



COVIXO harnesses the power of the immune system to augment the body's natural response to invading pathogens such as severe acute respiratory distress coronavirus 2 (SARS-CoV-2), the causative agent behind coronavirus disease (COVID-19). COVIXO is comprised of nano-sized biovesicles that contain proteins, lipids, microRNAs, and messenger RNA. COVIXO drives cellular functionality including augmenting the type 1 interferon pathway (Data on file at EUCYT) that is important for anti-SARS-CoV-2 activity. Additionally, COVIXO potentiates cellular proliferation; thereby increasing the number of cells capable of attacking the invading pathogen. The unique mechanism of action for COVIXO enables each patient to generate their own adaptive immune response against SARS-CoV-2, including memory T cells and antibodies, which will further protect each patient from subsequent exposures and infections.

Coronaviruses are a large family of viruses that cause a range of illness from mild symptoms and discomfort to potentially death. SARS-CoV-2 emerged in December 2019 in Wuhan, the Hubei province of China as a new infectious respiratory disease.<sup>1-3</sup> Within a matter of months, infections with SARS-CoV2 increased exponentially first in China and then throughout the rest of the world. On March 11, 2020, the World Health Organization declared the SARS-CoV-2 to be pandemic. As of March 18, 2020, more than 215,000 positive cases have been reported with approximately 8,733 deaths.<sup>4</sup> As the number of cases continues to increase, it is imperative that we promptly identify those patients with the greatest risk of developing severe respiratory disease and treating them immediately.

Cellular entry of SARS-CoV-2 requires binding of the spike (S) proteins to transmembrane serine protease 2 (TMPRSS2) where they become primed. Primed S proteins engage with angiotensin converting enzyme 2 (ACE2) on the surface of cells triggering endocytosis of the virus into the cell.<sup>5</sup> Once inside the cell, SARS-CoV-2 releases its genetic material and commandeers the host cell machinery to generate additional viral particles. The Center for Disease Control and Prevention currently recommends that diagnostic tests assess



the expression of nucleocapsid and RNase P genes as evidence of actively replicating virus<sup>6</sup>. NanoCyt, a division of EUCYT, will be able to rapidly evaluate tests within 24 to 48 hours and identify those patients which would benefit most from COVIXO.

Current strategies to treating severely infected patients rely on repurposing therapies approved for other diseases. Additionally, there has been increased support in developing new antibodies, drugs, and vaccines which will block viral entry to cells, block viral replication, or delay the host immune system response. Several promising approaches are in early stages of development; however, there is an extended timeline to completion and implementation due to regulatory milestones. COVIXO is isolated and purified from healthy human tissue and provides the opportunity for cell signaling proteins and genetic material to strengthen the body's natural response to infection. Through this process, COVIXO enables the body to generate adaptive immune responses against SARS-CoV2 and can be used to treat both healthy and actively infected patients without the need for specific anti-viral therapies or vaccines. Harnessing the power of the human body through EUCYT's proprietary methods and techniques provides the opportunity for immediate impact on the current pandemic.

**COVIXO**  
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## References

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