

In the context of the eleventh edition of BIOSPAIN

## The biotechnology industry has become a key player in the fight against antimicrobial resistance and the approach to rare diseases

- The sector has radically transformed the discovery of new drugs and therapeutic solutions.
- Worldwide, there are over 300 approved medications for approximately 250 indications and a thousand molecules in various stages of research.
- Biotechnological development is opening new horizons in the field of mental health.

**Barcelona, September 27, 2023** - With over 300 approved medications for approximately 250 indications, and a thousand molecules in various stages of research aimed at discovering new therapeutic active principles or new applications for existing ones, biotechnology is setting the pace for the medicine of the future. It is becoming a key player in the fight against major healthcare challenges that the world faces, such as antimicrobial resistance, rare diseases, and mental health disorders.

This has been highlighted during the International Biotechnology Meeting BIOSPAIN 2023, taking place from September 26 to 28 at the Fira de Barcelona - Montjuïc, organized by the Spanish Association of Biotechnology Companies (AseBio), in collaboration with Biocat, the Barcelona City Council, and the Government of Catalonia.

In fact, it was during the coronavirus pandemic that the importance of biotechnology in the healthcare world became most evident, thanks to the development of messenger RNA vaccines, which have left an unprecedented technological legacy for diseases like cancer and for others, such as rare diseases, that lack effective treatments.

### The Drug Discovery Strategy

It is precisely in the field of rare diseases where the biotechnology industry is gaining greater prominence, as highlighted during the session 'Drug discovery for rare diseases: bringing new hope to patients,' emphasizing the importance of the Drug Discovery strategy. This strategy is based on the idea that drugs already approved or in advanced development can be an effective therapy for certain rare diseases.

"This strategy can provide potential treatment for rare diseases and reduce the costs of clinical development studies, as these drugs are safe since they have been approved by the American (FDA) and European (EMA) drug agencies," reported Francesc Fernández Albert, Data Science Director at Amirall.

Additionally, the conference demonstrated the utility of using lentiviral vectors for the development of gene and genetically modified cell therapies, which can also be effective in treating rare diseases. In particular, as explained by Gurutz Linazasoro, CEO of VIVEbiotech, during the session 'Lentiviral vectors for gene and gene-modified cell therapies,' lentiviral vectors are increasingly being used to deliver genetic material and have become a pharmaceutical product in their own right.

"Lentiviral vectors have the biological peculiarity of integrating into the genome of cells. For this reason, they are the ideal vehicle for gene therapies aimed at treating oncohematological diseases (CART therapies that have revolutionized the treatment of leukemias, lymphomas, and myelomas with very positive results) and some rare diseases," detailed Linazasoro.

## Combating Antimicrobial Resistance

Antibiotic resistance is another healthcare challenge that the biotechnology sector is providing solutions for. It is, as declared by the World Health Organization (WHO), one of the top 10 threats to public health faced by humanity, responsible for approximately 700,000 deaths worldwide each year.

Furthermore, according to data from the United Nations Interagency Coordination Group on Antimicrobial Resistance, drug-resistant diseases could cause more than 10 million deaths by the year 2050. Regarding this, Cristina Nadal, Executive Director of Policy at MSD Spain, emphasized during the moderation of the session 'From lab to patients: New Solutions to Fight AMR' the importance of promoting research to facilitate the development of new therapeutic options to prevent and treat various types of infections. She also stressed the need to continue awareness and public education campaigns on this issue, as one of the primary drivers of the spread of resistant microorganisms is the incorrect use of these drugs. "Collaborative work among all healthcare stakeholders, both public and private, is key. The innovative pharmaceutical industry is committed and is working to find solutions," she added.

## Transformation of Mental Health Approaches

The conference also highlighted the leadership role that biotechnology is playing in the transformation of mental health, both in identifying biomarkers and in the development of selective molecular therapies, imaging technologies, and electrophysiology.

"The advancement of studies involving large populations and omics technologies will gradually allow the identification of higher-quality biomarkers to guide the development of more targeted drugs. At the same time, advances in imaging and electrophysiology technologies will progressively allow for the more precise identification of affected areas of the brain and, in turn, the measurement of their functional recovery resulting from drug treatment or the grafting of nano-implants," explained Carlos Buesa, CEO of Oryzon, during the session 'Mental Health and Personalized Medicine.'

However, Buesa acknowledged the challenges in developing innovative drugs in the field of mental health, such as limited knowledge of the molecular basis of the disease, the heterogeneity of clinical symptoms, and rudimentary preclinical models of mental disorders, among others.

"Nevertheless, biotechnology is guiding the transformation of the approach to these diseases, and its union with bioengineering will enable the development of nano-implants that will improve the electrophysiology of specific areas of our brain," concluded the CEO of Oryzon.

## 'AseBio Journalism Awards'

BIOSPAIN 2023 has reintroduced the 'AseBio Journalism Awards,' open to all journalists who have produced a piece on one of the program's topics, such as agri-food, industrial transformation, health, or financing, among others. Candidates and media outlets interested in participating can consult the competition rules [here](#) and submit their works to [ajimenez@asebio.com](mailto:ajimenez@asebio.com). The names of the winners will be announced through the association's communication channels, and the awards will be presented at a ceremony in November.

### About AseBio

AseBio brings together 300 entities and represents the entire Spanish biotechnology sector. Its mission is to lead the transformation of the country by positioning science, innovation, and especially biotechnology as drivers of economic growth and social well-being. Among its members are companies, associations, foundations, universities, technology centers, and research institutions that directly or indirectly engage in biotechnology-related activities in Spain.

### About Biocat

Biocat is the institution that promotes the life sciences and health ecosystem in Catalonia and works to maximize its economic and social impact. Biocat focuses its strategy on positioning the BioRegion of Catalonia as one of the main European hubs, providing innovative capacity to researchers and professionals through programs to enhance talent and entrepreneurship. It accelerates technology transfer and business growth by supporting technology transfer offices (OTRIs) and startups, fostering the attraction of investors and investment in the ecosystem. Established in 2006 by the Government of Catalonia and the Barcelona City Council, Biocat also drives far-reaching strategic policies and projects aimed at enhancing the country's competitiveness.

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