



### **Sanofi Pasteur Sars-CoV – insect cells**

<https://www.hhs.gov/about/news/2020/02/18/hhs-engages-sanofis-recombinant-technology-for-2019-novel-coronavirus-vaccine.html>

**And**

<https://www.precisionvaccinations.com/sanofi-pasteur%20will-deploy-its-recombinant-dna-platform-produce-recombinant-2019-novel-coronavirus>

### **Sanofi Partners with GSK**

**Insect cells and AS03 adjuvant**

<https://www.wsj.com/articles/glaxosmithkline-sanofi-team-up-for-coronavirus-vaccine-11586875480?mod=lead> feature below a post

### **Codagenix and Serum Institute**

**CDX-CoV – Uses Vero Cells**

<https://patents.google.com/patent/US20190233476>

[A1/en?assignee=codagenix&oq=codagenix](https://patents.google.com/patent/US20190233476)

**[0144] Materials and Methods**

### **Symvivo**

**Uses e-Coli and Bifidobacterium**

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi/html%2FPTO%2Fsearch-bool.html&r=2&f=G&l=50&co1=AND&d=PTXT&s1=symvivo&OS=symvivo&RS=symvivo>

### **JPII Medical Research Inst. And CET (Cellular Engineering Technology)**

Uses stem cell from postnatal placental tissue

<https://www.jp2mri.org/>

### **Sinovac Biotech**

**PiCoVacc – Uses Vero Cells**

<https://www.news-medical.net/news/20200421/PiCoVacc-vaccine-candidate-for-COVID-19-effective-in-animal-trials.aspx>

### **Merck and IAVI**

**Using Merck's Ervebo (Ebola Vaccine) Platform**

**Uses Vero cells**

<https://www.businesswire.com/news/home/20200526005274/en/>

### **The University of Oxford**

**Vaccine candidate: ChAdOx1 and AZD1222**

**Uses HEK-293 cells.**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5516308/>

**And**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3396660/>

**And partnership with Merck Germany:**

<https://www.prnewswire.com/in/news-releases/merck-supports-jenner-institute-to-reach-first-milestone-in-covid-19-vaccine-manufacturing-891225678.html>

**With AstraZeneca AZD1222 – HALTED DUE TO ADVERSE REACTIONS IN TRIALS**

<https://www.astrazeneca.com/content/astraz/media-centre/press-releases/2020/astrazeneca-and-oxford-university-announce-landmark-agreement-for-covid-19-vaccine.html>

**And vaccine name change:**

<https://www.precisionvaccinations.com/vaccines/azd1222-sars-cov-2-vaccine>

### **CanSino Biologics**

**Vaccine candidate: Ad5-nCoV**

<http://www.cansinotech.com/html/1///179/180/408.html>

**Using HEK 293 cells (See page 25)**

[http://www.jshealth.com/jgz/zjg/ymlcpjs/ymlcpjs\\_gzdt/201612/W020161214426550507006.pdf](http://www.jshealth.com/jgz/zjg/ymlcpjs/ymlcpjs_gzdt/201612/W020161214426550507006.pdf)

### **University of Pittsburgh**

**Using HEK-293**

<https://pittsburgh.cbslocal.com/2020/04/02/university-of-pittsburgh-medical-school-coronavirus-potential-vaccine-unveiled/>

**Linked in the article: Materials and Methods**

[https://www.thelancet.com/pdfs/journals/ebiom/PIIS2352-3964\(20\)30118-3.pdf](https://www.thelancet.com/pdfs/journals/ebiom/PIIS2352-3964(20)30118-3.pdf)

### **Massachusetts Eye and Ear**

**Using HEK-293 AAV Covid Adenovirus vector**

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi/html%2FPTO%2Fsearch-bool.html&r=12&f=G&l=50&co1=AND&d=PTXT&s1=Vandenbergh&OS=Vandenbergh&RS=Vandenbergh>

## **Regeneron – Sanofi**

Treatment for Covid-19

**Kevzara – Uses Blood donor and Chinese**

**Hamster Ovary (CHO cells**

**Package insert:**

<http://products.sanofi.us/Kevzara/Kevzara.pdf>

And Patent:

<https://patents.google.com/patent/US8080248B2/en>

## **Athersys – Multistem - Treatment**

**Uses Bone Marrow Adult Stem Cells**

<https://seekingalpha.com/article/4332788-athersys-now-in-play-for-covidminus-19-fda-fast-tracked-therapy-for-ards>

## **BioNTech and Pfizer**

**Uses K562 cells in protein expression;**

**Patent No. 10,669,322**

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahhtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=10,669,322.PN.&OS=PN/10,669,322&RS=PN/10,669,322>

**NOTE: Tested on HEK-293; not in the product**

<https://www.biorxiv.org/content/10.1101/2020.09.08.280818v1.full.pdf>

## **Institute of Microbiology, Chinese Academy of Sciences, Zhifei Longcom**

**RBD-Dimer Uses Chinese Hamster Ovary cells**

<https://theprint.in/health/cansino-moderna-novavax-a-list-of-covid-vaccines-under-clinical-trials-across-the-world/454051/>

## **Medicago/GSK/Dynavax**

**Uses VLPs produced in plant cells (CoVLP)**

<https://www.ctvnews.ca/health/coronavirus/the-hunt-for-a-vaccine-canadian-company-begins-human-testing-of-covid-19-candidate-1.5022960>

**And with GSK adjuvant**

<https://www.medicago.com/en/newsroom/gsk-and-medicago-announce-collaboration-to-develop-a-novel-adjuvanted-covid-19-candidate-vaccine/>

## **Curevac**

**mRNA uses patients muscle cells to build antibody; imitates the natural viral infection and activates our own immune defense system.**

<https://www.curevac.com/covid-19>

## **Regeneron**

**Antibody Treatment for Covid-19**

**REGN-CoV2 – Uses Blood donor and Chinese**

**Hamster Ovary (CHO) in the product**

**Used HEK-293 to develop Spike Protein and in testing**

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahhtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=10,787,501.PN.&OS=PN/10,787,501&RS=PN/10,787,501>

**And**

[https://science.sciencemag.org/content/sci/suppl/2020/06/15/science.abd0831.DC1/abd0831\\_Baum\\_SM.pdf](https://science.sciencemag.org/content/sci/suppl/2020/06/15/science.abd0831.DC1/abd0831_Baum_SM.pdf)

## **Inovio Pharmaceuticals**

**Vaccine candidate: INO-4800**

**Uses HEK-293 cells in MERS-HCoV Platform**

**Patent no. 10,548,971 Feb 4, 2020**

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahhtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=10,548,971.PN.&OS=PN/10,548,971&RS=PN/10,548,971>

## **Altimmune**

**Based on intranasal vaccine proprietary technology; Uses PER.C6**

<https://www.globenewswire.com/news-release/2020/02/28/1992600/0/en/Altimmune-Completes-First-Development-Milestone-Toward-a-Single-Dose-Intranasal-COVID-19-Vaccine.html>

**And Patent:**

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahhtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=10,183,069.PN.&OS=PN/10,183,069&RS=PN/10,183,069>

## **Vaxart VXA-CoV2-1**

**AD5 vector patent – HEK-293**

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahhtml%2FPTO%2Fsearch-bool.html&r=9&f=G&l=50&co1=AND&d=PTXT&s1=vaxart&OS=vaxart&RS=vaxart>