Booster dose of CoronaVac®
01 Outcomes of Clinical Trials using Booster CoronaVac®
Immunogenicity: Boosting 6 m after 2-dose vaccination in adults
Neutralizing antibody increased ≥20 times

- Adult phase 1/2 double blinded RCT
- Sample size: 262

Immunogenicity: Boosting 6 m after 2-dose vaccination in the elderly
Neutralizing antibody increased $\geq 30$ times

- Neutralizing antibody increased rapidly, $\geq 20$ times 7 days after boosting
- Neutralizing antibody maintained 14-28 days after boosting, significant dose-response relationship

Li M, et al. “A booster dose is immunogenic and will be needed for older adults who have completed two doses vaccination with CoronaVac: a randomized, double-blind, placebo-controlled, phase 1/2 clinical triall” medRxiv (2021)
Immunogenicity: Neutralizing antibody increased rapidly, internal data from Sinovac

<table>
<thead>
<tr>
<th>Interval between 2nd and 3rd dose (months)</th>
<th># subjects</th>
<th>GMT (positivity rate %)</th>
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<th>GMT (positivity rate %)</th>
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<tbody>
<tr>
<td>7~8</td>
<td>61</td>
<td>4.43 (26.23)</td>
<td>38</td>
<td>70.79 (100)</td>
<td>24</td>
<td>132.47 (100)</td>
<td>57</td>
<td>122.49 (100)</td>
</tr>
<tr>
<td>12~13</td>
<td>33</td>
<td>5.09 (33.96)</td>
<td>25</td>
<td>101.42 (96.15)</td>
<td>29</td>
<td>275.16 (100)</td>
<td>40</td>
<td>248.09 (100)</td>
</tr>
</tbody>
</table>
Persistency: GMT 6 moths after 3rd dose higher than the peak after 2nd dose

- Antibody level declined to a low level 6 months after 2nd dose
- Antibody level declined but remained a relatively high level 6 months after the boosting dose
Immunogenicity: (Chile) Sinovac/Pfizer/AZ boosting vaccine, Antibody level increased substantially

Chile, REFUERZO Project

3rd dose Vaccination

Antibody level (median infectious dose, ID50) increased significantly, compared to baseline (pre-vaccination), reach to $10^3 \sim 10^4$ (ID50)

3 vaccines all can induce strong immune memory response
Many countries are now implementing booster dose. Turkey progressed fast.

- **Turkey**: Half million vaccinated
- **Indonesia**: Start vaccination, About 1,000 vaccinated
- **Dominica**: Start vaccination, 3rd dose mainly Pfizer but will do Sinovac soon
- **China**: Beijing, 3-6 months apart, 576, Vaccinated No SAE
02 Immune mechanism research of ConoraVac® 3rd dose

Chinese Academy of Sciences/Peking University/National Testing Center/Sinovac
CoronaVac® Serological analysis after 3\textsuperscript{rd} dose: better cross neutralization ability and persistence

A

B

N=40 N=20 N=20

Authentic virus

pseudovirus
CoronaVac® after 3rd dose: broader neutralizing antibody spectrum

- Compared to 2 doses of CoronaVac, 3rd dose induced more comprehensive types of neutralizing antibody
- Compared to 2 doses of CoronaVac and early phase of natural infection: the spectrum of neutralizing antibody spectrum by the 3rd dose has changed (the proportion of IV, V, VI RBD antibody increased, broader spectrum) and the higher somatic mutation rates