

## CERBIOS AND IRB COLLABORATE ON DEVELOPING ANTIBODIES TARGETED AT LEUKEMIA CELLS

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The Institute for Research in Biomedicine (IRB-USI, Bellinzona, [www.irb.ch](http://www.irb.ch)), active in human immunology research, and Cerbios-Pharma SA (Barbengo, Lugano), a company active in developing and producing active pharmaceutical ingredients (API), have started collaborating to develop Antibodies' derivatives to treat Acute Myeloid Leukemia (AML), which makes it possible to target leukemia cells without attacking healthy ones, thereby improving therapeutic efficacy and limiting the side effects of chemotherapy.

Dr. Varani's group at the IRB has developed antibodies (molecules in the immune system) that are capable of recognizing target molecules present in large quantities in leukemia cells, but not in healthy ones. The antibody is attached to a nanoparticle that contains an highly potent drug and guides it towards the leukemia cells, without affecting the healthy ones. Once inside the tumor cells, the nanoparticle releases the drug.

The technology for the chemical process necessary to bind the antibody to the nanoparticle and in order to ensure that the drug is released only inside the cells is being developed by Cerbios-Pharma, which has been active for many years in developing and producing APIs for Oncology and, in particular, Antibody Drug Conjugates (ADCs) with highly active toxins.



*"I am very proud to participate, with my team, in this innovative project with a research center that is recognized around the world," said G. Haering, CEO of Cerbios. "This project is in the context of the sustainability of our company and is targeted at creating long-term synergy between the academic world and industry through knowhow and stimulating knowledge for both parties."*

The collaboration between IRB and Cerbios-Pharma is supported in part by the InterReg LeuciTi project, which is financed by the European Community and the Canton of Ticino, with the intent of promoting interaction between research centers and Ticino companies for the sustainable development of the biotechnology sector in the region.



The consortium uses the collaboration with other partners, including: the Fondazione Tettamanti [Tettamanti Foundation (Ospedale di Monza [Monza Hospital], Italy), the reference center for pediatric leukemia that will help test the new drug that is in development; the Università di Insubria e Piemonte Orientale [Insubria and Piedmont University] (Italy), which will help improve the chemistry of the nanoparticles and evaluate their cell impact.



### **About Myeloid Leukemia**

Acute Myeloid Leukemia (AML), which affects about 40,000 people every year in the West, is one of the forms of leukemia with a lesser possibility of survival. Current treatment calls for using high doses of chemotherapy that, however, are not tolerated by the weakest patients, typically children and people over 60 years old. In the absence of high-dose chemotherapy, the prognosis is very poor and there are high relapse rates. Chemotherapy drugs are toxic because they target and kill healthy cells, in addition to tumor cells.

### **About the Biomedicine Research Institute (IRB)**

Founded in 2000 in Bellinzona, it was affiliated with the Università della Svizzera italiana (USI) in 2010. Financed by private and public institutions and competitive financing, the IRB has 13 research groups and 110 researchers working on studying different defense mechanisms in the body to fight infections, tumors and degenerative diseases. With almost 530 publications in the main scientific journals, the IRB has gained international recognition as a center of excellence for immunology and cell biology.  
[www.irb.usi.ch](http://www.irb.usi.ch)

### **About Cerbios-Pharma SA**

Cerbios is a private company with its headquarters in Lugano, Switzerland, specialized in developing and producing active pharmaceutical ingredients (APIs), both chemical and biological, for its clients around the world. Cerbios is a world leader for some generic products used primarily to treat respiratory, dermatological and oncological diseases.

Cerbios also offers its clients an exclusive service to develop and produce highly active pharmaceutical ingredients (HAPIs) and biological monoclonal antibody tablets, recombinant proteins, conjugated monoclonal antibodies (ADCs) and probiotics for pharmaceutical use.

Cerbios is capable of offering a complete service to develop and register pharmaceutical products, tablets supplied for clinical research phases, the necessary regulatory documentation and subsequent marketing supplies. Cerbios products are marketed around the entire world, primarily in the USA, Japan and Europe.

More information can be found at [www.cerbios.ch](http://www.cerbios.ch)

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