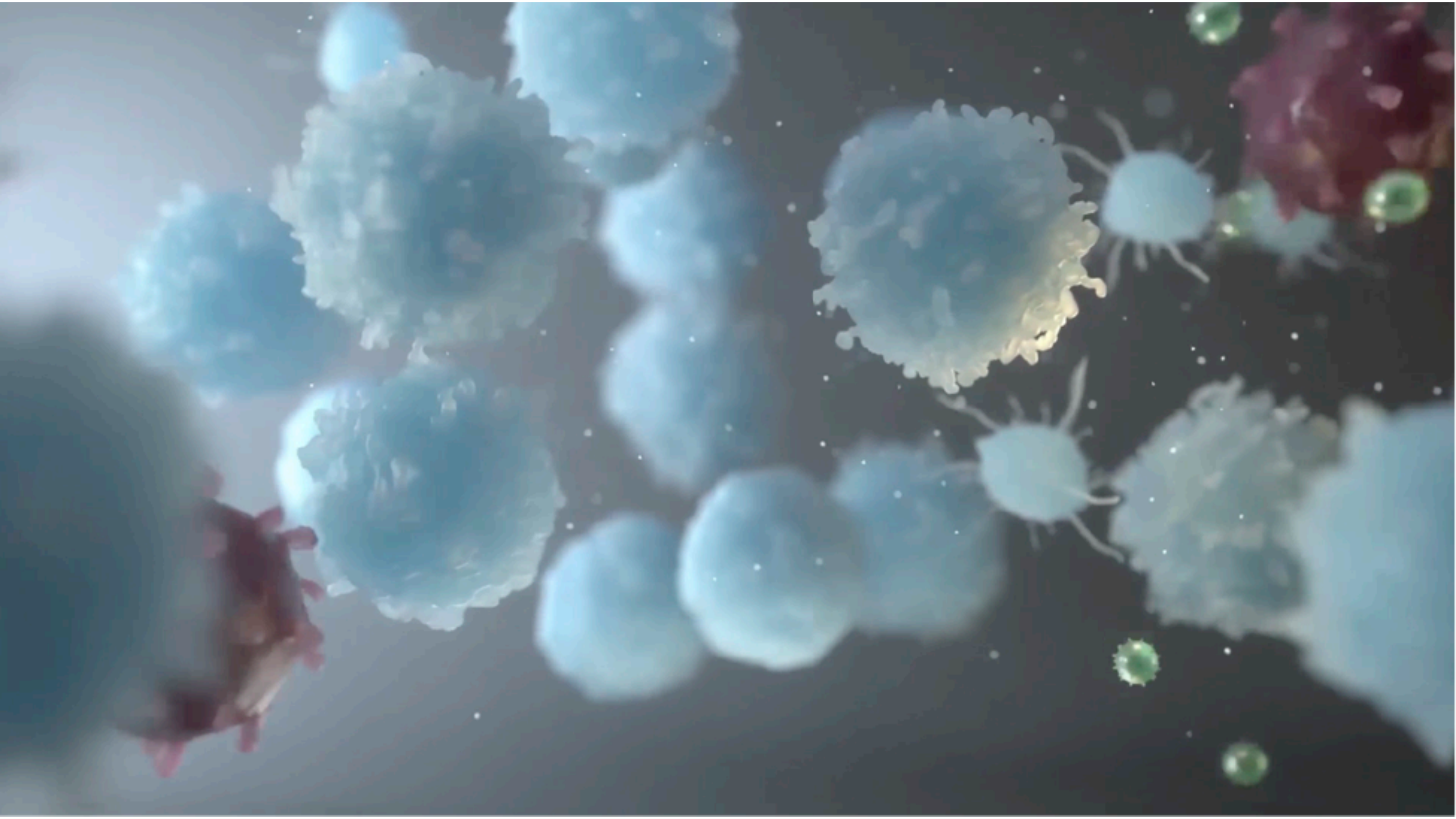


MYMD-1: At A Glance

A first-in-class drug being developed to treat autoimmune and age-related diseases, including extending human lifespan

MYMD-1: At A Glance

Supera-CBD: Cannabidiol Comparative Rationale

CBD has demonstrated **antidepressant and anti-anxiety effects**.

CBD has been shown to decrease drug self-administration with opioid or alcohol.

Both CBD and MAO-B inhibitors have been shown to be **beneficial in the APP/PS1 mouse model of Alzheimer's disease**.

MAO-B Inhibitor has been shown to improve cognition in APP/PS1 mice after 28 days of treatment.

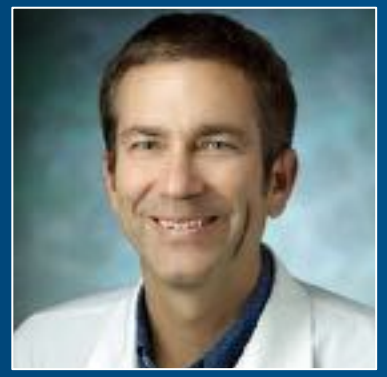
Supera-CBD: Cannabidiol Comparative Rationale

CBD also reverses and prevents the development of cognitive deficits in Alzheimer's disease rodent models.

CBD has been shown to **decrease sucrose self-administration** in mice.

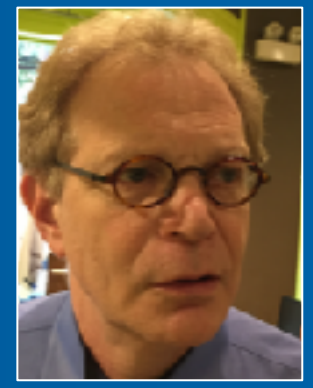
The first FDA approved CBD drug Epidiolex is approved to treat Dravits syndrome in pediatrics, an orphan drug designation that is a derivative of epilepsy.

Scientific Advisory Board



Jeremy Walston, M.D.,
Johns Hopkins University
School of Medicine

Chair, Katharine Whartenby, Ph.D.,
Johns Hopkins University
School of Medicine



Scott Freeman, M.D.,
Co-Founder, Clinical Advisor
MindMed

Ryan Vandrey, Ph.D.,
Johns Hopkins University
School of Medicine

Alison O'Mahony, Ph.D.,
Eurofins Discovery

Anupama Kumar, M.B.B.S.,
Johns Hopkins University
School of Medicine

David Rini, MFA, CMI
Johns Hopkins University
School of Medicine