Creative Biogene Has Established More Than 50 Engineered Zebrafish Models to Support Human Cancer Research

Creative Biogene announced the release of its engineered zebrafish disease models to support human cancer research and help identify new drugs for clinical trials.

New York City, New York Dec 1, 2022 (Issuewire.com) - Zebrafish platform, the division of Creative Biogene, is dedicated to developing high-quality products and services based on high technical expertise and top-class research facilities. Combined with attractive strategic partnerships and academic collaborations, Creative Biogene focuses on continuously innovating and developing new services, technologies, and platforms for researchers to help progress people's health. Recently, Creative Biogene announced the release of its engineered zebrafish disease models to support human cancer research and help identify new drugs for clinical trials.

There are several long-standing approaches to establishing cancer models in zebrafish, including oncogenic therapy, transgene manipulation, and transplantation of mammalian tumor cells. Transgenic technology allows the formation of specific types of tumors through the overexpression of specific oncogenes. All of these reverse genetics approaches aim to create a loss-of-function phenotype, or they aim to transfer mutated genes found in human cancer patients into fish. It could also mean generating a zebrafish model whose ortholog is mutated to a human cancer-associated phenotype.

Creative Biogene has created more than 50 genetically engineered zebrafish models of human cancer that closely resemble their human counterparts at the histological and/or genomic level. Zebrafish tumor models can accelerate the discovery of new mechanisms driving human cancer and identify new drugs for clinical trials. The vast majority of human tumors can be mimicked in zebrafish through the combined use of chemotherapy, genetic technology, and tumor cell xenografts.

Cloning of zebrafish-specific phenotype-mutant genes has similarities in humans and thus serves as a human disease model and studies underlying mechanisms. Multiple other mutants displaying similar human disease phenotypes have been screened and identified. These include neurological disorders, cardiovascular disorders, blood disorders, muscle disorders, cancers, anxiety disorders, Parkinson's disease, and post-traumatic stress disorder.

Creative Biogene generates stable human disease models using a robust approach to engineered nucleases, including ZFNs, TALENs, and CRISPR-Cas9 systems, enabling targeted mutations in specific zebrafish orthologs of interest. Additionally, CRISPR/Cas9 system is Creative Biogene's tool of choice for generating stable zebrafish models of human genetic diseases. CRISPR interference (CRISPRi) is another variant of the CRISPR/Cas9 system that can be used to reversibly silence the expression of target genes at the transcriptional level, and it can be used to mimic LOF and gain-in phenotypes.

"Our goal is to challenge the traditional drug discovery process by providing a rapid and reliable array of custom assays to assess the safety and biomedical relevance of novel molecules using zebrafish." said Marcia Brady, the marketing director of Creative Biogene, she also added, "We have developed and validated time and cost-effective gene editing services, toxicity and efficacy assays, and zebrafish disease models for preclinical stages."

About Creative Biogene

Creative Biogene is a top-of-its-kind company that holds a leading position and is committed to accelerating the development of human science through biotechnology, offering innovative technologies, products, unique tools, and services for research discoveries and product development. With more than 10 years of experience and in-house experts, Creative Biogene has become a well-recognized industry leader to support researchers worldwide.

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Source : Creative Biogene

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