

Company	Type of Vaccine	Cell Line Used in Design/Development	Cell Line Used in Production	Cell Line Used in Testing
<b>Altimmune</b>	Replication-deficient adenovirus vector	PER.C6 Line	PER.C6 line	--
<b>AstraZeneca/ University of Oxford</b>	Replication-deficient adenovirus vector	HEK293 cells	HEK293 cells	--
<b>Janssen Research/Johnson &amp; Johnson</b>	Replication-deficient adenovirus vector	PER.C6 Line	PER.C6 line	--
<b>Vaxart</b>	Replication-deficient adenovirus vector	HEK293 cells	HEK293 cells	--
<b>Novovax</b>	Protein vaccine Baculovirus expression plus Matric M adjuvant	Ethical	Ethical/sf9 insect cells	HEK293 cells
<b>University of Pittsburgh</b>	Protein vaccine adenovirus-expressed recombinant proteins	HEK293 cells	HEK293 cells	--
<b>Moderna</b>	mRNA vaccine non-replicating	Sequence designed on computer	No cell line used	HEK293 cells
<b>Pfizer and BioNTech</b>	mRNA vaccine non-replicating	Sequence designed on computer	No cell line used	HEK293 cells
<b>Sanofi Pasteur/ Translate Bio</b>	mRNA vaccine non-replicating	Sequence designed on computer	No cell line used	HEK293 cells
<b>Inovio Pharmaceuticals</b>	DNA vaccine	Sequence designed on computer	No cell line used	HEK293 cells
<b>Arcturus Therapeutics</b>	mRNA vaccine self-transcribing and replicating	Sequence designed on computer	No cell line used	HEK293 cells