

Plant-based recombinant COVID-19 vaccine found to be effective

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Coronavirus-like particles (CoVLP), which are produced in plants,

combined with an adjuvant (Adjuvant System 03 [AS03]) forms a candidate vaccine that is effective for preventing COVID-19, according to a study published online May 4 in the *New England Journal of Medicine*.

Karen J. Hager, from Medicago in Quebec City, Quebec, Canada, and colleagues conducted a phase 3 trial at 85 centers involving 24,141 adults who were randomly assigned to receive two intramuscular injections of either the CoVLP+AS03 vaccine or placebo 21 days apart.

The researchers confirmed COVID-19 by polymerase chain reaction assay in 165 participants from the intention-to-treat population. Vaccine efficacy was 69.5 percent against any symptomatic COVID-19 caused by five variants. In a post-hoc analysis, [vaccine efficacy](#) was 78.8 and 74.0 percent against moderate-to-[severe disease](#) and among those who were seronegative at baseline, respectively. In the vaccine group, there were no severe cases of COVID-19; the median viral load for breakthrough cases was more than 100-fold lower in the vaccine group versus the [placebo group](#). Solicited adverse events were mainly mild or moderate and transient; they occurred more frequently in the vaccine group versus placebo group. Local adverse events occurred in 92.3 and 45.5 percent in the vaccine group and placebo group, respectively, and systemic adverse events occurred in 87.3 and 65.0 percent, respectively.

"The potential effect of this plant-based technology in the current pandemic will be greatly influenced by the evolution of the pandemic itself," the authors write. "However, the availability and further development of this platform could have important implications for pandemic readiness."

Several authors disclosed [financial ties](#) to Medicago and GlaxoSmithKline; the study was funded by Medicago, the manufacturer of the CoVLP+AS03 vaccine.

More information: Karen J. Hager et al, Efficacy and Safety of a Recombinant Plant-Based Adjuvanted Covid-19 Vaccine, *New England Journal of Medicine* (2022). [DOI: 10.1056/NEJMoa2201300](https://doi.org/10.1056/NEJMoa2201300)

Hanna Nohynek et al, Does the World Still Need New Covid-19 Vaccines?, *New England Journal of Medicine* (2022). [DOI: 10.1056/NEJMe2204695](https://doi.org/10.1056/NEJMe2204695)

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