4th Annual
Next Generation Gene Therapy Vectors

June 12-14, 2024 | Boston, MA

An Interview with NanoMosaic

AN EXCLUSIVE INTERVIEW WITH:

Philippe Mourere
Chief Executive Officer
Nanomosaic

Philippe Mourere is Chief Executive Officer at Nanomosaic, a company developing innovative tools and technologies for biomarker detection and analysis. He has over 25 years' experience holding executive and senior leadership roles at start-up, mid-size and global Life Science and Diagnostic organizations.

Ahead of the 4th Next Generation Gene Therapy Vectors Summit (June 12-14, Boston), we sat down with Philippe to discuss recent trends in biomarker technology development in the context of gene therapies, characterising and quantifying AAV capsids and transgenes, and Nanomosaic's latest capabilities.

You have been involved now for many years in new biomarker technology development. In the context of gene therapy research and development, how have you seen this field evolve in recent years?

Analytical methods used across development and bioprocessing have dramatically increased in terms of speed and resolution of what you're looking at.

First, manual, low sample throughput methods with tedious workflows are supplemented by novel approaches, giving capacity to do much higher throughput using consistency of automation. The suite of analytics has also vastly improved; the scientific community has gained tremendous insights into the parameters impacting gene therapy product developments. Those improvements transitioned from few, limited parameters to a much broader array that can be tested in real time.

A significant example in novel gene therapy development is being able to precisely quantify yields and full:partial:empty ratios.

Your platform, Tessie, features a fully automated plate reader, designed to simultaneously characterise and quantify AAV capsid proteins and therapeutic transgenes. Could you tell us about the platform's expansion into gene therapy applications and its role in reducing time-to-market?

You'd be surprised how many processes go into clinical trials that are incomplete or severely lacking, resulting in preparations going into clinical patients that contain far above 50% empty vector and uncharacterized partials.

Much of this is due to the inability to assess these key quality attributes early and simply in upstream development. Consequently, this means you're putting low yield, low quality batches of gene therapy into clinical patients - and that is associated with a host of substantial resource expenses, lost time-to-patient and to-market, and lower patient outcomes.

Our Tessie device aims to fix this problem. On a single plate using a single quantitation device, we can provide titers as well as full:partial:empty ratios with only a few uL of crude samples and in less than 3 hours.

> "Characterizing viral capsids and transgenes in one platform is a game changer for the timelines at which product development can iterate and improve a process, with implications throughout the entirety of the therapy lifecycle."

What capabilities will this unlock for gene therapy bioprocessing and manufacturing scientists running vector analysis?

It unlocks flexible, low-to-high-throughout screening that gives you key insights on the metrics that matter.

It's a game changer for the timelines at which product development can iterate and improve a process, with implications throughout the entirety of the therapy lifecycle. It also allows for capabilities to course-correct a batch in near real time if key quality metrics start to shift.

Finally, it brings a massive reduction in costs associated with traditional analytical workflows, while retaining more of the gene therapy preparation for patients.

And finally, why are you excited to be taking part in the Next Generation Gene Therapy Vectors Summit this year?

I'm really excited to meet developers and learn more about how they're doing process development, as well as to gain insights on how AAV design is changing and new strategies emerging!

Join **Philippe**, the rest of the Nanomosaic team, and 60+ vector development experts at the **4th Next Generation Gene Therapy Vectors Summit** in Boston, June 12-14, 2024.

DOWNLOAD YOUR COPY OF THE FULL PROGRAM HERE