

## Industry Partnerships on COVID-19 Vaccines, Therapeutics and Diagnostics

### Vaccines

- **AstraZeneca**
  - AstraZeneca reached a licensing and technology transfer agreement with Serum Institute of India to supply one billion doses to low and middle-income countries ([press release](#))
  - Emergent BioSolutions, Daiichi Sankyo to expand manufacturing of AZ's vaccine ([Emergent BioSolutions press release](#)) ([Daiichi press release](#))
  - AstraZeneca also reached a \$750m agreement with CEPI and Gavi to support the manufacturing, procurement and distribution of 300 million doses of the vaccine. ([press release](#))
- **Biovac** (South Africa) – multiple companies and COVAX. ([press release](#))
- **CureVac**
  - GlaxoSmithKline plc and CureVac N.V. announced a new €150m collaboration, building on their existing relationship, to jointly develop next generation mRNA vaccines for COVID-19 with the potential for a multi-valent approach to address multiple emerging variants in one vaccine. ([press release](#))
  - Rentschler Biopharma SE will manufacture CureVac's vaccine. ([press release](#))
  - Bayer will support the further development, supply and key territory operations of CureVac's vaccine candidate. ([press release](#))
  - Fareva will dedicate a manufacturing plant in France to the fill and finish of CureVac's vaccine. ([press release](#))
  - Wacker Chemie AG will manufacture CureVac's vaccine candidate at its Amsterdam site. ([press release](#))
  - CureVac will collaborate with Tesla Grohmann Automation to develop an RNA printer that works like a mini-factory and can produce such drugs automatically. ([press release](#))
- **Geovax** – collaboration with BravoVax (Wuhan, China) on development of COVID vaccine ([press release](#))
- **Inovio Inc.**
  - Inovio has partnered with Kaneka Eurogentec (Japan), Thermo Fisher Scientific (USA), Richter-Helm BioLogics (Hungary) and Ology Biosciences (USA) to help manufacture their vaccine candidate. ([Kaneka press release](#)) ([Thermo Fischer press release](#)) ([Ology press release](#))
  - Inovio collaborates with Beijing Advaccine (Chinese company) to facilitate clinical trial translations in China ([press release](#))
- **Johnson & Johnson**
  - J&J partnered with Aspen Institute, Emergent biosolutions in South Africa to manufacture their vaccine. ([Aspen press release](#)) ([Emergent press release](#))
- **Medicago**
  - Medicago has partnered with GSK to develop and evaluate a COVID-19 candidate vaccine combining Medicago's recombinant Coronavirus Virus-Like Particles (CoVLP) with GSK's pandemic adjuvant system. ([press release](#))

- Medicago partnered with Dynavax to evaluate Medicago's Coronavirus Virus-Like Particle (CoVLP) with Dynavax's CpG 1018 adjuvant to support the rapid development of a COVID-19 vaccine candidate. ([press release](#))
- **Moderna**
  - Moderna collaborates with Catalent for vial filling and packaging capacity ([press release](#))
  - Lonza's site in Valais, Switzerland, will manufacture Moderna's vaccine ([press release](#))
  - Recipharm will support formulation and fill-finish for Moderna's vaccine at their site in France. ([press release](#))
  - Laboratorios Farmacéuticos Rovi will support large-scale, commercial fill-finish manufacturing of Moderna's vaccine at their site in Madrid, Spain. ([press release](#))
  - CordenPharma will manufacture large-scale volumes of Moderna's lipid excipients to be used in the manufacture of Moderna's vaccine. ([press release](#))
- **Novavax**
  - Novavax partners with SK Bioscience of South Korea to manufacture Novavax's protein antigen, supply of Matrix MTM adjuvant, and support to SK Bioscience as needed to secure regulatory approval. ([press release](#))
  - Biologics Manufacturing Centre of Canada is partnered with Novavax to produce its vaccine. ([press release](#))
  - FUJIFILM Diosynth Biotechnologies will produce bulk drug substance of NVX-CoV2373, Novavax' vaccine candidate. ([press release](#))
  - Baxter International Inc will provide sterile manufacturing services for NVX-CoV2373, Novavax' COVID-19 recombinant nanoparticle vaccine candidate with Matrix-M™ adjuvant. ([press release](#))
  - Novavax collaborates with Takeda for local production and commercialization of Novavax' vaccine in Japan ([press release](#))
  - AGC Biologics is preparing to manufacture Matrix-M™, the adjuvant component<sup>\*2</sup> of Novavax' COVID-19 vaccine candidate, NVX-CoV2373 in its Copenhagen facility. ([press release](#))
  - Novavax bought a Czech company (Praha Vaccines) to further expand COVID-19 manufacturing capacity ([press release](#))
  - Novavax partnered with Serum Institute of India, increasing Novavax' global production capacity to over 2 billion doses annually. Novavax committed 1 billion doses to COVAX made possible through their partnership with the Serum Institute of India. ([press release](#))
- **Pfizer - BioNTech** co-developed COVID-19 vaccine ([press release](#))
  - In order to scale up manufacturing as quickly as possible, the companies have entered multiple manufacturing agreements with Sanofi, Novartis, and Fosun Pharma. ([Sanofi press release](#)) ([Novartis press release](#)) ([Fosun press release](#))
- **Tonix Pharmaceuticals** - FUJIFILM Diosynth Biotechnologies to manufacture Tonix's vaccine. Collaboration includes development of manufacturing processes and supply of clinical trial material to support Tonix's development of TNX-1800 ([press release](#))
- **Valneva** – Dynavax to produce adjuvant for Valneva vaccine ([press release](#))

### Therapeutics/Diagnostics Partnerships



- **Eli Lilly**
  - Collaboration with Samsung BioLogics' to mass produce Lilly's COVID-19 antibody therapies. Lilly hopes to make up to 1 million doses this year and many more in 2021 ([press release](#) and [here](#))
  - Manufacturing collaboration with Amgen for COVID-19 antibody therapies ([press release](#))
- **Avacta** – BBI Solutions (based in South Wales, UK) to manufacture Avacta's saliva-based rapid SARS-CoV-2 antigen test, that is being developed by Affimer® biotherapeutics and reagents developer Avacta Group plc in conjunction with Cytiva ([press release](#))
- **BeiGene** – collaboration with Singlomics (China) and Peking University for the use of monoclonal antibodies (mAbs) against COVID-19 ([press release](#); a more scientific, but good, article is available [here](#))
- **Vir Biotechnology** -collaboration with GlaxoSmithKline (UK) on monoclonal antibody (mAbs) treatment for COVID-19 ([press release](#))