



ChulaCov-19 mRNA Vaccine

Development Update : *From Bench to Clinic*



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Vaccine **Efficacy** Phase 3 Results

Vaccine (Company)	Sample Size	Prevent Clinical Covid-19	Preventing Severe Covid-19
CoronaVac (Sinovac) Brazil	12,396	51 %	100 %
AZD122 (AstraZeneca)	17,177	67 %	100 %
Ad26.COV2.S (J & J)	43,783	66 %	85%
NVX-CoV2373 (Novavax)	15,000	89 %	100 %
Sputnik V (Gamaleya)	19,866	92 %	100 %
mRNA-1273 (Moderna)	28,207	94 %	100 %
BNT162b2 (Pfizer)	34,922	95 %	90 %

Bloomberg

Global Vaccination: **5.79 Billion** Shots
35-40 million doses/Day

mRNA vaccines : > 1,000 M

Inactivate vaccines: > 2,300 M

Viral Vector vaccines > 600 M

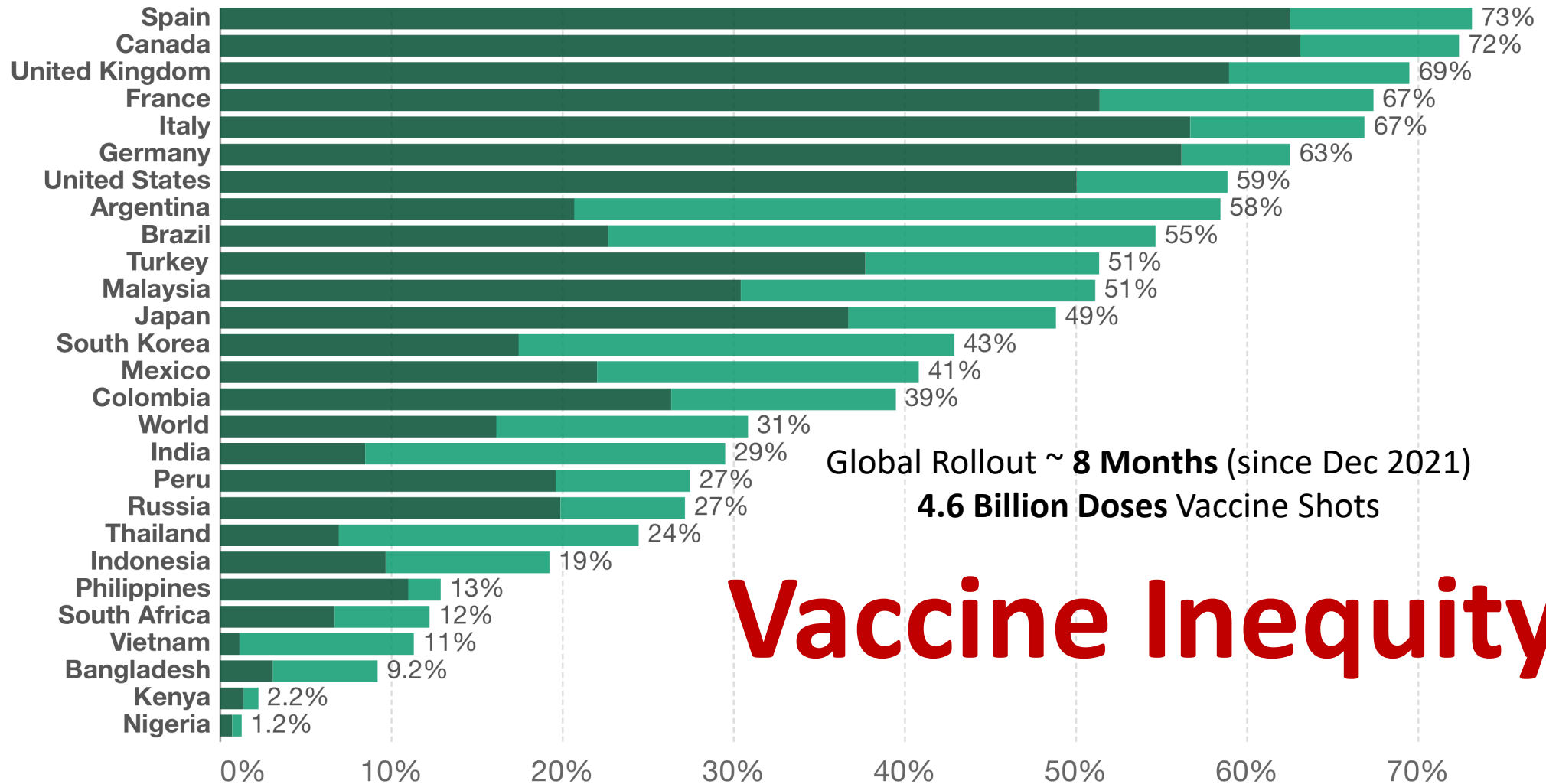
38.3 M people vaccinated /day

Immediate reaction and rare AEs is estimated of **1 - 5 per 1 million injections**

Almost all were treatable and recovered completely

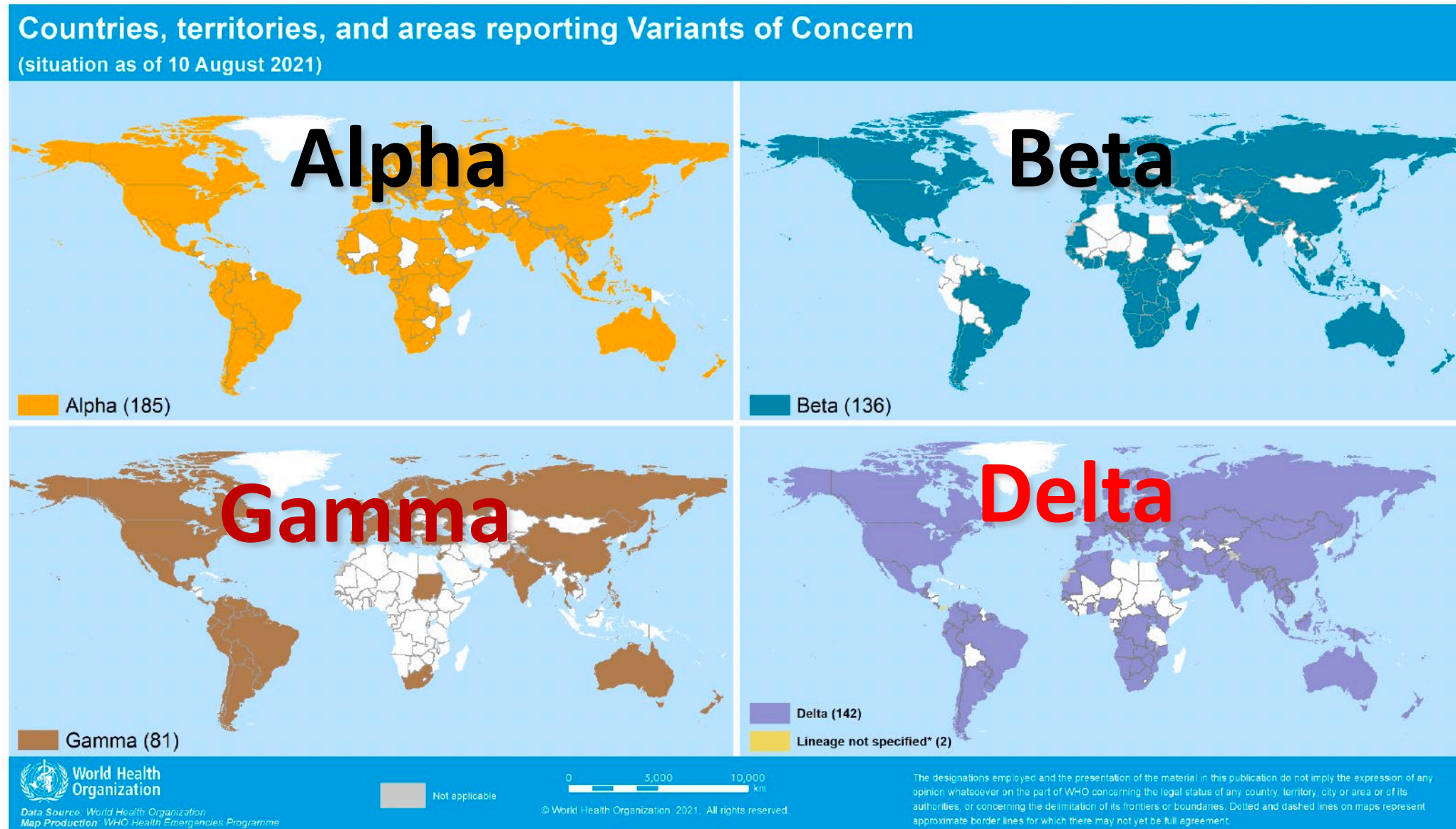
Share of people vaccinated against COVID-19, Aug 12, 2021

■ Share of people fully vaccinated against COVID-19 ■ Share of people only partly vaccinated against COVID-19



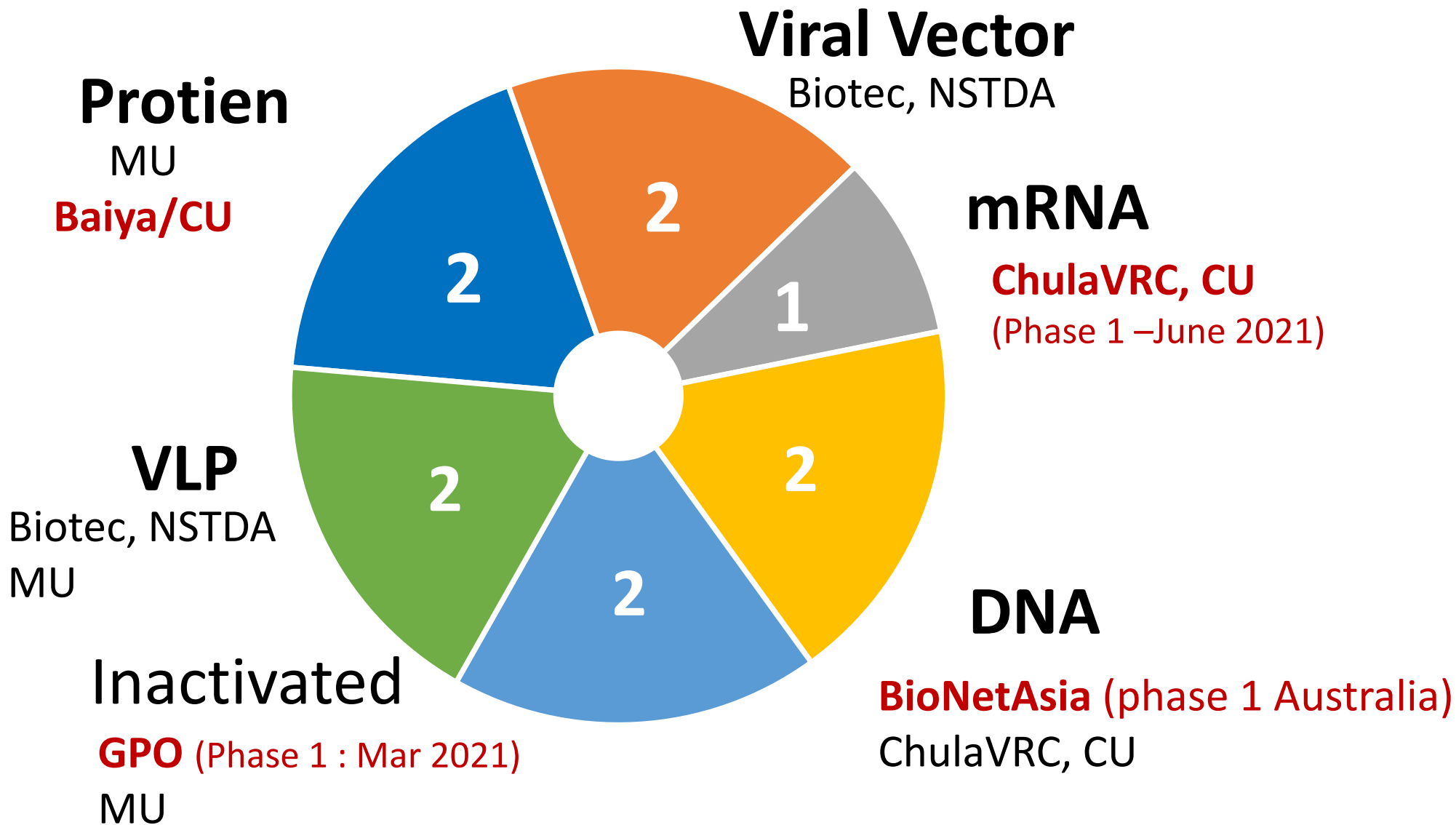
Source: Official data collated by Our World in Data. This data is only available for countries which report the breakdown of doses administered by first and second doses in absolute numbers.
CC BY

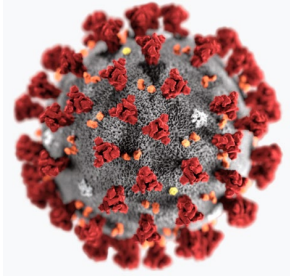
Figure 4. Countries, territories and areas reporting variants Alpha, Beta, Gamma and Delta, as of 10 August 2021**





Thailand Covid-19 Vaccine Landscape



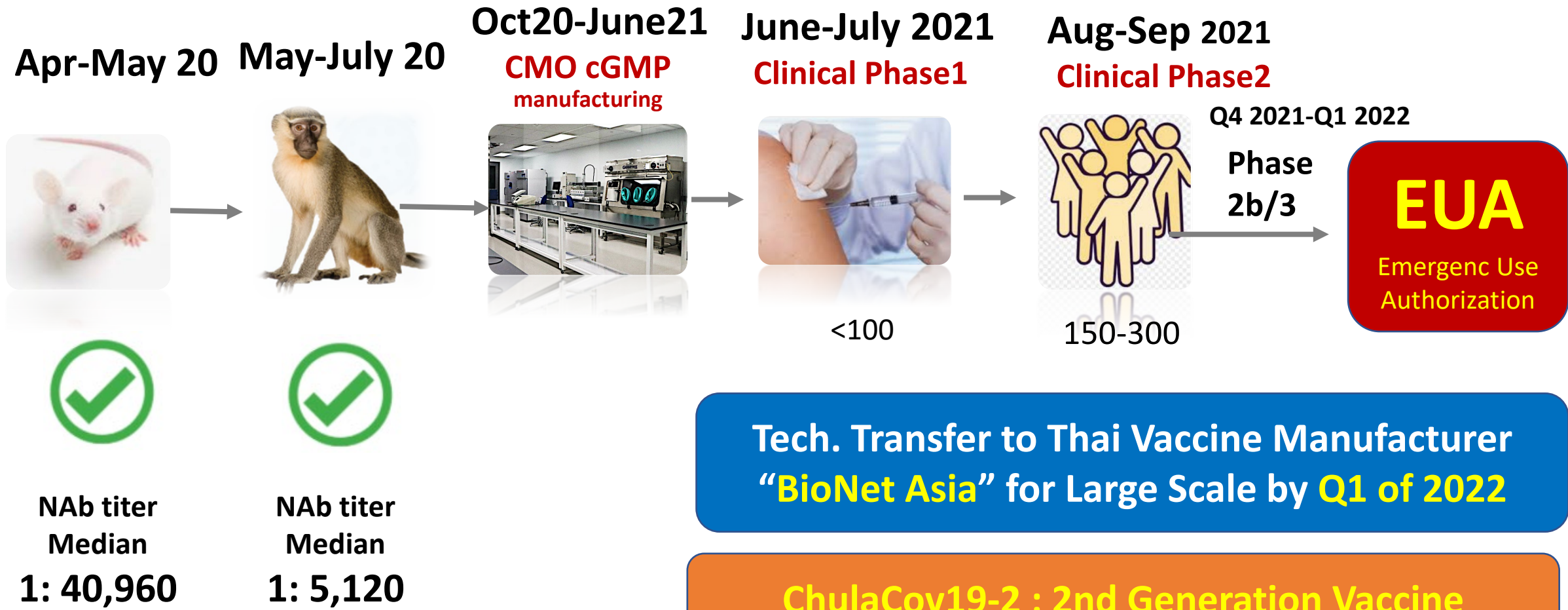


Chula-Cov19 mRNA Vaccines Update

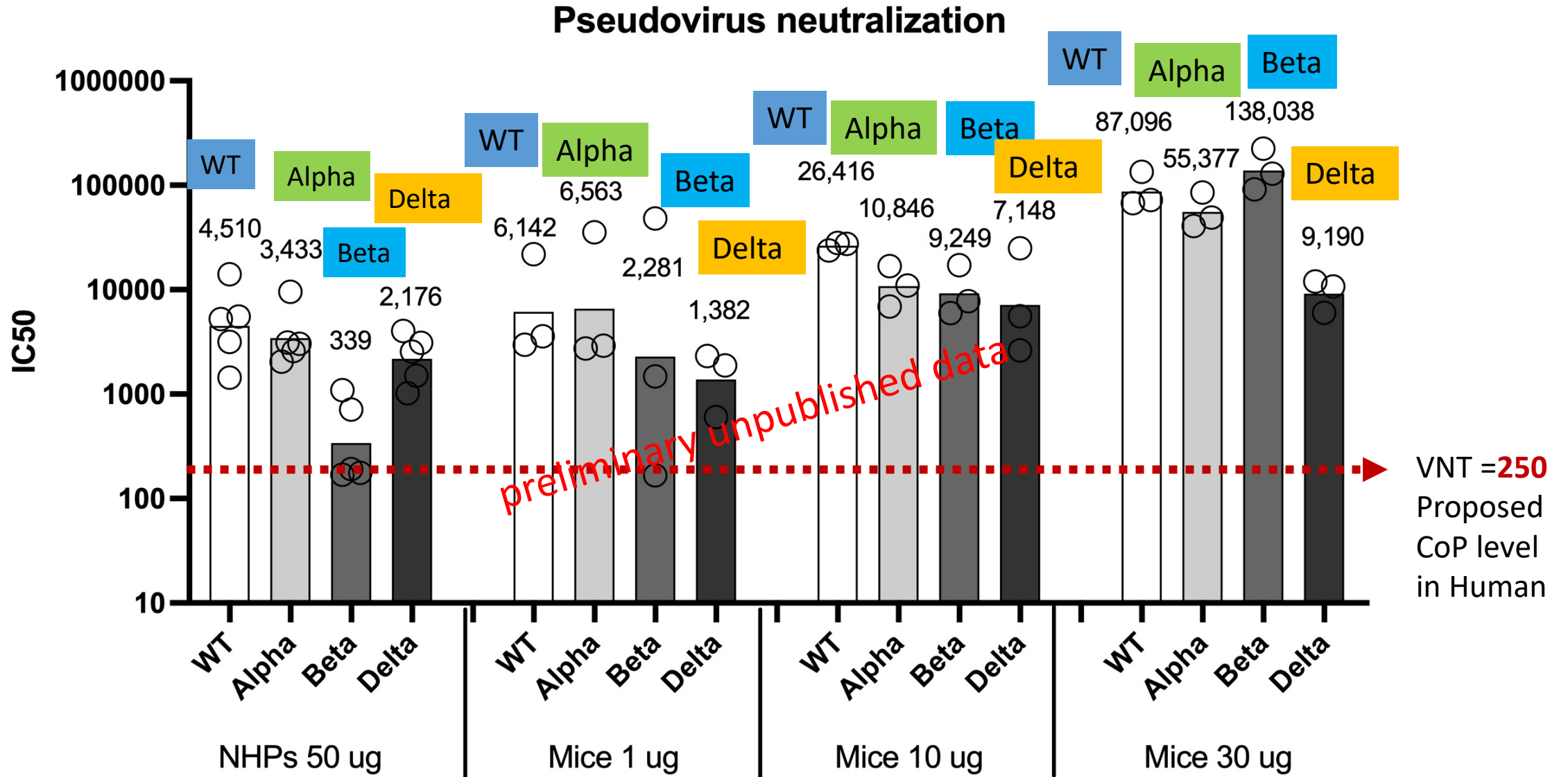
Does Thailand Still need
Developing our Own Vaccine(s) ? : **Yes !**

1. To build **a complete capacity/value chain** of mRNA vaccine development in Thailand
2. To **supply >20 M doses/year** by next year
3. To be **self-dependent for the next pandemic in a very timely manner**

ChulaVRC *Chula-Cov19 mRNA* Vaccine Development Pandemic Paradigm



ChulaCov19 against SARS-Cov2 Variants

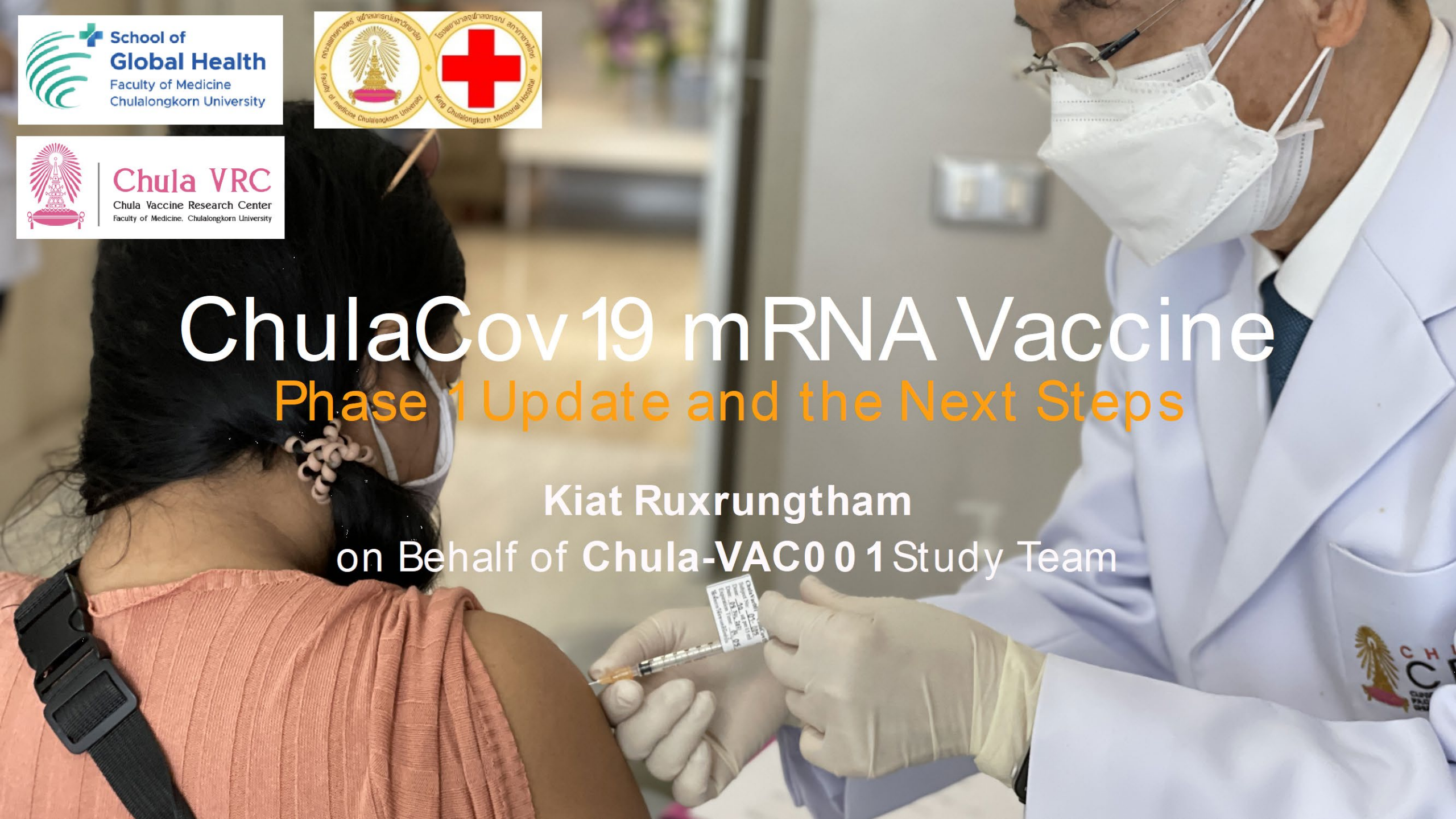




ChulaCov19 mRNA Vaccine

Phase 1 Update and the Next Steps

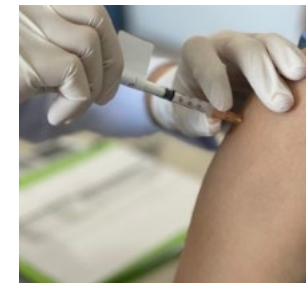
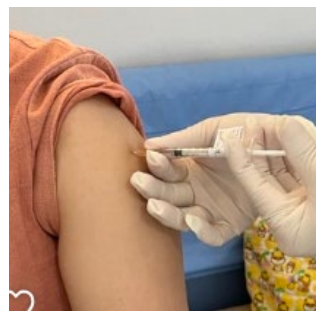
Kiat Ruxrungtham
on Behalf of Chula-VAC001 Study Team

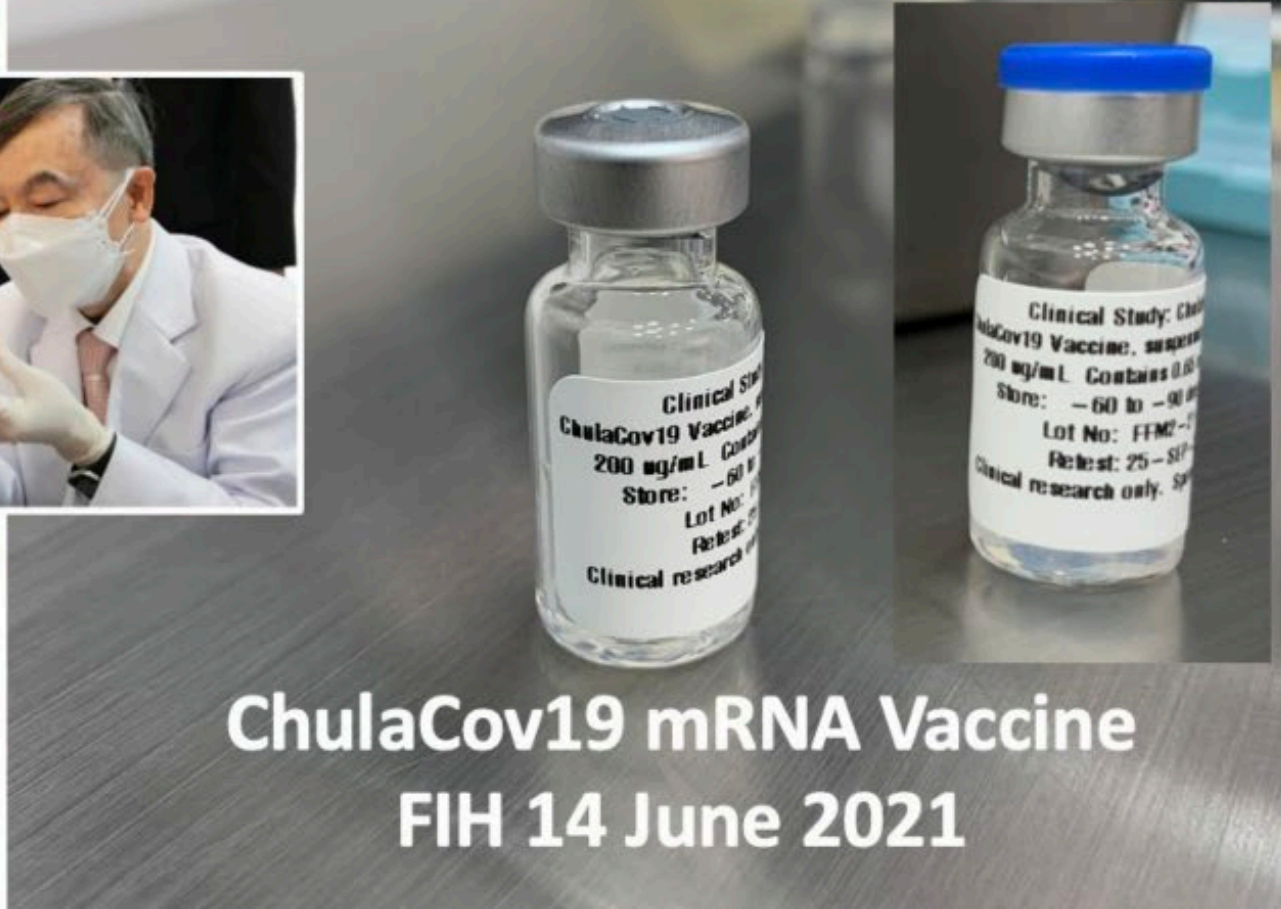




Hearts of Volunteers

ChulaCov-19 Vaccine

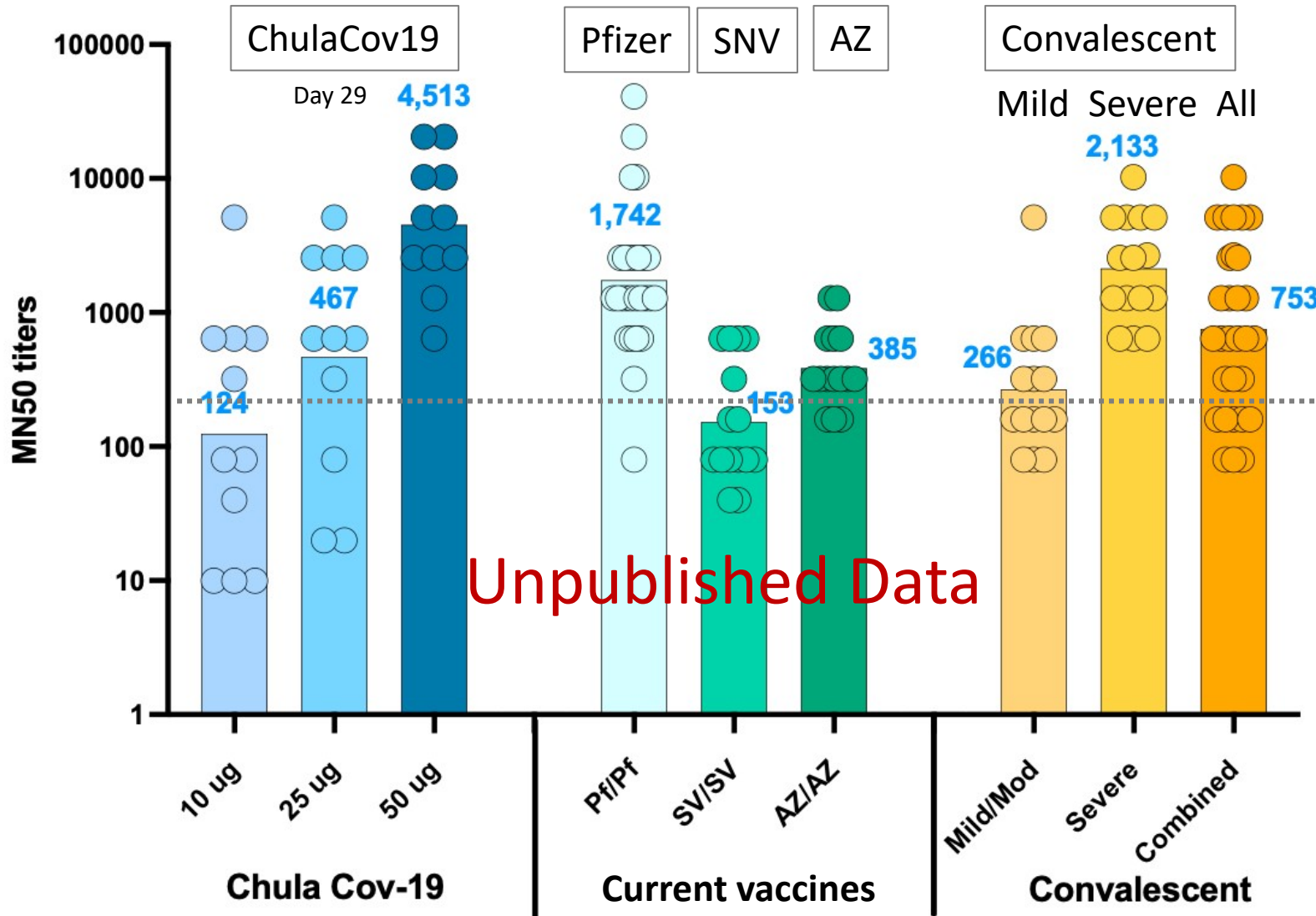




ChulaCov19 mRNA Vaccine
FIH 14 June 2021

Live-virus Neutralization against WT

Live-virus neutralization (WT)



Unpublished Data

Titer 247 : VE 80%*

* Feng et al. Correlates of protection against symptomatic and asymptomatic SARS-CoV-2 infection. medRxiv preprint doi: <https://doi.org/10.1101/2021.06.21.21258528>. Oxford Vaccine Group.



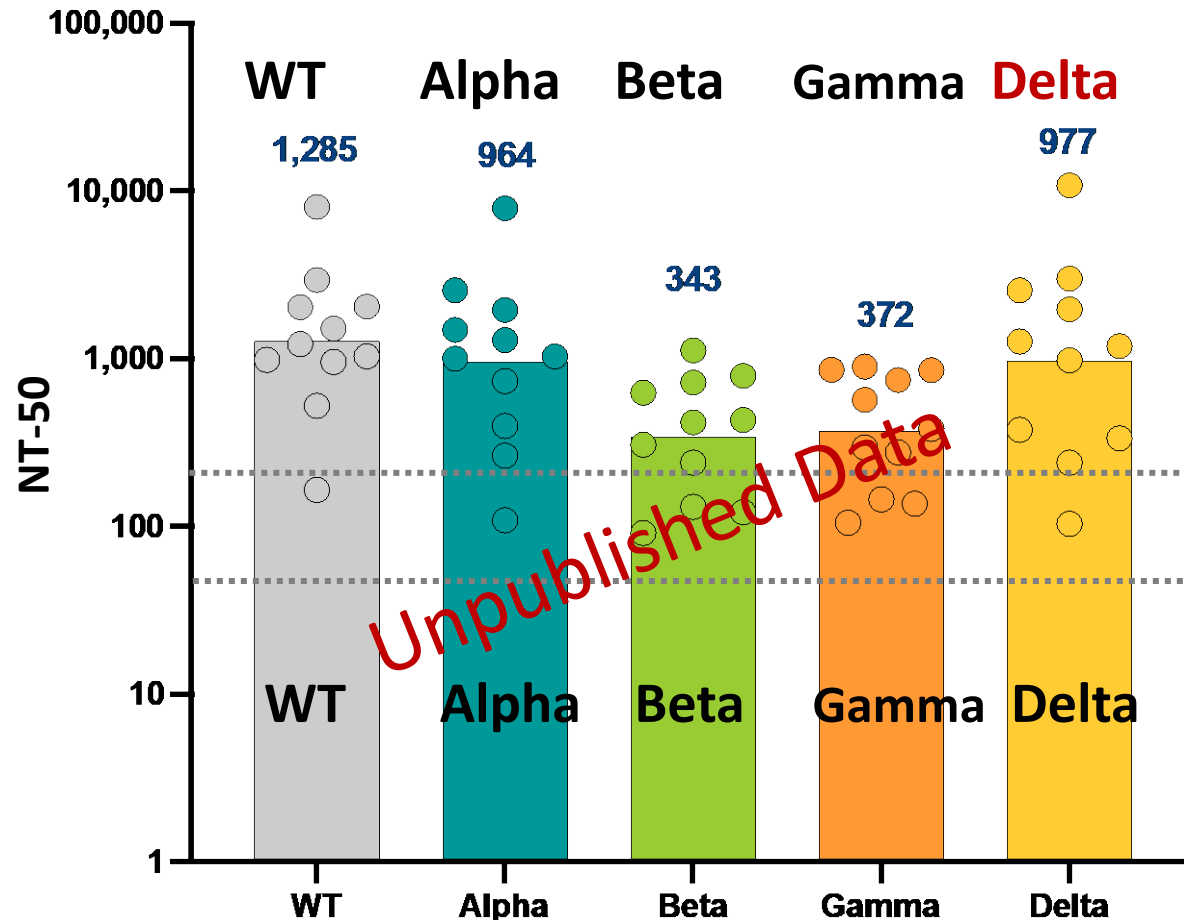
Assoc. Prof. Arunee Thitithanyanont
Virology Lab, Mahidol University

ChulaCov19 Phase 1 : Preliminary Results 1 weeks after the Dose 2

Pseudovirus Neutralizing Antibody: WT, Alpha, Beta, gamma, Delta variants



Dr. Anan
Jongkaewwattana
 Biotec, NSTDA

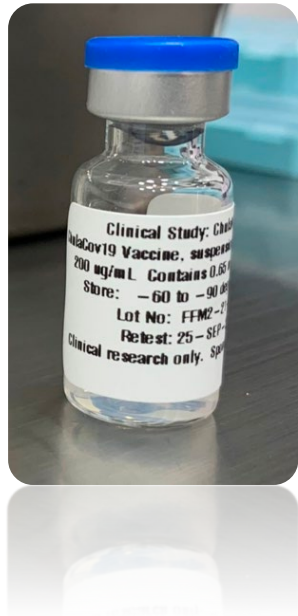


185* : 80% Vaccine Efficacy

61* : 60% Vaccine Efficacy

* Feng et al. Correlates of protection against symptomatic and asymptomatic SARS-CoV-2 infection. medRxiv preprint doi: <https://doi.org/10.1101/2021.06.21.21258528>. Oxford Vaccine Group.

ChulaCov19 Vaccine: Product Profiles



- 1) 2 doses injections, IM
- 2) 3 weeks apart
- 3) **Stability : at 2-8 ° C, at least 3 month
at 25 ° C up to 14 days**
- 4) Induces both neutralizing antibody and CD4, CD8 T cells Responses in human
- 5) Induces predominantly Th1
- 6) Protect animals from viral challenge test

Yes

Yes

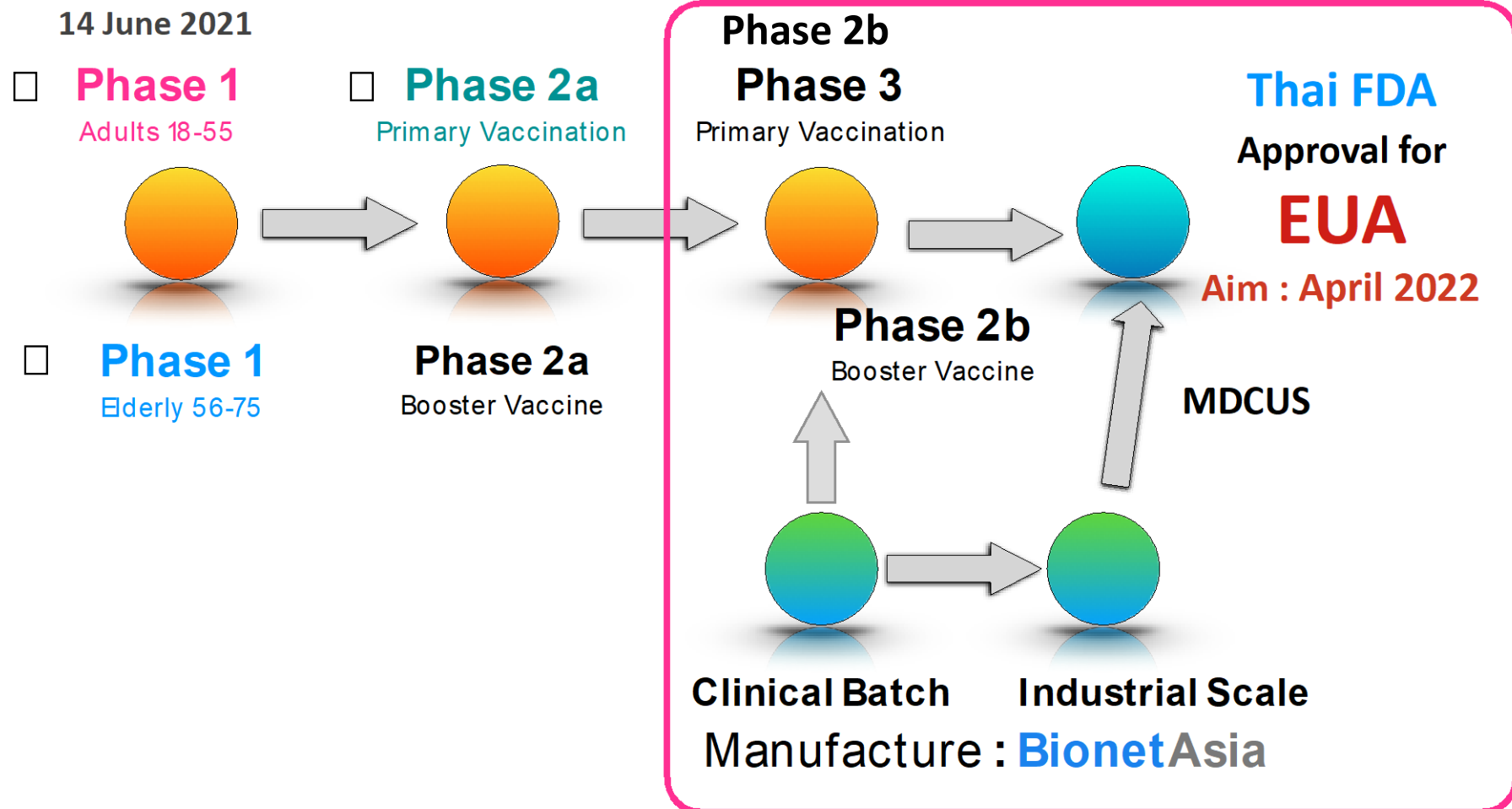
Yes

Yes

Yes

Yes

Potential Challenges of ChulaCov19 Vaccine Development



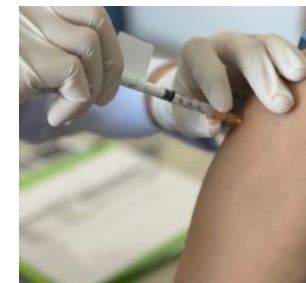
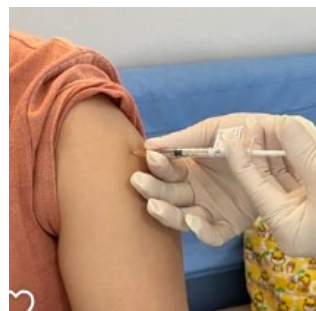
Questions to the SEA TRC Leaders

- Any strategies or policies support that we can bring this mRNA vaccine –ChulaCov19 to make it accessible to this region ?
- What types of collaborative support can be made ?



Hearts of Volunteers

ChulaCov19 Vaccine



ขอบ
คุณ
ครับ

