

# COVID-19 Vaccine Candidates Information

Updated: 03/17/2021



Manufacturer	Vaccine Technology/Type	Storage Requirements	Doses	Handling + Administration	Efficacy	Timeline of Development	Fed Govt Contract
Pfizer/BioNTech	mRNA vaccine  2 dose series 21 days apart	Distributed at -80 to -60 °C and can be stored at this temperature until expiry date.  May be stored -25°C to -15°C for two weeks cumulatively with one return to -80 to -60 °C.  Stable for 5 hours: 2-8 °C  Stable for up to 30 days in shipping box if dry ice is maintained and 5 days after at 2-8 °C for a total of 35 days.	Original protocol for 5 doses/vial in protocol. <b>Changed to 6 doses per vial.</b>  <b>FDA advises to use all available doses, now considered 6 (may be able to get 7).</b>  Minimum order: 1024 doses (based on 5 doses per vial)	Mix with diluent on site.  <b>Once one vial removed from pizza box, the entire box is considered as having started to thaw.</b>  May be transported at -25°C to -15°C.	Reported 95% efficacy ( <a href="#">Press Release</a> )  Efficacy reduced towards UK and South African Variants ( <a href="#">Press Release</a> ).	<b>EUA granted Dec. 11, 2020.</b>  <b>Vaccination began Dec. 14, 2020</b>  January 2021 Pfizer completed enrolling children ages 12+ in Phase III trial. They hope for data by summer 2021 ( <a href="#">here</a> ).  Phase I clinical trial to investigate the safety and efficacy of a 3 <sup>rd</sup> booster shot of Pfizer COVID-19 vaccine began February 25, 2021 ( <a href="#">here</a> ).  Recruiting pregnant women for a Phase II/III trial ( <a href="#">here</a> ).	100 mil doses in original purchase.  Additional 100 mil purchased Dec.23, 2020 to have by July 2021.  120 million total by the end of March 2021 and another 180 million by the end of July.

<p><b>Moderna</b></p>	<p>mRNA vaccine</p> <p>2 dose series 28 days apart</p>	<p>Lasts for 6 months at -25°C to -15°C</p> <p>Can be stored for 30 days 2-8 °C prior to first use</p> <p>Good for 12 hours at 8-25°C</p> <p>Vaccine is viable for 6 hours once vial is pierced (<a href="#">Press Release</a>)</p>	<p>10 doses/vial</p> <p>Minimum order is 10 vials: 100 doses</p>	<p>No dilution or special handling on site.</p>	<p>Reported 94.1% efficacy (<a href="#">Press Release</a>)</p> <p>Efficacy reduced towards UK and South African Variants (<a href="#">Press Release</a>).</p>	<p><b>EUA granted Dec. 18, 2020.</b></p> <p><b>Vaccination began Dec. 21, 2020.</b></p> <p>March 10, 2021 began trial to evaluate a COVID-19 vaccine booster for the South African variant (<a href="#">here</a>).</p> <p>March 15, 2021 began Phase I trial for next generation COVID-19 vaccine mRNA-1283 (<a href="#">here</a>).</p> <p>March 16, 2021 first patients doses in Phase II/III clinical trial enrolling children aged 6 months to 12 years (<a href="#">here</a>).</p>	<p>100 mil doses in original purchase.</p> <p>Additional 100 mil purchased on Dec. 11, 2020 to have by July 2021.</p> <p>Total 100 million by the end of March 2021 and another 100 million by the end of July 2021.</p>
<p><b>Janssen (+ Johnson &amp; Johnson)</b></p>	<p>1 dose Adenovirus Vector based vaccine</p>	<p>Storage at 2-8 °C for up to three months</p>	<p>5 dose/vial of 0.5mL dose</p> <p>10 vials per carton, 48</p>	<p>No preservative in vial, no reconstitution</p>	<p>Reported 66% efficacy globally and 72% within the US. 85% effective in</p>	<p><b>EUA granted February 27, 2021.</b></p>	<p>20 million by the end of March, another 100</p>

		<p>After first use lasts for 6 hours at 2-8 °C</p> <p>Expected to remain stable for up to two years at -20° C.</p>	<p>cartons per shipper = <b>2400 doses per shipper</b></p> <p>Minimum order 100 doses.</p>	<p>required at site.</p> <p>Do not vigorously shake, but otherwise can handle driving on bumpy roads or being jostled.</p>	<p>preventing severe disease. These lower efficacies are attributed to the study being done while SARS-CoV-2 variants were predominant in study areas.</p>	<p><b>Vaccination began March 1, 2021.</b></p>	<p>million by the end of July</p>
<p><b>AstraZeneca and Oxford</b></p>	<p>Adenovirus Vector based, 2 doses</p>	<p>Storage at 2-8 °C for 6 months</p> <p>After first puncture, store up to 6 hours at room temperature or up to 48 hours at 2-8 °C</p>		<p>No dilution or reconstitution</p>	<p>90% reported for the group who received a half dose and then a full dose.</p> <p>60% reported for the group who received 2 full doses (read more <a href="#">here</a>)</p> <p>Feb 2, 2021: reported single dose 76% efficacy and after second dose given 12 weeks later was 82.4%. Data also suggests reduced transmission in addition to prevention of symptoms (<a href="#">here</a>)</p>	<p>A phase III trial in the US of 30,000 participants is expected to yield clarifying results on the best dose regimen.</p> <p><b>AstraZeneca expects data from US Phase III clinical trial to be available soon and file for EUA in April.</b></p> <p>Approved in UK, Argentina, Brazil, India, and COVAX. Use suspended in Germany, France, Italy, Norway, Denmark,</p>	<p>300 mil doses</p>

						Iceland, Netherlands.	
<b>NOVAVAX</b>	Protein-based vaccine candidate containing antigen derived from the coronavirus spike (S) protein.  2 dose series	Storage at 2-8 °C Handling at room temp: 25 °C Very stable under stress conditions, will utilize standard cold chain	10 doses/vial  Minimum order: assume 100 doses	Co-formulated with adjuvant. No mixing required.	Final analysis of UK trial confirms <b>96.4% efficacy against original COVID-19 and 86.3% against B.117 (UK) strain.</b> Complete analysis from Phase 2b trial in South Africa reports <b>55.4% efficacy against B1.351 strain.</b> Across both trials 100% protection against severe disease, hospitalization, and death ( <a href="#">here</a> ).	<b>Phase III trial in US began Dec. 28, 2020</b> with goal of enrolling 30,000 participants ( <a href="#">here</a> ).  Rolling Review with FDA going on now.  Novavax is hopeful to apply for EUA in May using UK data, otherwise EUA application will occur summer 2021 when the US Phase III trial ends.	110 million purchased by the US
<b>MEDICAGO</b>	Plant produced Coronavirus-Like Particle COVID-19 vaccine candidate (CoVLP) is composed of recombinant spike (S) glycoprotein expressed as virus-like particles (VLPs).	Stable at 4-8 °C	10 doses/vial  Minimum order: assume 100 doses	1 dose of product + 1 dose of adjuvant Mixed on site		Phase III trial began March 16, 2021 ( <a href="#">here</a> ).	

	2 dose series 21 days apart						
<b>INOVIO</b>	INO-4800 DNA vaccine (2-dose series)	Stable at 25 °C for >1 year, 37 °C for >2 months In buffer, 2-8 °C for >5 years	10 doses/vial  Minimum order: assume 100 doses	CELLECTRA hand-held smart device uses electrical pulse to deliver vaccine  <b>FDA approval of CELLECTRA device continues to delay start of Phase II/III clinical trial</b>		Phase 1 data published on June 30, 2020.  <b>Phase II clinical trial started Dec. 2020.</b>  Phase III trial began by the end of the second quarter of 2021	
<b>Sanofi Pasteur + GlaxoSmithKline</b>	recombinant protein adjuvanted vaccine (2 dose series)	Storage 2-8 °C for product and adjuvant  Administration: 25 °C	10 doses of product/vial 10 doses adjuvant/vial  Minimum order: assume 100 doses	Recombinant vaccine product + adjuvant  Mixed on site.		Began Phase I/II on Sept. 3, 2020.  <b>Disappointing phase I/II results, Phase 2b trial with modified vaccine product began February 22, 2021 (<a href="#">here</a>).</b>	100 mil doses  + optional purchase of 500 mil doses
<b>Sanofi Pasteur + TranslateBio</b>	mRNA vaccine MRT5500  1 or 2-dose series, 21 days apart being evaluated	Storage at -20 °C	Minimum order: assume 100 doses			Phase I/II trial initiated March 12, 2021 ( <a href="#">here</a> ).	
<b>MERCK + IAVI (V590)</b>						<b>DISCONTINUED</b>	
<b>MERCK #2 (V591)</b>						<b>DISCONTINUED</b>	

Sources:

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