



Press release

## **ABIONYX announces positive clinical findings for CER-001 in treating COVID-19, published in *Biomedecines*, demonstrating that CER-001 limits inflammation effects**

- **Improvement of reverse cholesterol transport**
- **Reduction of inflammatory markers and cytokines**
- **A treatment option for patients with COVID-19**

**Toulouse, FRANCE, March 24, 2022, 6.00 pm CET – ABIONYX Pharma (FR0012616852 - ABNX - PEA PME eligible)**, a new generation biotech company dedicated to the discovery and development of innovative therapies for patients, announced today the publication in *Biomedecines* of the first clinical data demonstrating that CER-001 limits inflammation effects in acute inflammatory conditions such as COVID-19.

COVID-19 is associated with respiratory symptoms characterized by acute lung injury, rapidly progressing to acute respiratory distress syndrome. The pulmonary dysfunction is rapidly accompanied by a major "cytokine storm" in which inflammatory cytokines are abundantly released into the bloodstream leading to host tissue damage.

Decreased levels of total cholesterol, LDL and HDL have been observed in patients with COVID-19 infections. Patients with low HDL levels at hospital admission have an increased risk of developing severe disease compared with patients with high HDL levels. With recovery from COVID-19 infections, serum lipid levels return to pre-infection levels

High-density lipoproteins (HDL) in addition to their reverse cholesterol transport function, exhibit pleiotropic properties, including anti-inflammatory, anti-apoptotic, anti-thrombotic, and antioxidant functions.

CER-001 is an HDL mimetic previously tested in various pathological conditions, but never in COVID-19 before a compassionate access authorization (CAA) granted by the ANSM for bio-HDL (CER-001) in COVID-19 in January 2021.

The *Biomedecines* publication reports on the first clinical administration of recombinant HDL particles, CER-001, in a patient with severe COVID-19 infection in an intensive care unit.

Shotgun proteomics were performed on HDL before and after CER-001 infusions and serve to identify the type of proteins contained in HDL. These analyses demonstrated that apoA-I increased after injections while most pro-inflammatory proteins decreased following injections.

Measurement of serum amyloid A-1, inflammatory markers, and cytokines showed a significant decrease in most of them during CER-001 treatment. The results suggest recombinant HDL infusions are a potential therapeutic strategy to be explored in COVID-19 patients.

The publication shows for the first time that intravenous HDL supplementation (through CER-001 infusion for instance) is feasible in acute inflammatory conditions such as COVID-19, with a tendency to limit inflammation. HDLs have been shown to reduce inflammation in models of bacterial sepsis in part via their ability to bind and remove circulating endotoxins. However, in viral sepsis, HDL infusion may be also beneficial, particularly by reducing inflammation via a still unknown mechanism. . This case report encourages the conduct of a randomized placebo-controlled trial to evaluate the contribution of rHDL in severe ICU COVID-19 patients.

This scientific publication, entitled "First Recombinant High-Density Lipoprotein Particles Administration in a Severe ICU COVID-19 Patient, a Multi-Omics Exploratory Investigation," is available online in the journal Biomedecines: <https://www.mdpi.com/2227-9059/10/4/754/htm>

ABIONYX Pharma is awaiting further results from ongoing clinical studies in inflammatory conditions.

**Next financial press release: Annual Results, April 28<sup>th</sup> 2022**

#### **About ABIONYX Pharma**

ABIONYX Pharma is a new generation biotech company that aims to contribute to health through innovative therapies in indications where there is no effective or existing treatment, even the rarest ones. Thanks to its partners in research, medicine, biopharmaceuticals and shareholding, the company innovates on a daily basis to propose drugs for the treatment of renal and ophthalmological diseases, or new HDL vectors used for targeted drug delivery.

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