



Aquarray further expands innovative product range and ushers in new era of screening

Angelika Weinländer-Mölders and Holger Saal strengthen management team

Karlsruhe, February 01, 2022 - A thousand times fewer reagents and a hundred times fewer cells - this is the approach of the innovative droplet microrray technology (DMA) developed by the start-up AQUARRAY, founded in 2018 at the Karlsruhe Institute of Technology (KIT). The patented method enables highly efficient and cost-effective drug screening of substances that can be used in the future, for example, in personalized cancer or antibiotic therapy.

"With the miniaturization of experiments and high-throughput screening, DMAs - in contrast to conventional microplate applications - can reduce the cost of screening for new chemical and biological active substances by up to 90 percent," says Dr. Angelika Weinländer-Mölders, Chief Executive Officer (CEO) of AQUARRAY since January 1, 2022, who is responsible for corporate development. The current Corona pandemic shows only too clearly how important a rapid and targeted development of an active ingredient is for drug development.

Fully automated screening solution in pilot phase

In addition to the slides already available on the market based on DMA technology, the start-up is positioning itself even more broadly in the future with further product lines. "In order to be able to use our process efficiently in biological-medical research and in the clinical environment, e.g. in the search for new cancer drugs, we have developed, among other things, an integrated screening platform, the prototype of which is currently being tested together with the Fraunhofer Institute for Manufacturing Engineering and Automation (IPA)," says Dipl.-Ing. Holger Saal, AQUARRAY's new Chief Technical Officer (CTO). The goal is to offer a fully automated screening solution for the simultaneous testing of hundreds of drugs or patient samples.

The ambitious company is supported among others by business angel and co-founder Prof. Dr. Dr. Gunter Festel, who sees opportunities in the market for individualized drug therapies:

"AQUARRAY offers enormous potential both for the academic field of research and development and for industry and personalized medicine and revolutionizes drug screening."

Thanks to miniaturization, the same cell screening experiments could take place in the future as with conventional microplate applications - but droplet microarray technology helps save up to 99 percent of consumables, in this case reagents and cells.

Cell material is a rare commodity, especially in cancer diagnostics and therapy. In most cases, only a limited number of cells can be taken from the tumor through biopsy. The effectiveness of antineoplastic drugs, i.e. traditional chemotherapy with cytostatics as well as newer approaches, such as small molecule inhibitors, hormone preparations and immunotherapies, can thus be measured much better and more precisely in vitro in the future. "This approach represents a major temporal and thus essential advantage, especially for cancer patients, as it allows the patient-specific therapeutic to be found in a more targeted manner in cell trials," says Weinländer-Mölders.

"Our goal is to accelerate drug development, reduce risks and do our part to ensure that every patient receives the right treatment as quickly as possible," adds CTO Saal. The company has been funded in its first two years by the European Union's Horizon 2020 research and innovation program. "For our ambitious goal, we are naturally looking for enthusiastic investors who care about the advancement of personalized medicine and drug discovery for the benefit of patients," says the executive team.

ABOUT AQUARRAY

Aquarray is a spin-off of the Karlsruhe Institute of Technology (KIT). The Aquarray team has been working on the development of the patented Droplet Microarray (DMA) since April 2018, as well as its applications: cell-based ultra-high-throughput screens (uHTS), 3D cell cultivation technologies, and biochemical assay platforms. In addition, AQUARRAY opens up diverse applications beyond the scope of conventional microplates. Possible applications include all areas of research, ranging from basic research to industrial uHTS and clinical applications. AQUARRAY is funded under the European Union's Horizon 2020 research and innovation program under agreement No. 880019.

Contact:

Dr. Angelika Weinländer-Mölders
angelika.weinlaender@aquarray.com