

Novel Coronavirus Therapeutic Portfolio: Addressing the Significant Unmet Need for Treating Symptomatic Disease and Risks Associated with Vaccine Hesitancy

Opportunity Overview

The New York Blood Center Enterprises (NYBCe), one of the US' leading suppliers of blood products and services, boasts world class research and development of novel vaccines, therapeutics and blood processing techniques. In response to the global COVID-19 pandemic, **specifically, in viral immunology and infectious diseases, NYBCe's research and development continues to treat the current pandemic while focusing on groundbreaking research to prevent future outbreaks, as well as treat those with early symptomatology.** NYBCe brings together some of the highest caliber research scientists to focus on COVID-19 therapeutic agents, patented novel adjuvants, and inhibitors against SARS-CoV-2.

NYBCe is seeking a development and commercialization partner(s) to advance its antiviral assets into clinical candidates through the regulatory and marketing approval process on a global or regional basis.

NYBCe's Antiviral Assets

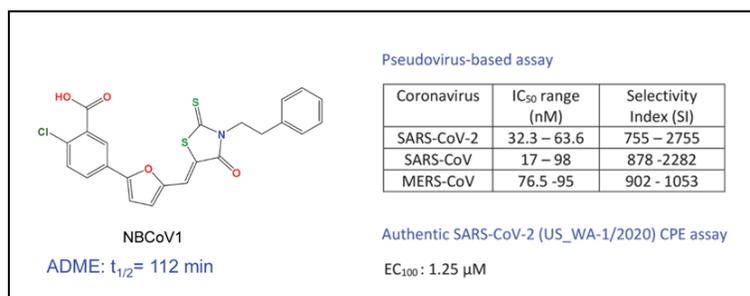
NYBCe's efforts are underway at the Lindsley F. Kimball Research Institute, which is committed to innovation and scientific discovery in hematology and transfusion medicine. Under the leadership of President and CEO Christopher D. Hillyer, MD and the ingenuity of world-class virologists and immunologists, the LFKRI has developed two assets addressing the global COVID-19 pandemic, including:

- **Proprietary antiviral therapeutic peptides**
- **Novel small molecule fusion inhibitors**

Small Molecule Fusion Inhibitors

NYBCe has broadened its coronavirus portfolio with the recent addition of small molecule fusion inhibitors. Despite widespread availability of effective vaccines against COVID-19, **vaccine hesitancy rates of 20% or higher** are creating a major roadblock in achieving widespread immunization. Further, breakthrough cases of COVID-19 infection have been reported among people fully vaccinated. Finally, several FDA-approved monoclonal antibodies, aimed at treating COVID symptoms, are inaccessible due to high cost.

NYBCe's novel benzoic acid-based **fusion inhibitors that show highly potent pancoronavirus activity against SARS-CoV, SARS-CoV-2, and MERS-CoV** in pseudovirus-based assays with excellent selectivity indices. Some compounds also show 100% inhibition of CPE at 1.25 μ M against authentic SARS-CoV-2. Furthermore, the **most active inhibitors also potently inhibited UK and South African variants.** Initial ADME studies demonstrate drug-like properties of the lead asset.



Stapled peptide Inhibitors

Dual stapling has stabilized peptides and their helical conformation. Four stapled peptides have been designed based on α -helical binding region of ACE2, which is expected to bind to SARSCoV-2 and prevent the binding of the virus to the ACE2 receptor and **disrupt the infection.** Several of the peptides have shown significant anti-SARS-CoV-2 activity with IC₅₀ in the range of 1.97-4 μ M. **Most significantly, none of the stapled peptides show any cytotoxicity at the highest dose tested.** The stapled peptides are being positioned as post-exposure prophylaxis for patients experiencing early COVID-19 disease to minimize viral entry into cells and thus, slow disease progression.

Intellectual Property Portfolio

NYBCe boasts a patent estate, including numerous issued and pending patents describing compositions of matter (COM) for the stapled peptide and small molecule therapeutics. Issued COM patents are valid through late 2030s. Two separate, issued COM patent families cover NYBCe's novel recombinant adjuvant technology platform.

Partnering Opportunity and Structures

NYBCe has a broad portfolio of therapeutic agents which have preliminary data suggesting potential to be leaders in the global market for effective and accessible COVID-19 therapeutics. The organization is seeking development and commercialization partners with the strategic focus and financial wherewithal to bring the program(s) through the global development, regulatory approval and commercialization processes. NYBCe will consider a wide range of deal structures, including licensing arrangements, NewCo formation with equity participation, and others.

Contact Information

Jay Mohr | Chief Financial and Business Officer
E: jmohr@nybc.org | M: (917) 887-8605