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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

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4 COVID-19 vaccine programs have selected CpG 1018 due to its strong safety profile and adjuvanting properties

Clover: SCB2019, recombinant vaccine adjuvanted with CpG 1018 and alum¹

- 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 alum²

- 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 1018³

- 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 1018⁴

- Phase 3 in adults and Phase 2/3 in children 5+ in India

1. <https://www.cloverbiopharma.com/news/83.html> 2. https://www.medigenvac.com/public/en/news/detail/88?from_sort=2 3. <https://valneva.com/press-release/valneva-reports-positive-phase-3-results-for-inactivated-adjuvanted-covid-19-vaccine-candidate-vla2001/> 4. <https://investors.dynavax.com/news-releases/news-release-details/dynavax-and-biological-e-announce-commercial-supply-agreement>