InVivo Biosystems and BioReperia Enter Partnership to Speed Pre-Clinical Development and Success Rate of Cancer Drugs

Zebrafish tech redefines cancer care, reducing decision time to 5 days, boasting 80%+ clinical correlation for superior treatment insights.

EUGENE, OREGON, UNITED STATES, March 14, 2024 /EINPresswire.com/ -- InVivo Biosystems, experts in CRISPR-edited animals for drug development and biomedical discovery, and BioReperia, developer of an advanced platform for cancer drug development and personalized medicine, today announced a partnership to accelerate drug discovery and development on all types of solid cancers. The partnership also marks the entry of BioReperia into the North American marketplace.

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> *C. Palani Palaniappan, Ph.D.*

The zebrafish oncology solution offered by the partnership of InVivo Biosystems and BioReperia helps address the significant drug discovery challenge facing the pharmaceutical industry to identify effective treatments for the more than 12 million new cancer cases being diagnosed every year. This solution uses a more sophisticated modeling technique to enable earlier identification of promising drug candidates, including immunotherapies, while screening out those unlikely to reach clinical approval.

Using zebrafish embryos as a model system, BioReperia's advanced in vivo platform can provide therapeutic efficacy data including tumor regression and metastasis within five days, versus a typical timeframe of six months. By delivering results this quickly, these zebrafish models are helping increase the speed of pre-clinical development and success rate of cancer drug candidates. In addition, the platform can help determine how patients will respond to therapeutics in the clinic. Data from pilot studies show a clinical correlation of more than 80 percent specificity and sensitivity for beneficial outcomes to neoadjuvant cytostatic therapy in urinary bladder cancer and adjuvant cytostatic therapy in epithelial ovarian cancer.

"We need new testing methods to determine whether new cancer therapeutics are effective,"

said C. Palani Palaniappan, Ph.D., chairman of the InVivo Biosystems board. “The InVivo Biosystems team is excited about the opportunity to use our CRISPR genome editing platform for cancer breakthroughs. This partnership promises to advance the identification of optimal treatments and enhance the prediction of individual responses to various cancer therapies.”

Kat McCormick, Ph.D., COO, InVivo Biosystems added, “This partnership with BioReperia is widening access to an important cancer therapeutic development platform to our US-based partners. The platform can address a huge unmet need - determining the optimal treatment course for patients facing a cancer diagnosis. Patient-derived xenografts with zebrafish hosts hold the promise of a unique and very fast solution to this problem.”

According to Anna Erkstam, PhD, CEO of BioReperia, uniting forces to fight this relentless disease is a game-changer. “The wider we can spread the word about how our platform can accelerate drug discovery and predict the best treatment for each patient, the closer we come to archiving our goal of reducing cancer mortality worldwide. Collaborating with InVivo Biosystems adds their expertise and market knowledge, amplifying our impact and advancing our mission to save lives. We are delighted to join force with InVivo Biosystems, and we look forward to the positive outcomes it will bring in our collective fight against cancer.”

BioReperia ZTX Platform

The BioReperia ZTXR (zebrafish tumor xenograft) platform is being used to evaluate efficacy of T-cell cytotoxicity activating/boosting drugs including checkpoint inhibitors and autologous T-cell therapies within immune-oncology. More than 80 PDX models are validated in the ZTX platform. To generate these models, human tumors are implanted into zebrafish embryos, which go on to form a solid microtumor with vascular engagement and metastases after just three days. The tumor cells used in the implantation can be cultured using a variety of different techniques, including cell-lines, PDX-models or even primary tumor cells. The models are used to test all different types of pharmaceutical compounds, including small molecules, large molecules, antibodies, ADCs, nanoparticles and more. The ability of the platform to host human immune cells without any alterations make it a powerful tool for exploring any immune-oncology research that requires validation.

The InVivo CRISPR Genome Editing Platform

The InVivo Biosystems provides the CRISPR genome editing platform to create custom genome-edited zebrafish. Their lines provide the ability to visualize the inflammatory responses of macrophages to cancer therapeutics, and their bioinformatic analysis provides deeper insight into mechanistic actions of therapeutics.

About InVivo Biosystems

Eugene, Ore.-based InVivo Biosystems, experts in CRISPR genome editing, provides end-to-end preclinical services to help pharmaceutical, nutraceutical, biotechnology companies and academic research institutions around the globe accelerate research and drug development efforts. The company’s mission is to build the world’s most effective genetic animal models to

advance human health. With its CRISPR genome editing platform, InVivo Biosystems creates custom genome-edited C. elegans and zebrafish models for preclinical studies and drug discovery. In addition, InVivo Biosystems provides in-vivo analytical services to produce data and insights for companies to help accelerate decision making in the early-stage development of new compounds. For more information, visit http://www.invivobiosystems.com.

About BioReperia
BioReperia is a biotech company, founded in 2015 with technology developed at Linköping University in Sweden. The company's proprietary and CE-certified next-generation in-vivo ZTX platform cut the time from six months to five days to predict the right anti-cancer treatment in individual cancer patients, and this platform is used as a tool for personalized medicine as well as to accelerate drug discovery. The ZTX®platform generates results throughout the entire pre-clinical to clinical pipeline, offering a fast and accurate solution to pharmaceutical industries, oncologists and academia around the world. The platform is used for all cancer indications using both CDX, PDX and primary tumors from patients and can accommodate all types of compounds from small molecules to large peptides, antibodies, and ADCs, and includes the evaluation of immuno-therapies. For more information, visit https://bioreperia.com/.

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