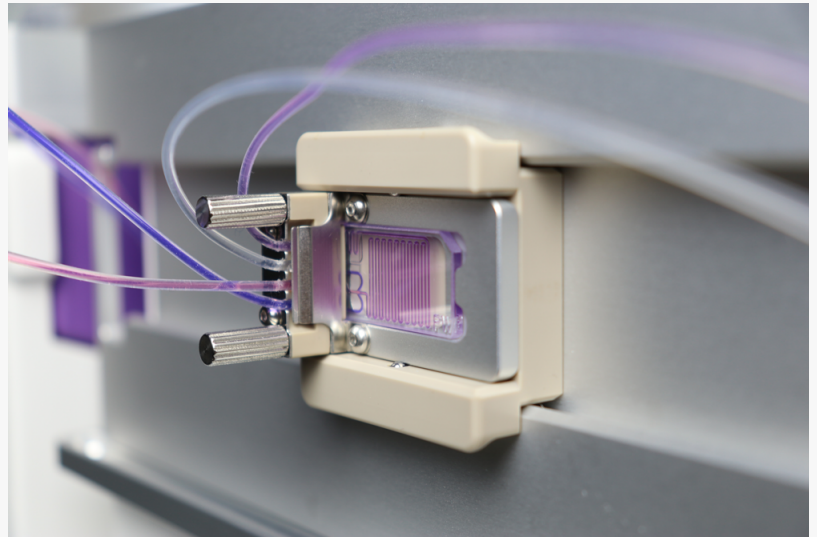


Particle Works Is Optimizing mRNA-LNP Formulation With Automated Microfluidic Systems

CAMBRIDGESHIRE, UNITED KINGDOM, January 31, 2023 /EINPresswire.com/ -- Particle Works is making major contributions to the field of nanomedicine by producing game-changing automated microfluidic systems with the potential to improve efficiency in the nanotherapeutic drug development pipeline. These walk-away platforms can help to optimize each stage of the nanoparticle formulation development process, empowering researchers in pursuit of particle perfection.

Nanomedicine – the convergence of nanotechnology and healthcare – offers the prospect of new tools for healthcare, and one example is the recent successful development of vaccines based on mRNA-containing lipid nanoparticles (LNPs) that can effectively deliver nucleic acid-based therapeutics to in vivo target sites. The success of these and future LNPs lies in effective formulation development and process scale-up. Industry efforts – from screening through to manufacturing – are therefore focused on improving nanoparticle delivery, targeting and performance.

Microfluidics technologies offer a clear pathway to ensure the precise convergence of lipids and mRNA to produce nanoparticles of consistent size and structure, generating uniform and monodisperse particles to enhance drug delivery and prevent premature degradation of the payload, as well as avoiding off-target effects. Particle Works offers a range of automated microfluidic systems that ensure robust laboratory processes and easy control of microfluidic

The logo for Particle Works, featuring the words "Particle Works" in a purple, dot-matrix font.

parameters. Automated LNP formulation enables rapid and precise parameter changes between experiments within a single run, significantly reducing cost and labor requirements. In addition, using the same microfluidic pumps, fluoropolymer tubing and reusable glass microfluidic chips between experiments eliminates the need to validate new process technologies at each stage of development, offering seamless scale-up.

Lee Jeffries, Managing Director at Particle Works, commented: "Particle Works has used expertise gained over 20 years of microfluidics engineering to develop novel automated systems in response to customer demand for flexibility, accurate control and consistent day-to-day performance. A robust process is the key to improving the efficiency and potency of novel genomic medicines using LNPs, and our ground-breaking platforms have the potential to significantly accelerate their development, ultimately providing significant clinical benefits for many life-threatening diseases."

For more information on our automated particle generation platforms, visit www.particle-works.com.

About Particle Works

Particle Works combines a strong heritage in engineering with nanoparticle knowledge, microfluidic expertise and in-house microfluidic chip fabrication. We design and manufacture state-of-the-art particle engineering platforms, paving the way to particle perfection.

Our technology is used in a wide range of applications, including the production of nanoparticle-based vaccines, medicines, and therapeutics. Recently spun out of the Dolomite Microfluidics brand, Particle Works was born as a dedicated and focused drug delivery brand. We have been at the forefront of this rapidly changing science, listening and adapting as our customers' needs have evolved. Our platforms enable scientists to formulate particles faster, ensuring they are ready for their next breakthrough and the scale up of discoveries.

Particle Works is part of Blacktrace Holdings Limited – a world leader in Productizing Science™ – and is based in Royston (near Cambridge) UK. We have offices in the USA, Japan and Vietnam, and worldwide distributors offering technical assistance and support.

Sarah Khan

kdm communications

sarahk@kdm-communications.com

This press release can be viewed online at: <https://www.einpresswire.com/article/614395821>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable

in today's world. Please see our Editorial Guidelines for more information.

© 1995-2023 Newsmatics Inc. All Right Reserved.