

Biopôle Lausanne: the campus where immunology scales up

A glimpse behind the community model that enables company development and inter-organisational collaboration and innovation.

BY NASRI NAHAS, CEO BIOPÔLE SA

Shaping new products, designing new efficient immunotherapies, introducing nutritional goods to cancer research... these are just few of the inspiring business projects that visitors will find at Biopôle Lausanne. They all attempt to foster research in life sciences and quickly turn it into solutions for patients.

At Biopôle Lausanne, life sciences companies and academic institutions cover, among other things, the vast field of immunology, with an emphasis on vaccines, antibodies, cell therapies and immune modulators. Leading companies include ADC Therapeutics, Novigenix, Anergis, Mymetics, Gnubiotics and Abionic (see box). Though immuno-oncology represents one of the most important research fields at Biopôle, our community members' expertise spans an impressive number of therapeutic areas, fostering increased exchange and cross-fertilisation of ideas. Further, our corporate and academic members are increasingly aware of the need to act as a community to make a difference. Not only do they share costs including access to core facilities, technology platforms and discounted service offers, but, in particular, they also actively build synergies and long-lasting partnerships.

Multi-discipline to serve innovation
Thanks to the presence of leading research institutes, a lively life sciences industry and a growing portfolio of start-ups, the Health Valley and particularly the Canton of Vaud are a playground for life sciences. Biopôle is at the epicentre of this dynamic region and mirrors the diversity of its stakeholders. Additionally, the campus fosters inter-organisational collaboration that encourages members to



Nasri Nahas believes in innovation through exchange, experience sharing and proximity.

learn from each other and come up with novel out-of-the-box solutions. The more pairs of eyes you have looking at a problem, the better the chances of a solution. Because of this community model, whose strength lies in the network, companies can not only develop common business and research projects but, most importantly, can seamlessly liaise to share key learnings and insights.

Access to potential business and research partners
One of the most important features when getting established on campus and becoming a member of the Biopôle community is the access to the privileged network of industry and academic members of the community.

“Lausanne is the vibrant and growing place to be for innovation in life sciences”

This is easy because of the proximity on site and participation in a variety of networking events organised to help the community stay in touch. We like to think of our role at Biopôle as the enablers of these exchanges and we put a lot of effort into constantly developing additional networking venues, programmes and events to share and challenge research and business insights.

In 2018 two Biopôle companies in the field of immunology, Mymetics Corporation and Anergis, entered into a research collaboration project. The pre-clinical study programme, planned to last until the end of 2019, will evaluate the immunogenicity profile of the Anergis peptides which are designed to treat birch allergy when presented on Mymetics' proprietary virosomes, and will compare the results to Anergis' AllerT product combination. This collaboration perfectly illustrates the community spirit present at Biopôle Lausanne.

In addition, we are especially proud to host leading academic institutes and research groups including the Department of Oncology of the University Hospital of Canton Vaud (CHUV), the Centre of Infection and Immunity (CIIL) of the University of Lausanne and the Ludwig Institute for Cancer Research. In addition, we are near the CHUV medical centre, the Swiss Cancer Centre Léman and the Swiss Federal Institute of Technology (EPFL). The presence of the research laboratories of the Faculty of Biology and Medicine of the University of Lausanne provides opportunities for community members to work near academic and clinical folks, their discoveries and their research platforms.

Start-ups have a place to experiment and grow
The Swiss Biotech Report 2018 states that while Basel maintains its position as leader for big established pharmaceutical companies, Lausanne is “the” vibrant and growing place to be for innovation in life sciences. This is due, among other things, to a high concentration of start-ups, a unique educational offer in the region, second-to-none infrastructure invested in by the Canton of Vaud and a plethora of supporting institutions and partners. In Switzerland, a serious life

PHOTOS: DR



Aerial view of Biopôle Lausanne, the growing urban life sciences campus overlooking lake Geneva.

neurs are not only coached and accompanied by seasoned entrepreneurs, but can grow and experiment in a safe context while focusing purely on their own business and research. The incubator is physically located at the centre of the Biopôle Campus and allows full integration of the entrepreneurs into the Biopôle community.

Digital is the new black

After several years attending conferences on the consequences of the digital revolution, it was time to act and create a hub where digitalisation in life sciences can shape future developments. The Biopôle Digital Health Hub gathers together innovative companies that integrate digital technologies into the life sciences sector. With different sectors of operations, it represents a reference for digital integration for the community and a leading think tank to raise awareness in the digital health field. For example, immunology-oriented companies can profit from the experience of the companies working at the Digital Health Hub to fully integrate digital products into their research, patient centricity and business models.

sciences company can reasonably raise up to 1 million CHF in seed funding. Yet we are all aware of the high level of investment needed to build a laboratory and how discouraging this can be for entrepreneurs who are then often left with the option of staying in their academic laboratories instead of developing their ideas in entrepreneurial set-ups. To create a comprehensive offer to life sciences companies in the Canton of Vaud, Biopôle decided to close the loop and introduce

Startlab, an incubator exclusively dedicated to life sciences. How does it differ from the others? Startlab is based on a flexible pay-as-you-play model where all the initial investments have been taken over by Biopôle, thus transforming the majority of our incubated start-ups' fixed costs into variable costs. Start-ups are thus enabled to better allocate their resources and grow in a thriving and inspiring life sciences ecosystem. Meanwhile, investors are reassured that the entrepre-

HOW SOME COMPANIES AT BIOPÔLE LAUSANNE COVER DIFFERENT IMMUNOLOGY AREAS

	abionic	ADC THERAPEUTICS	Anergis	glenmark	GNUBIOTICS SCIENCES	MYMETICS	novigenix
COMPANIES	ABIONIC develops a technology that uses the properties of adsorbed immunoglobulins to specifically recognize biomarkers present in a drop of blood in a nanofluidic setting.	ADC Therapeutics employs monoclonal antibodies specific to tumour antigens conjugated to a novel class of highly potent pyrrolbenzodiazepine (PBD)-based warheads to selectively kill cancer cells.	ANERGIS has developed a set of specific protein fragments that rapidly desensitizes the body towards allergens by efficiently down-regulating exaggerated immune response.	GLENMARK develops bispecific antibodies that help immune cells to get in contact with cancer cells to better fight them. These antibodies are currently tested for breast cancer, myeloma and colorectal cancer.	GNUBIOTICS has developed a set of sugars that specifically feed the good bacteria present in the gut while starving the bad ones, subsequently reinforcing the immune system.	MYMETICS uses modified viral shells to stimulate the immune system without triggering infection as a novel vehicle for vaccination.	Thanks to NOVIGENIX's technology it is possible to detect early phases of colorectal cancer by recognizing a specific gene activation signature of immune cells present in the blood.
IMMUNOLOGY AREA	Diagnostics	Therapeutics	Therapeutics	Therapeutics	Therapeutics	Therapeutics	Diagnostics
FOCUS	Allergies/sepsis	Oncology	Allergies	Oncology	Nutrition	Vaccines	Oncology