

## **PROGENITER: Pathogen Response Optimization by GENERating Therapeutics Rationally**

### **Administering organization**

The University of British Columbia

### **Amount awarded (CBRF)**

\$14,462,237

### **Amount awarded (BRIF)**

\$16,396,797

### **Director**

Subramaniam, Sriram (The University of British Columbia)

### **Co-director**

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### **Team members**

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### **Research Summary**

To ensure that Canada is better prepared for the next pandemic, we propose PROGENITER, a project that will be a keystone component of Canada's Immuno-Engineering and Biomanufacturing Hub (CIEBH). PROGENITER will enable the rapid design, engineering, and production of antibody leads against present and future viral diseases to advance at least three antibodies into IND-enabling studies within four years. PROGENITER's end-to-end process will span a comprehensive suite of capabilities: including AI-enabled antibody discovery supported by state-of-the-art infrastructure for expression, purification, biophysical characterization, atomic-resolution cryo-EM analysis, and GMP-level production of antibody therapeutics. This mission aligns with CIEBH's vision for rapidly responding to new threats, and with Canada's national pandemic preparedness strategy (BLSS).

Drawing on the academic success of its team members during COVID-19, PROGENITER will also broadly connect CIEBH's four pillars. Its infrastructure is capable of supporting next-gen delivery of lipid nanoparticle-based vaccines (P1); engineering antibody technologies (P2); developing T-cell based therapeutics (P3); and driving drug design to address antimicrobial resistance (P4). PROGENITER will leverage its collective expertise to pursue a research program to discover critical pathogen-host protein interactions to identify biologics for current and prospective disease threats.

PROGENITER's partnership with industry (AbCellera, Amgen, Gandeveva, GSK and Zymeworks) brings a highly innovative and entrepreneurial approach to industrialized discovery, development, and delivery of biologics, with the potential to improve the success rate of therapies in clinical trials. The highly interdisciplinary and diverse team that the project brings together will be vertically integrated for seamless collaboration and focused on the central mission of developing clinical-grade antibodies capable of combatting pandemic threats.