



Vitalant Research Institute Principal Investigators – 2023

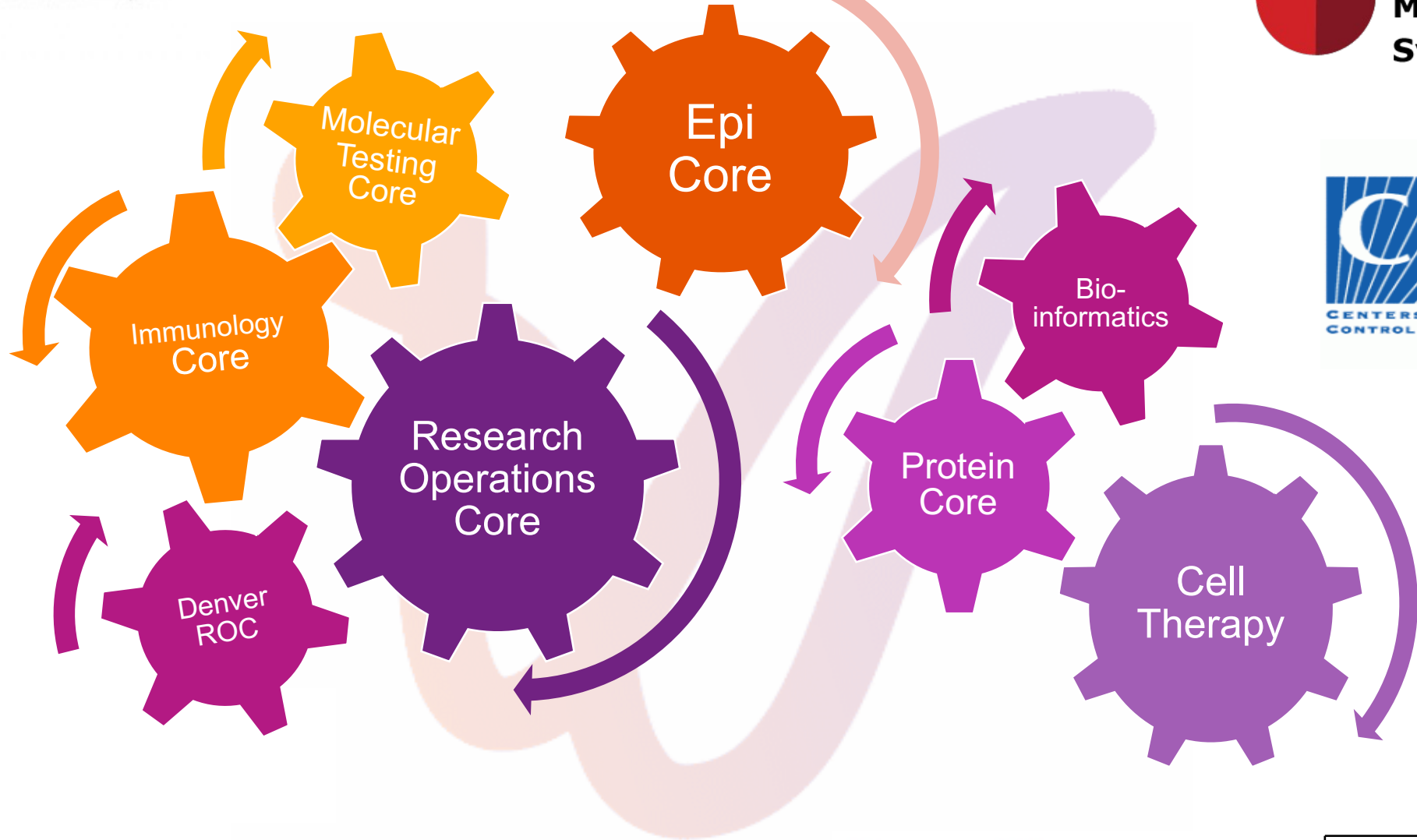




Ortho
Clinical Diagnostics



Transfusion
Transmissible
Infections
Monitoring
System



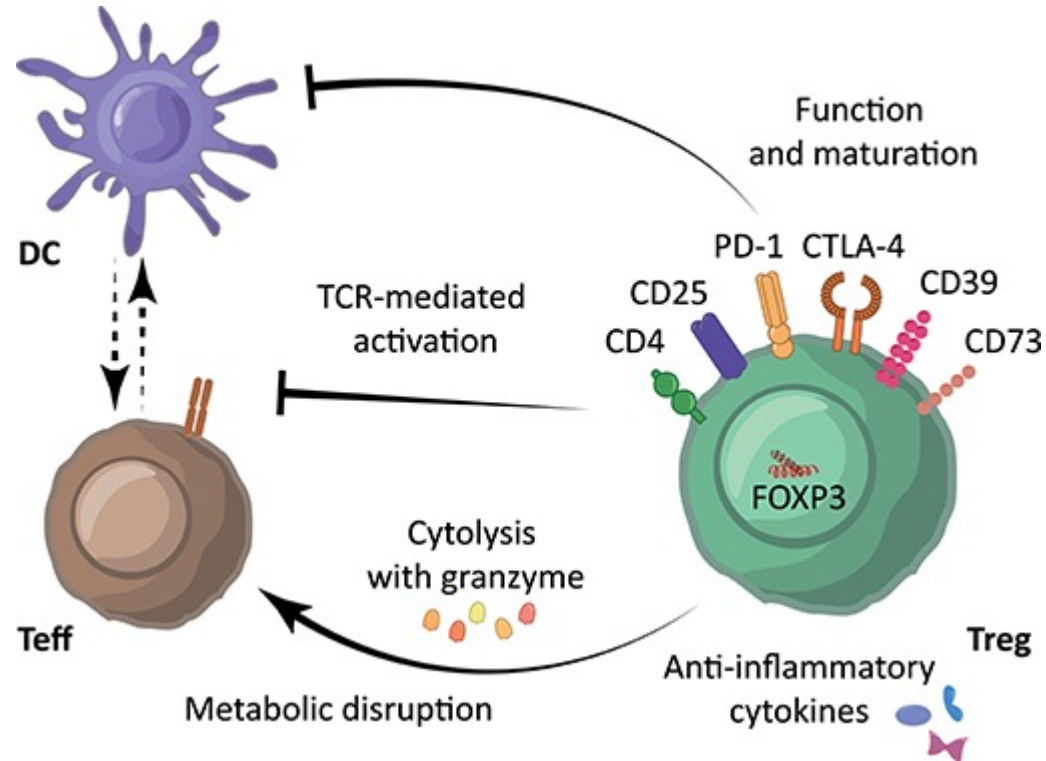
GRIFOLS

BILL & MELINDA
GATES foundation

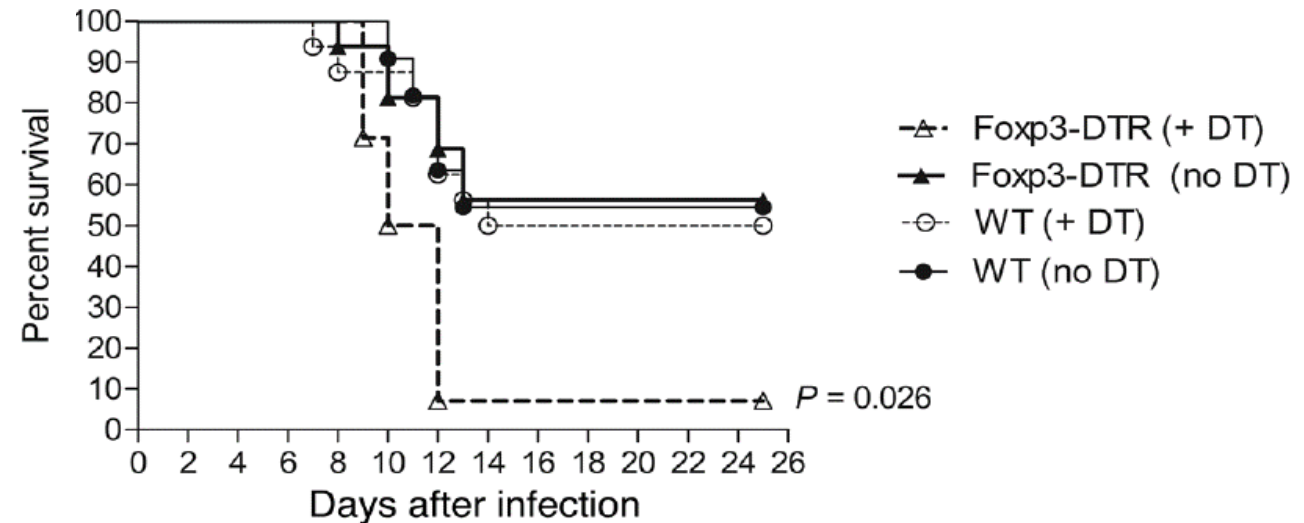
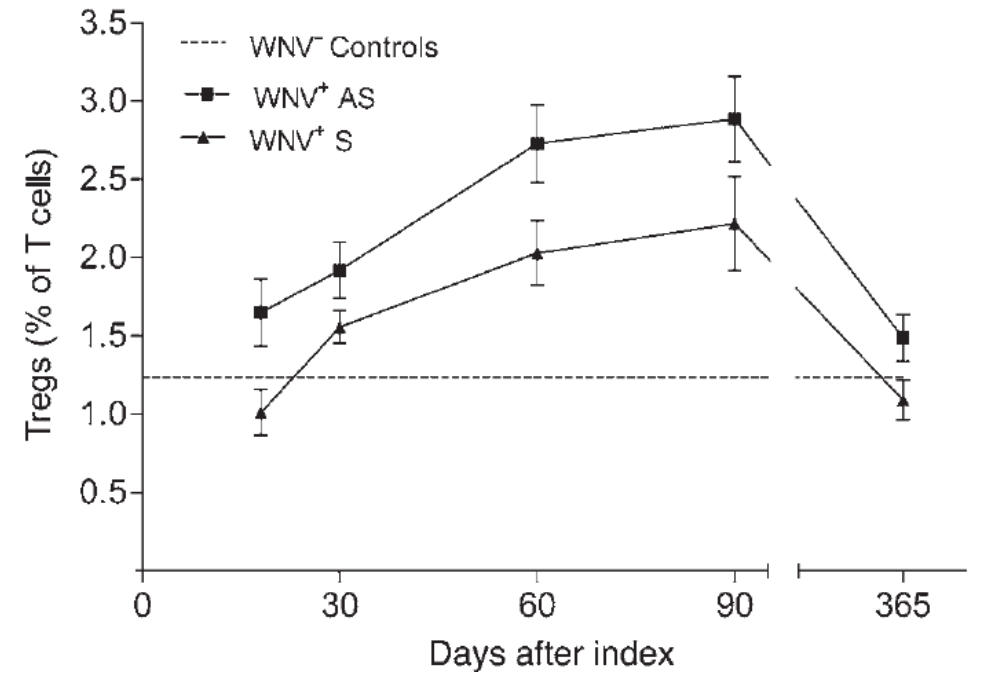
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Leveraging access to blood donors
to learn fundamental biology

Tregs control viral infection

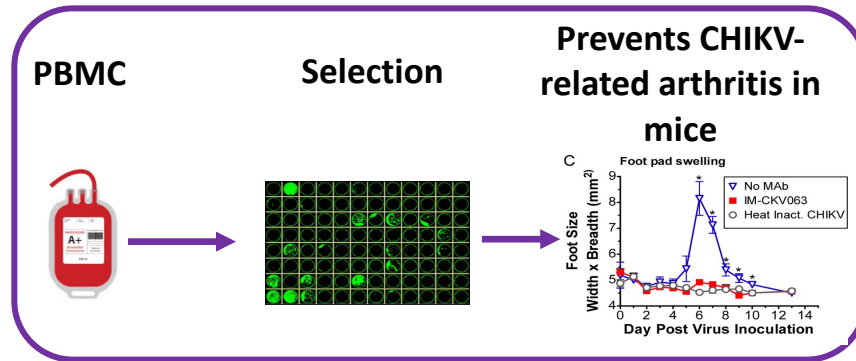


<https://www.frontiersin.org/articles/10.3389/fimmu.2019.02839/full>

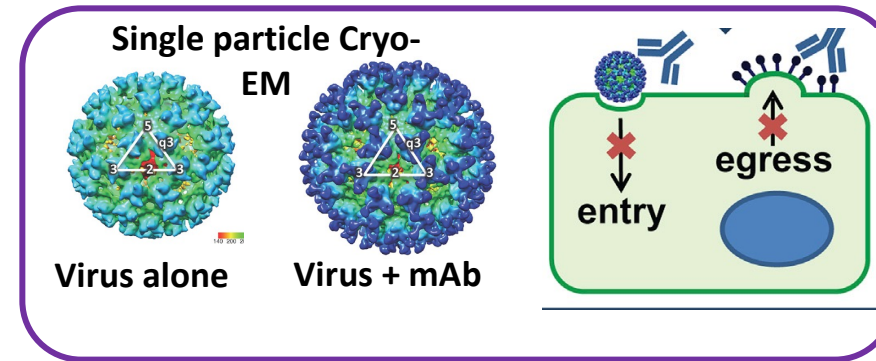


Lanteri et al., J Clin Invest 2009

From blood donors to molecular detail: a 10-year journey with chikungunya virus

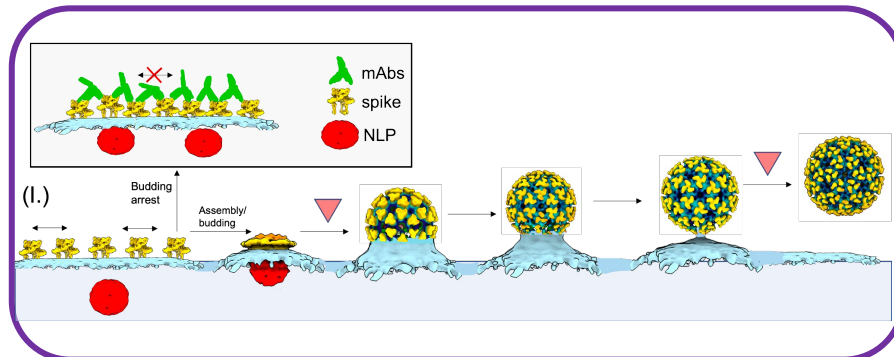


PBMC obtained from CHIKV-infected blood donors used for B cell cloning and phage display to identify and characterize ultrapotent neutralizing monoclonal antibodies against CHIKV. **Selvarajah et al, PLoS NTD 2013; Fong et al J Virol. 2014**

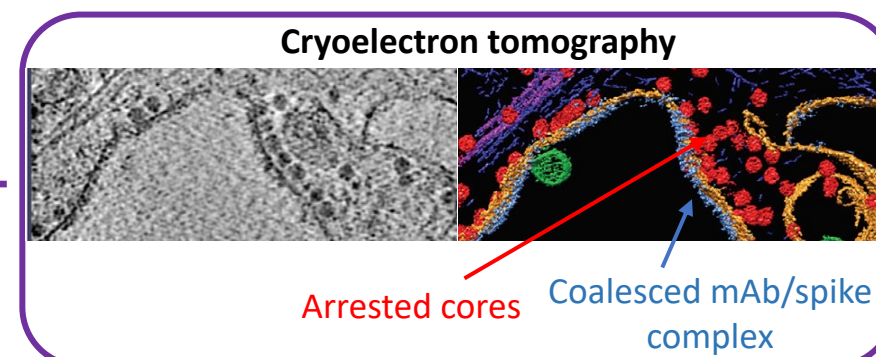


The epitope of our mAbs spanned two neighboring CHIKV glycoproteins, locking them in place. Our mAbs blocked both viral entry and egress, with egress being the most potent

Jin et al, Cell Reports 2015; Fox et al, Cell 2015

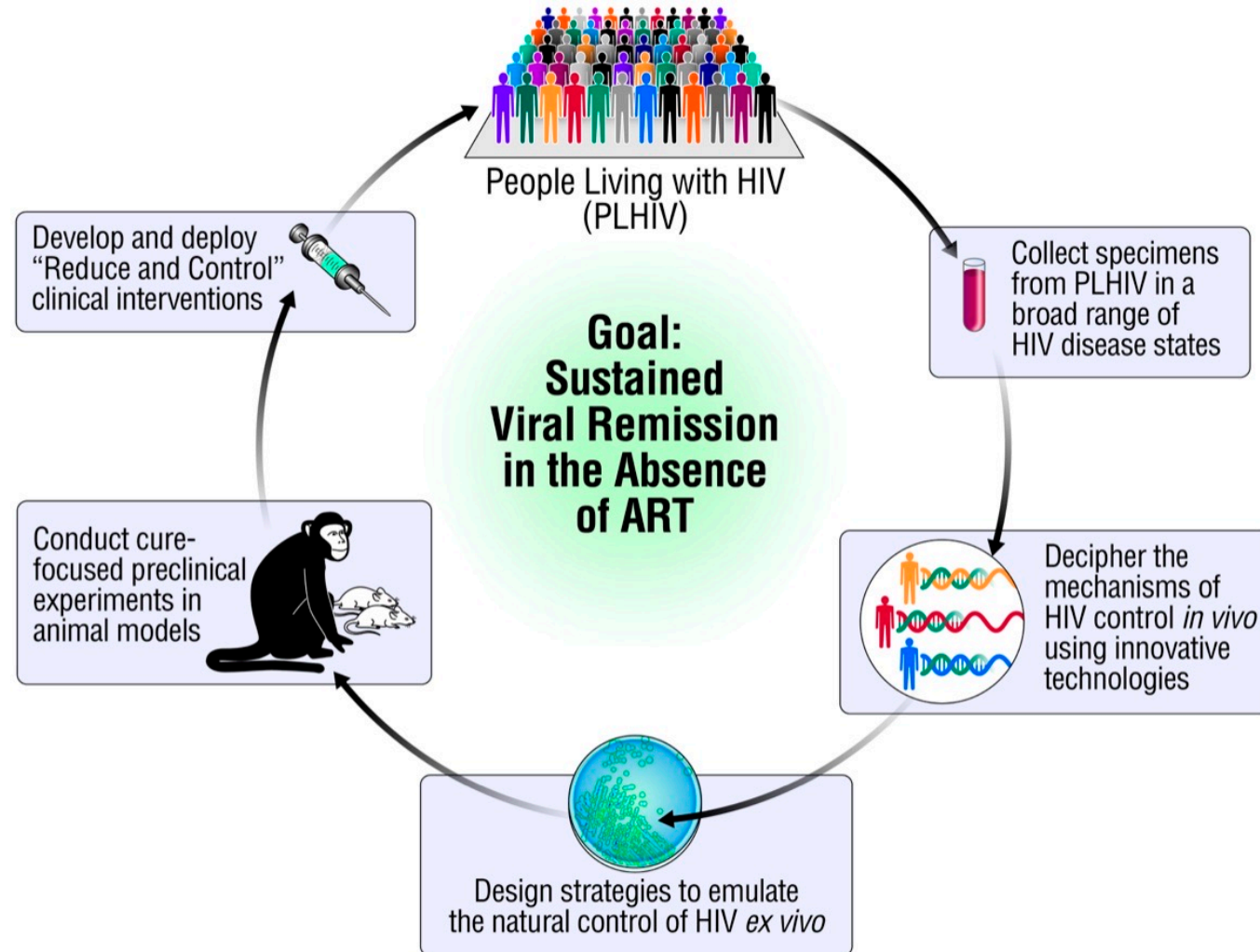


Cryo-ET analysis of 1375 budding CHIKV particles shows rate-limiting steps to particle formation occur at early- and late-stages associated with initial spike oligomerization and membrane scission. Binding of mAbs to spike inhibits virus biogenesis by preventing formation of the curved, icosahedral budding shell. **Chmielewski et al, Nature Microbiology 2022**

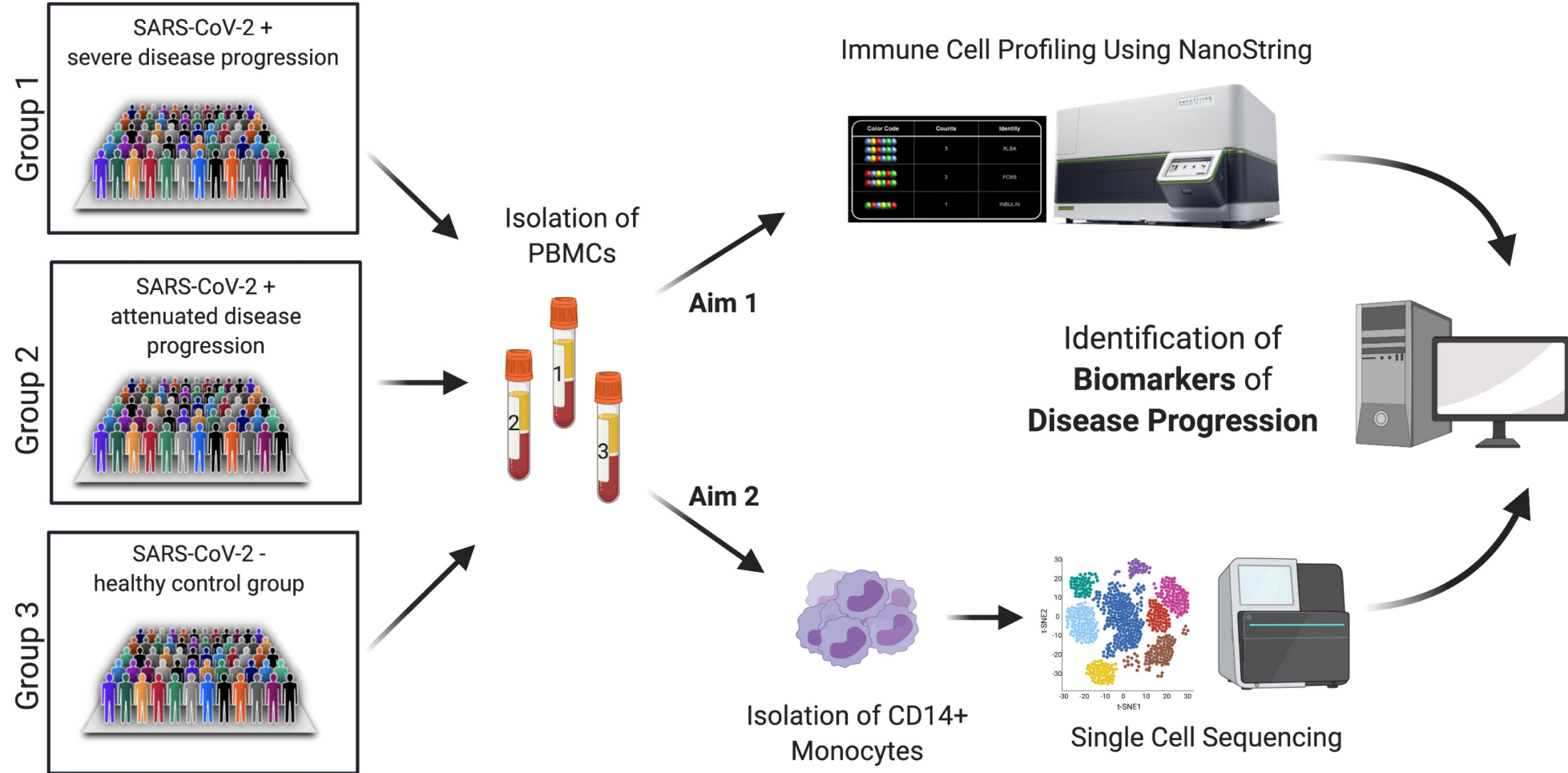


Inhibition of viral budding by mAbs was due to cross-linking and coalescence of the viral glycoprotein spike trimers on the cell surface. **Jin et al, Cell Host Microbe 2018**

Analyses of blood donor samples will reveal novel drug targets and disease biomarkers to advance the development of antiviral therapies and HIV cure strategies



Analyses of blood donor samples will reveal novel SARS-CoV-2 drug targets and disease biomarkers to advance the development of antiviral therapies





Research on alternatives for donor screening, motivations for non-compliant donation, and risk disclosure

Sustainability-focused research exploring contemporary donation motivations and building connection with young people and communities of color

Expanding and Diversifying the Donor Base

Policy Studies and Risk Evaluation



Donor Experience/ Donor Health

Mixed-method research that centers donors' perspectives and health interests to more effectively engage with and drive donor engagement

