

# BIOAGE

## **BioAge Discovers Key Pathway and Identifies Promising Phase 2 Ready Drug to Treat and Reverse Immune Aging, a Root Cause of COVID-19 Morbidity and Mortality in Older Patients**

- BioAge Plans Phase 2 Clinical trial in Hospitalized COVID-19 Patients
- *Clinical development plan supported by potent inhibition of PGD2 DP1 Receptor by BGE-175, activating immune-modulating mechanisms that result in 100% survival in aged preclinical models of coronavirus*
- *BioAge's proprietary human aging data links activation of PGD2 DP1 signaling to increased risk of mortality and susceptibility to infections*

RICHMOND, Calif., August 25, 2020 — BioAge Labs, Inc., a biotechnology company developing medicines to treat aging and age-related diseases, today announced that it has licensed a clinical-stage therapy with significant promise and potential in treating immune aging in older patients hospitalized with COVID-19. The compound, BGE-175, is a potent orally administered inhibitor of the prostaglandin D2 (PGD2) DP1 signaling pathway associated with increased risk of mortality, and susceptibility to infections. The company recently generated preclinical data showing significant immune-modulating and anti-viral activity of BGE-175 which resulted in 100 percent survival in a preclinical model of the SARS 1 virus. In addition to fully protecting infected mice from death and improving morbidity, treated mice showed a 10-fold decrease in virus in their lungs. BGE-175 has demonstrated clinical activity and safety in a large number of subjects across multiple clinical trials for another indication.

“Aging is the largest risk factor for COVID-19 morbidity and mortality,” said Kristen Fortney, Ph.D., BioAge’s Chief Executive Officer. “BGE-175 has the potential to restore the function of several key immune mechanisms that become dysregulated with aging, and that are critical to mount an effective response to major immune challenges such as COVID-19, SARS, and pandemic influenza. We plan to advance BGE-175 into a Phase 2 clinical trial in COVID-19 patients to evaluate whether its unique mechanism can improve patient outcomes by directly targeting immune aging.”

Dr. Fortney added, “Our AI-driven analysis of our proprietary human aging data maps out how the immune system is dysregulated during aging. Beyond COVID-19, BGE-175 has the potential to address other diseases driven by immune aging. BGE-175 is the second in a growing pipeline of promising therapeutics that BioAge will bring forward to treat diseases of aging.”

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BioAge's preclinical data, obtained in collaboration with coronavirus expert Stanley Perlman, M.D., an American Academy of Microbiology fellow, and professor at the University of Iowa, shows that DP1 receptor antagonism elicits a potent protective response in a mouse model of SARS-coronavirus viral challenge.

Dr. Perlman noted, "We have found over the past several years that an age-dependent increase in DP1 signaling contributes to worse outcomes in the context of mouse infection with several human pathogens. We have previously shown improved outcomes when DP1 signaling is genetically blocked, but BGE-175 is the first drug that has the same effect. BGE-175 may help counteract deleterious immune changes that occur with aging."

"These preclinical data are particularly impressive and highly differentiating to support the potential of BGE-175 in COVID-19," said , Adolfo Garcia-Sastre, Ph.D., Professor of Medicine and Microbiology and co-director of the Global Health & Emerging Pathogens Institute at The Icahn School of Medicine at Mount Sinai in New York City. "While others in the field have used cellular models, BioAge's preclinical data in a coronavirus preclinical model may offer more predictive translation of potential in clinical trials."

The pathways impacted by BGE-175 are linked to lifespan and healthspan in BioAge's proprietary human aging data. The prostaglandin pathway, as well as several key components of the immune response to viral challenge, are significantly associated with longevity and multiple functional measures. Inhibition of PGD2 DP1 receptor signaling impacts multiple immune mechanisms, including activation of dendritic cells and NK cells, and reducing neutrophil infiltration. Preclinical studies demonstrate that BGE-175 inhibits neutrophil migration and that DP1 inhibition boosts dendritic cell function, both of which counteract known aspects of immune aging, and are also therapeutically promising for COVID-19 and other respiratory infections.

BGE-175 has demonstrated clear target engagement with inhibition of PGD2 signaling and safety in a large number of subjects across multiple clinical trials in another indication. Based on its groundbreaking research on the potential of BGE-175 for COVID-19, BioAge was granted a binding Letter of Intent from an undisclosed pharmaceutical company to enter into an exclusive license agreement to develop and commercialize BGE-175 for treatment and prevention of COVID-19 infections in the United States, Europe and the United Kingdom. Furthermore, for a one-year period BioAge has the exclusive option to license additional rights for other disease indications. Under the terms of the LOI, BioAge will make an upfront payment and contingent development and regulatory milestone payments plus royalties based on annual net sales. BioAge will be responsible for all development, manufacturing and commercialization of BGE-175 for treatment or prevention of COVID-19 infection in the United States, Europe and UK. Further details of the agreement will be released after additional patents applications are filed.

## **About the BioAge Platform**

The BioAge platform identifies key drug targets that will impact aging. The Company's proprietary human aging cohorts have blood samples collected up to 45 years ago, with

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participant -omics data that is tied to extensive medical follow-up records including detailed future healthspan, lifespan and disease outcomes. BioAge has built a systems biology and AI platform that leverages these rich datasets to identify the molecular drivers of age-related pathology. BioAge's pipeline of therapies targeting these key pathways will address the significant unmet medical needs of an aging population.

## **About BioAge**

BioAge is a biotechnology company developing proprietary drugs to treat aging and aging-related diseases. Since its founding in 2015, the Company has raised \$37 million in venture capital funding from Andreessen Horowitz, Khosla Ventures, Felicis Ventures and others to back its AI-driven approach to map the molecular pathways that impact human longevity. BioAge's mission is to develop a pipeline of therapeutic assets that increase healthspan and lifespan.

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