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MyMD Pharmaceuticals' Lead Compound MYMD-1 Shown to Suppress a Major Cause of Death in COVID-19 in Human Cell Study

- *MYMD-1 human cell research study demonstrates drug's ability to target immune dysfunction and cytokine storm that leads to death from COVID-19*
- *Phase 2 trial of MYMD-1 as a therapy for COVID-19-associated depression and cytokine elevation expected to begin by fourth quarter 2021; initial trial data expected in first quarter 2022*

BALTIMORE, Md.--(BUSINESS WIRE)-- [MyMD Pharmaceuticals, Inc.](#) (Nasdaq: MYMD) ("MyMD" or "the Company"), a clinical stage pharmaceutical company committed to extending healthy lifespan by focusing on developing two therapeutic platforms, today announced that a human cell research study of lead clinical compound MYMD-1 found the drug to be effective in suppressing the cytokine storm, a major cause of severity and death in COVID-19 patients.

Accumulating evidence suggests that an increased level of inflammatory mediators, including cytokines, are associated with the severity of COVID-19.¹ Cytokine storm causes an overreaction of the immune system that can cause the body to attack its own tissues and organs, leading to a high proportion of deaths from COVID-19.

"MYMD-1's potential ability to stop one of the leading causes of death in COVID-19 is among the most exciting developments in our research to date," said Chris Chapman, M.D., President, Director and Chief Medical Officer of MyMD. "MYMD-1 regulates the immuno-metabolic system by modulating numerous pro-inflammatory cell signaling molecules called cytokines. The primary cytokine that MYMD-1 inhibits is TNF- α (tumor necrosis factor alpha). MYMD-1 has been shown in laboratory tests of human cells to block TNF- α production – and the cytokine storm of COVID-19 that it produces – which have been implicated in causing injury and death from the coronavirus disease.

"MYMD-1 was first developed for the treatment of autoimmune and age-related diseases including extending human lifespan, but its mechanism of action offers potential therapeutic benefit for COVID-19 conditions," Dr. Chapman continued.

"Along with our focus on extending healthy lifespan, treatment for COVID-19-related complications is now a cornerstone of our clinical development plan for MYMD-1."

COVID-19 Associated Depression

MYMD-1 may also be effective as a therapy for COVID-19-associated depression. MyMD is collaborating with a major medical school for a Phase 2 clinical trial to investigate the

effectiveness of MYMD-1 to treat immune mediated depression and cytokine elevation in patients affected with COVID-19. As a COVID-19-related therapy, MYMD-1 has the potential to move rapidly toward FDA approval through a special emergency program created to move new treatments into the clinic as quickly as possible.

According to MyMD Chief Scientific Officer Adam Kaplin, M.D., Ph.D., "The importance of our upcoming Phase 2 trial can't be overstated. Despite the prevalence of COVID-19-related mental illness, our trial will be the first clinical trial to date of a pharmaceutical intervention to treat COVID-19-related immune-mediated depression."

Aging and Lifespan

As an immuno-metabolic regulator, MYMD-1 is being developed to target aging (such as sarcopenia and frailty) and depression in age or inflammatory-related diseases. It also shows potential as an anti-fibrotic and anti-proliferic therapeutic.

"We are equally excited to launch a second Phase 2 trial of MYMD-1 in the near term," Dr. Chapman added. "With two Phase 2 trials in progress simultaneously, we are working to position ourselves to be able to commercialize and monetize two assets with very promising combined market value."

About MyMD Pharmaceuticals, Inc.

MyMD Pharmaceuticals, Inc. (Nasdaq: MYMD) is a clinical stage pharmaceutical company committed to extending healthy lifespan in humans by focusing on developing two therapeutic platforms. MYMD-1 is a drug platform based on a clinical stage small molecule that regulates the immunometabolic system to control TNF- α and other pro-inflammatory cytokines. MYMD-1 is being developed to treat autoimmune diseases, including those currently treated with non-selective TNF- α blocking drugs, and aging and longevity. The Company's second drug platform, Supera-CBD, is based on a novel synthetic derivative of cannabidiol (CBD) that targets numerous key receptors including CB2 and opioid receptors and inhibits monoamine oxidase. Supera-CBD is being developed to address the rapidly growing CBD market, that includes FDA approved drugs and CBD products not currently regulated as a drug. For more information, visit www.mymd.com.

Cautionary Statement Regarding Forward-Looking Statements

This press release may contain forward-looking statements. These forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause actual results, performance or achievements to be materially different from any expected future results, performance, or achievements. Forward-looking statements speak only as of the date they are made and none of MyMD nor its affiliates assume any duty to update forward-looking statements. Words such as "anticipate," "believe," "could," "estimate," "expect," "may," "plan," "will," "would" and other similar expressions are intended to identify these forward-looking statements. Important factors that could cause actual results to differ materially from those indicated by such forward-looking statements include, without limitation: the timing of, and MyMD's ability to, obtain and maintain regulatory approvals for clinical trials 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. A discussion of these and other factors with respect to MyMD is set forth in the Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2021, filed by MyMD on May 18, 2021. Forward-looking statements speak only as of the date they are made and MyMD disclaims any intention or obligation to revise any forward-looking statements, whether as a result of new information, future events or otherwise.

¹ [National Center for Biological Information](#)

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