Dynavax Technologies and CpG 1018

Dynavax Technologies
- Develops and commercializes innovative vaccines
- Focus on leveraging power of the body’s innate and adaptive immune responses through Toll-like Receptor (TLR) stimulation
- Licensed sole available two dose (0 and 1 month) adult hepatitis B vaccine adjuvanted with CpG 1018*

CpG 1018
- Small synthetic oligonucleotide with unmethylated immunostimulatory CpG motifs
- Mimics natural innate immune response to bacterial and viral DNA
- Enhances B and T cell responses to co-administered vaccine antigens
- CpG 1018 targets well-characterized cellular receptor, toll-like receptor 9 (TLR9) in plasmacytoid dendritic cells
- Well established safety profile

*CpG 1018 – cytosine phosphoguanosine 1018
### 4 COVID-19 vaccine programs have selected CpG 1018 due to its strong safety profile and adjuvancing properties

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| **Clover: SCB2019, recombinant vaccine adjuvanted with CpG 1018 and alum**<sup>1</sup> | - In September, Clover reported results of its SPECTRA Phase 2/3 trial with over 30,000 participants.  
- 100% of SARS-CoV-2 strains observed in efficacy analysis were variants  
- 100% efficacy against severe COVID-19 and hospitalizations, and 84% efficacy against moderate-to-severe COVID-19 caused by any strain of SARS-CoV-2  
- Tolerability was similar to placebo | |
| **Medigen: MVC-COV1901, subunit vaccine with recombinant S-2P antigen adjuvanted with CpG 1018 and alum**<sup>2</sup> | - Vaccine obtained approval under EUA in Taiwan in July based on robust immunogenicity in Phase 2 study  
- Lancet and is being used in Taiwan’s immunization program  
- Phase 3 trials ongoing | |
| **Valneva: VLA2001, inactivated COVID-19 vaccine candidate with CpG 1018**<sup>3</sup> | - Phase 3 study met both co-primary immunogenicity endpoints: Superior neutralizing antibody titer levels compared to active comparator vaccine (AstraZeneca’s AZD1222) and neutralizing antibody seroconversion rate above 95%  
- Well-tolerated, demonstrating a statistically significant better tolerability profile compared to AZD1222 | |
| **Biological E: Corbevax, receptor binding domain (RBD) adjuvanted with CpG 1018**<sup>4</sup> | - Phase 3 in adults and Phase 2/3 in children 5+ in India | |

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