Chula VRC
Chula Vaccine Research Center
Faculty of Medicine, Chulalongkorn University

COVID-19
Development of COVID-19 vaccine

Dengue
Development of nanoparticle-based dengue DNA vaccine

HIV
We have been working on HIV DNA vaccine

HDM Allergy
Development of vaccines for prevention and treatment of HDM allergy

Leptospirosis
Development of subunit vaccines against leptospirosis
Sustainable R&D: ChulaVRC

For “Vaccine Inequity Issue” and Pandemic Preparedness

**Infectious Diseases**
- COVID-19
- Dengue
- HPV for therapeutic
- Pandemic Flu: Avian
- TB
- Leptospirosis
- P. vivax (led by MU)

**Non-Infectious diseases**
- Allergy vaccine
- Cancer vaccine
ChulaCov19 Vaccine – the Thai Made Program

Thai Gov Funded Program: October 2021– August 2023

NVI Funded + Gov. Block Grant of 2.3 Billion THB

**Monovalent WT Vaccine**

ChulaCov19

- **R&D**
  - Gen1 - Monovalent
- **Clinical Trials**
  - Gen1 - Monovalent
  - Phase 1 Thailand
  - Phase 2 Australia Part A N=80
  - Results: Vaccine is well tolerated with good immunogenicity
  - Manufactured in Thailand
  - Testing in mice, NHP
  - Toxicity study in rats
  - Ethic approval
  - TFDA Approval

**Bivalent WT/BA.4/.5 Vaccine**

Comvigen

- **R&D**
  - Gen2 - Bivalent
- **Clinical Trials**
  - Gen2 - Bivalent
  - Started Oct 2023
  - Phase 2 Thailand (N:450)
  - Phase 2 Australia (N:70)
  - Manufactured in Thailand
  - Testing in mice, NHP
  - Toxicity study in rats
  - Ethic approval
  - TFDA Approval
TVL-ChulaVac005: Phase 2 in Australia: Part A-B, N=150
ChulaVac006: “Comvigen” Bivalent Vaccine Phase Trial in Thailand, N=450
mRNA Vaccine R&D Capacity at Chula VRC

- Antigen design, but the DNA synthesis is outsourcing
- IVT and LNP encapsulation: We core team to run these key processes
- Immunogenicity testing in mice, NHP (at NPRCT-CU”)
- Ab assays, NAb assays, ADE assay (Dengue), T-cells assays (ELISpot, ICS)
- Viral challenge study will be conducted at AFRIMS, NPRCT-CU
- Clinical development: protocol development, acted as a sponsor in conducting clinical trial at Chula CRC and other clinical sites
- Various parallel R&D teams for different target vaccines

Current RnD Speed at Chula VRC = < 8 weeks
From Ag design to encasulated mRNA vaccine to animal testing
Next Pandemic: Can it be Speedier?

The Next Pandemic Preparedness
Can we do faster & better for getting mRNA Vaccine available sooner?

If we fill the gaps and address the key painpoints effectively
We look forward to regional collaboration for a real impact on “Vaccine Equity” and for the best “Pandemic Preparedness”