



## PRESS RELEASE

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# Three key learnings as collaboration between Ziccum and Emerging Virus Unit at Aix-Marseille University draws to a close

**In Ziccum's recent major strategy renewal it sharpened its focus onto three key vaccine platforms and streamlined its R&D projects down to three key partnerships. The company is also pleased to now conclude its long-term collaboration with the Emerging Virus Unit at Aix-Marseille University. The productive collaboration advanced the development of Ziccum's LaminarPace technology in three major ways, says Ziccum Senior Formulation Specialist Fabrice Rose.**

The Emerging Virus Unit, located close to the faculty of medicine in Marseille, is one of Europe's leading virology labs. Its activities relate to preparing for epidemic phenomena and implementing diagnostic, therapeutic and preventive countermeasures. The unit does not carry out pharmaceutical R&D and does not develop new vaccines, unlike Ziccum's current three partners in its streamlined project portfolio.

In its two-and-a-half-year long collaboration the Unit has been a supportive partner with a strong shared commitment to advancing thermostable formulations of biologics and viruses for easier storage and transportation.

Fabrice Rose: "This collaboration played an important role in developing LaminarPace (LAPA), our ambient drying system. In particular, working on solving three key challenges led to valuable learnings and the development of many new features, despite a general slow-down during the Covid-19 pandemic."

### **Safety and biosafety: Key learning #1**

As a virology rather than pharmaceutical facility, in Marseille LAPA was installed for the first time in a Biosafety Level 3 (BSL-3) laboratory. BSL-3 labs are for the study of infectious agents that can cause lethal infections. Research must be carried out in sealed, sterile biosafety environments designed to be easily cleanable.

Fabrice Rose: "This taught us a lot about which issues to improve for long-term use of LAPA in that type of facility and led to new features such as our sealed glove box and powder collector cup, plus to the exploration of new ways of sterilizing and cleaning the system. We now have BSL-2 status in our facility in Lund and what we learned at Marseille gave us valuable lessons in achieving that."

### **Formulation: Key learning #2**

Fabrice Rose: "This was the first time we tested and worked with LAPA on *live* viruses. It gave us excellent insights into the challenges of working with these types of vaccines and we made significant progress in our knowledge of new formulations that will stand us in good stead for future projects."

A specific example was Ziccum's work on envelope viruses. Fabrice Rose: "These are one of the most challenging types of vaccines to stabilize. If you damage the viral envelope in any way, your vaccine won't work anymore. Thanks to Marseille we started to identify much better where stress situations might happen and work on new formulations that would overcome them. It is all about how you combine formulation and process design and our experience in Marseille gave us key insights into that."

### **Humidity control: Key learning #3**

"In Marseille we identified two main issues around humidity: The need for better control of humidity inside LAPA, and the need to better control the system's surrounding humidity. Our work solving these positively impacted LAPA's development enormously," says Fabrice Rose.

Despite a slow-down during the Covid-19 pandemic, commitment was strong on both the Swedish and French side: "LAPA is an entirely new unit operation, so it was vital to be able to map out where we were with the system and how best to drive development. This project enabled that and ignited a range of ideas that will play a crucial role in our commercial offering."

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## About Ziccum

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### About Ziccum

Ziccum is developing new thermostable versions of vaccines and biologic materials for licensing to vaccine providers, developers, manufactures and CDMOs in the global pharmaceutical industry. Ziccum's patented drying technology, LaminarPace, is unique. It can dry-formulate temperature-sensitive vaccine materials at room temperature with high yields and low waste. These robust, thermostable dry powders could be stored and transported worldwide with no need for cold chain refrigeration or freezing. Ziccum is listed on the Nasdaq First North Growth Market

### Attachments

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