



Special Issue Reprint

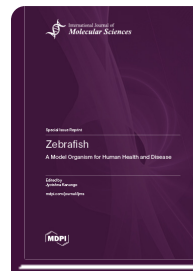
Zebrafish

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Zebrafish are an attractive vertebrate model used in drug discovery. Due to their small size, external development, and transparency, zebrafish embryos are compatible with multiwell plates for high-throughput screening. Based on the availability of zebrafish genome sequences, the ease of creating transgenic and genetic mutants, and the conservation of signal transduction pathways, a variety of human diseases have been modeled using zebrafish. Moreover, biological pathways, such as physiological and molecular events, which control the development and function of most organ systems, including the cardiovascular, skeletal, nervous, digestive, and visual systems of zebrafish, are similar to those in mammals. The zebrafish reference genome published in 2013 has further accelerated the use of zebrafish in human disease modeling. Over the last two decades, zebrafish have become popular in pharmaceutical and toxicological research. Consequently, several drugs used to treat human diseases (including tuberculosis, neuronal, and auditory disorders, as well as several types of cancer) have been identified from zebrafish screens. Such advances in this area of research have established zebrafish as an invaluable human disease model. This collection of articles aims to cover current research and provide an overview of the advances made in the area of drug discovery and disease modeling using the zebrafish model.

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