

## HOW THE SPANISH BIOTECHNOLOGY IS FIGHTING COVID-19

- **The Spanish Association of Biotechnological Companies (AseBio) gathers the work of its partners in a year of pandemic.**
- **At least 64 AseBio partners, such as companies, hospitals, and research centres, are working on 127 solutions to put an end to SARS-CoV-2.**
- **In just over a year, they have been working on 7 vaccines, 47 diagnostic tests and 50 treatments, among others.**

**Madrid, March 12, 2021.-** This Sunday marks one year since the Spanish government declared the state of alarm throughout the country over Covid-19. During this health emergency, biotechnology was considered an essential activity and companies have been running against time to find a solution to this pandemic that, today, has claimed at least 2.6 million lives worldwide. 64 *AseBio* partners, such as companies, hospitals, and research centres, are developing 127 products, which include vaccines, diagnostic solutions, detection and prediction systems and treatments, to try to control Sars-CoV-2. Here are some examples.

### **Vaccine, the long-awaited solution**

The biggest word after a year of pandemic is "vaccine". According to the Ministry of Health, five million vaccinations were administered approximately in Spain until March 11. Five Spanish institutions partners of *AseBio* want to join in that strategy by working on the preparation of a new vaccine together with existing ones from *Moderna*, *Pfizer* and *AstraZeneca*. *CSIC-CNB* has currently two different open research lines: non-infectious replicons and the non-infectious MVA vector expressing different viral antigens.

Other companies are betting on disruptive technology. *Algenex* produces vaccine proteins on a large scale, using cabbage caterpillar pupae as natural bioreactors and production tools. Thanks to *CrisBio*® technology, it enables an efficient, fast and cost-effective vaccine production with a production capacity up to 100 million vaccine doses. Other companies have decided to test existing products, like *Archivel Farma*. The RUTI tuberculosis vaccine will be tested to increase the immunity of healthcare professionals exposed to the risk of COVID-19.



BIOSPAIN 2021, Biotech sector's benchmark event, will take place in Navarra, which is also working on the fight against the crisis. *InnoUp Farma*, in collaboration with the University of Navarra, is currently preparing an oral vaccine for SARS-CoV-2 based on nanoparticles. *InnoUp's* technology makes it possible to introduce a specific substance into nanoparticles so that it can act as a vaccine. In addition, *3P Biopharmaceuticals*, together with *France's Osivax*, is collaborating on the preparation of a Covid-19 vaccine candidate called OXO-CoV.

Industrial production lines like filling and packaging are also part of the vaccines production. *BIOFABRI* signed up an agreement with the American company *Novavax* (USA), to oversee their industrial production of vaccine antigen. *mAbxience* with *AstraZeneca* and the University of Oxford signed up another agreement for the filling and packaging of vaccine vials. Finally, *Reig Jofre* will transfer technology to produce the vaccine candidate of *Johnson & Johnson's Janssen Pharmaceutical Companies*, approved by the European Union on Thursday. It would be the fourth vaccine to reach the European market and the first single-dose vaccine.

### **New diagnostic, detection, and predictive tests**

The good detection of the virus and the quality of diagnostic tests are a key value of this global pandemic. There are almost 30 products available for consumers that *AseBio's* partners implemented in the last 12 months because of several collaborations.

*CSIC* and *Immunostep* brought up to market a kit for the precise detection and qualitative measurement of IgG or IgA antibodies and a multi-antigen test for IgG+IgA. The former has a reliability of almost 100%. *Biolan Health*, with the collaboration of *CICbioGune* and *BRTA*, have managed to transform a prototype into a product that has reached the market in recent weeks: a test capable of detecting neutralising antibodies, a crucial tool for analysing the evolution of the virus and the effectiveness of vaccines.

*Ingenasa* has four types of kits available to determine the presence of SARS-CoV-2 antibodies in blood and serum samples. *Genómica*, a company specialized in molecular diagnostics and genetic identification, has three other types of diagnostic kits available: two of them can differentiate the diagnosis of SARS-CoV-2, Influenza A, Influenza B and Human Respiratory Syncytial Virus (RSV).

The fight against the coronavirus also takes place in the environment and *AseBio's* partners are aware of this. For example, the *AINIA Technology Centre* has an analytical service to detect its presence in wastewater. In this way, an increase in the incidence in a population can be



identified in advance. For its part, *Ingenasa* has different kits to detect the virus on surfaces, in the environment and in foodstuffs.

Other *AseBio* partners, like *Nostrum Biodiscovery* and *Fundación Medina*, have decided to develop tools to predict the evolution of future pandemics, the disease, and the response to treatments.

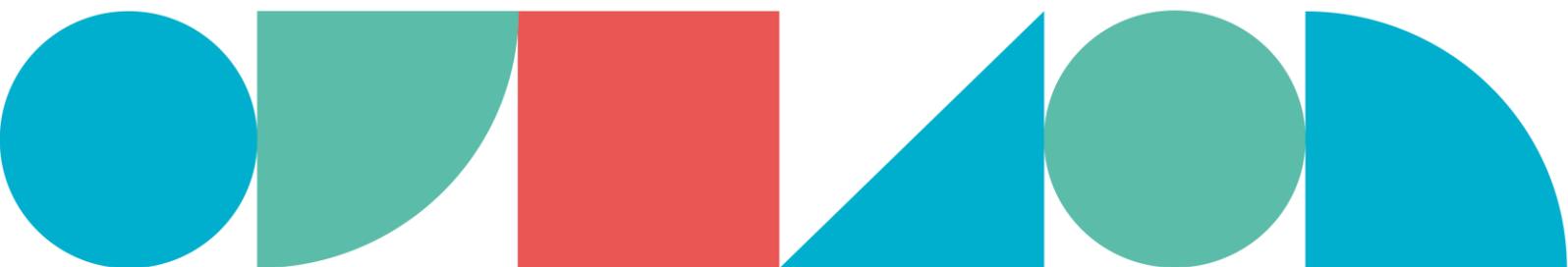
### **Treating the disease**

Once detected, the disease must be treated. Pharmaceutical companies have reinvented themselves this year and have embarked on projects with lack of information, nor planning or schedule, and the fear of not delivering on time. *Pharmamar* aims to treat patients with Covid-19 thanks to the APLICOV-PC clinical trial with Aplidin® and is currently in Phase III, which is very encouraging.

In addition, *Grifols*, *Advanced Research Development Authority (BARDA)*, the *Food and Drug Administration (FDA)*, the *NIH/NIAID*, *Emergent BioSolutions*, *CSL Behring* and *Takeda Pharmaceutical*, are participating in the ITAC study to determine how the administration of anti-coronavirus hyperimmune immunoglobulin at the onset of symptoms can increase the patient's antibody response to the virus, by reducing the risk of severe disease and mortality. *Palobiofarma*, a company from Navarra and sponsor of BIOSPAIN 2021, is looking for new drugs such as inhibitors of the ACE2 enzyme, which is the protein responsible for the binding of the SARS-CoV-2 virus to lung cells.

*Histocell*, with Hospital de Cruces and Hospital Universitario Fundación Jiménez Díaz, are conducting a clinical trial of the cell therapy drug HC016 for acute lung injury in COVID-19 patients. *Laboratorios Rubió* is collaborating with Trias i Pujol University Hospital and the Fundación de Lucha contra el SIDA (Spain), to conduct the pioneering clinical trial to reduce the transmission of COVID-19 with Dolquine, whose active ingredient is hydroxychloroquine.

Many of these milestones will be presented at the tenth edition of BIOSPAIN. This benchmark event in the Spanish and international biotechnology sector, will be held from September 27 to October 1, 2021, virtually and on-site at the Palacio de Congresos y Auditorio de Navarra-Baluart in Pamplona in collaboration with the Government of Navarra and *Sodena*, Navarra's development company.



→ For more details, check the attached list and this [link](#) to our website.  
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### What is AseBio

AseBio brings together 270 entities representing the Spanish biotechnology sector. Our mission is to lead the transformation of the country, positioning science, innovation and especially biotechnology as an engine of economic growth and social welfare. Our members include companies, associations, foundations, universities, technology and research centres that develop their activities based on the biotechnology in Spain.

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