

# Covid-19 Vaccine Candidates

Type	Vaccine		Trial		Efficacy				Variants			Specifics						
	Developer (Name)	Investigational Status (Participants)	EUA Submission	First dose efficacy	Second dose efficacy	Prevention of moderate to severe disease	Prevention of severe disease	Prevention of death	B.1.1.7 (United Kingdom)	P.135 (South Africa)	P.1 (Brazil)	Route/# of doses	Timing of Doses	Presentation <sup>2</sup>	Storage requirements	Preparation & Handling	Stability after opening	Can overfill be used as extra doses?
mRNA <i>How it works</i>	<b>Pfizer/BioNTech</b> (BNT162b2)	<a href="#">Phase 2 &amp; 3 with EUA (44,000)</a>	<a href="#">EUA approved 12/11 for ages 16 and older</a>	<a href="#">52%</a>	<a href="#">95%</a>	Not quantified	Not quantified	<a href="#">100%</a>	<a href="#">No impact</a>	No data	No data	IM/ 2 doses	0, 21 days <sup>2</sup>	MDV (5 doses) / 30 mcg/0.3mL <sup>13</sup>	•Ultra-cold storage at -70°C for 6 months. •Thermal shippers replenished with dry ice for 30 days •Refrigeration (2-9°C) for 5 days	•Thawing and reconstitution required. •Reconstitute with 1.8 mL of 0.9% sodium chloride.	Stable up to 6 hours after dilution.	<a href="#">Yes</a>
	<b>Moderna</b> (mRNA-1273)	<a href="#">Phase 3 with EUA (30,000)</a>	<a href="#">EUA approved 12/20 for ages 18 and above</a>	<a href="#">80%</a>	94%	Not quantified	<a href="#">100% (Supplement Figure S16)</a>	100% (inferred)	<a href="#">No impact</a>	<a href="#">6-fold reduction in antibodies (unclear impact on efficacy)</a>	No data	IM/ 2 doses	0, 28 days <sup>2</sup>	MDV (10 doses) / 100 mcg/0.5 mL <sup>13</sup>	•Freezer (-4°C) for 6 months •Refrigeration (2-8°C) for 30 days •Room Temp: 12 hours	Thawing required. Vaccine may be thawed in the refrigerator or at room temperature. •Refrigerator: 2.5 hours •Room temperature: 1 hour •Vials that have not been punctured may be kept between 8°C and 25°C for up to 12 hours.	Stable up to 6 hours after puncture.	<a href="#">Yes</a>
Viral Vector <i>How it works</i>	<b>Johnson &amp; Johnson</b> (Ad26.COV2.S)	<a href="#">Phase 3 (44,325)</a>	<a href="#">Submitted on Feb 4th/Results expected Mar 1</a>	<a href="#">66%</a>	Pending	<a href="#">72%</a>	<a href="#">66%</a>	<a href="#">100%</a>	No data	57% efficacy	No data	IM/ 1 dose	0 day <sup>6</sup>	MDV (5 doses)	2 years at -20°C and at least 3 months at 2-8°C. <sup>2,7</sup>	N/A	N/A	N/A
	<b>Oxford/AstraZeneca</b> (AZD1222)	<a href="#">Phase 3 (30,000)</a>	Not likely to receive authorization until April 2021	<a href="#">76%</a>	<a href="#">82%</a>	Pending	Pending	Pending	Pending	Pending	Pending	IM/ 2 doses	0, 28 days <sup>6</sup>	MDV (10 doses) <sup>6</sup>	Refrigerator (2-8°C) for up to 6 months **may be longer, pending stability testing	N/A	N/A	N/A
	<b>Merck (V591)</b>	<a href="#">Trial Discontinued 01/25</a>																
Protein Subunit <i>How it works</i>	<b>Novavax</b> (NVX-CoV2373)	<a href="#">Phase 3 (30,000)</a>	N/A	Not quantified	<a href="#">89.3% (95.6% if only measuring original COVID strain)</a>	Not quantified	Not quantified	Not quantified	<a href="#">85.60%</a>	<a href="#">60%</a>	N/A	IM/ 2 doses	0, 21 days <sup>5</sup>	MDV (10 doses)	* Refrigerator (2-8°C) up to 6 months * Room temp for 24 hours <sup>5</sup>	N/A	N/A	N/A
	<b>Sanofi Pasteur/GSK</b> (SCB-2019)6	On-hold (Prelim studies show lowered immune response in elderly. Study is halted to increase antigen concentration)	Expected in 2022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	IM/ 2 doses	0, 22 days <sup>3</sup>	N/A	Refrigerator (2-8°C), duration unknown	N/A	N/A	N/A
VLP + adjuvant <i>How it works</i>	<b>Medicago/GSK</b> (CoVLP)	<a href="#">Phase 2/3 (30,612)</a>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	IM/ 2 doses	0, 21 days	N/A	Refrigerator (2-8°C), duration unknown	N/A	N/A	N/A	

**Disclaimer**

The information contained in this vaccine informational sheet is emerging and rapidly evolving because of ongoing research and events and is subject to the professional judgment and interpretation of the practitioner due to the uniqueness of the needs of individual patients. ASHP provides this information to help practitioners better understand the current status of Covid-19 vaccine testing. ASHP has made reasonable efforts to ensure the accuracy and appropriateness of the information presented. However, any reader of this information is advised that ASHP is not responsible for the currency of the information, for any errors or omissions, and/or for any consequences arising from the use of the information for any purpose. Any reader of this document is cautioned that ASHP makes no representation, guarantee, or warranty, express or implied, as to the accuracy and appropriateness of the information contained in this vaccine information sheet and will bear no responsibility or liability for the results or consequences of its use.

**References**

- <https://www.defense.gov/Explore/Spotlight/Coronavirus/Operation-Warp-Speed/Operation-Warp-Speed-Timeline/>
- [https://www.vizientinc.com/-/media/documents/sitecorepublishingdocuments/public/vizient\\_covid\\_19\\_vaccine\\_tracker.pdf](https://www.vizientinc.com/-/media/documents/sitecorepublishingdocuments/public/vizient_covid_19_vaccine_tracker.pdf)
- <https://clinicaltrials.gov/>
- <http://ir.inovio.com/news-releases/news-releases-details/2020/NOVIO-Reports-FDA-Partial-Clinical-Hold-for-Planned-Phase-2-3-Trial-of-COVID-19-Vaccine-Candidate-INO-4800/default.aspx>
- <https://ir.novavax.com/news-releases/news-release-details/novavax-initiates-phase-3-efficacy-trial-covid-19-vaccine-united>
- [https://www.vizientinc.com/-/media/documents/sitecorepublishingdocuments/public/vizient\\_covid\\_19\\_vaccine\\_tracker.pdf](https://www.vizientinc.com/-/media/documents/sitecorepublishingdocuments/public/vizient_covid_19_vaccine_tracker.pdf)
- <https://www.jnj.com/johnson-johnson-initiates-pivotal-global-phase-3-clinical-trial-of-janssens-covid-19-vaccine-candidate>
- <https://br.reuters.com/article/us-health-coronavirus-vaccine-sinovac-idUSKBN25Y1QM>
- <http://ir.inovio.com/news-releases/news-releases-details/2020/NOVIO-Partners-with-Thermo-Fisher-to-Bolster-COVID-19-Vaccine-Supply-idUSKBN25Z1XS>
- <https://www.reuters.com/article/us-health-coronavirus-inovio-pharma/inovio-partners-with-thermo-fisher-to-bolster-covid-19-vaccine-supply-idUSKBN25Z1XS>
- <https://www.wbur.org/commonhealth/2020/10/29/moderna-vaccine-end-of-year>
- <https://investors.modernatx.com/news-releases/news-release-details/moderna-announces-longer-shelf-life-its-covid-19-vaccine>
- <https://www.medscape.com/viewarticle/940880>
- <https://www.biospace.com/article/warp-speed-head-slaoui-predicts-astrazeneca-vaccine-won-t-be-used-in-the-u-s-until-april/>
- <https://www.fiercepharma.com/pharma/jpm-j-j-hopes-to-share-phase-3-coronavirus-vaccine-data-very-soon-ceo-says>

**ASHP Statement**

ASHP will continue to advocate on behalf of our members and support COVID-19 vaccine planning efforts; a number of resources, including ASHP's Principles for COVID-19 Vaccine Distribution, Allocation, and Mass Immunization, are available on our COVID-19 vaccine page <https://www.ashp.org/COVID-19/Vaccines>



