Meetings International SciTechnol

Shah, T M et al., J Forensic Toxicol Pharmacol 2018, Volume: 7
DOI: 10.4172/2325-9841-C6-023

Global summit on
TOXICOLOGY AND RISK ASSESSMENT
&
International Conference on
CARDIOLOGY AND CARDIAC NURSING

October 24-25, 2018
Paris, France

Zebrafish: Can reduce the use of animals in toxicological research?

Shah, T M[1]; Patel, U D[2]; Bhadaniya, A R[2]
[1]Dabur Research Foundation, India
[2]Junagadh Agricultural University, India

In the recent era, demand for novel, robust, and cost-effective ways to evaluate toxic effect of any substance on human and animal health is rapidly increasing, particularly at early developmental stage. There are many mammalian models available for toxicological research, but all are expensive and difficult to manipulate and evaluate during embryonic stage. Within the past decade, the zebrafish has become an imperative model organism for toxicological research. Initially, it was a popular as a model of vertebrate development because zebrafish embryos are transparent and develop rapidly. The use of zebrafish in pharmaceutical research and discovery and drug development is mainly screening of lead compounds, target identification, target validation, assay development for drug discovery, quantitative structure-activity relationship (QSAR) and structure -activity relationships (SAR) study and drug toxicity study (Chakraborty et al., 2009). The use of zebrafish can reduce the involvement of total numbers of animals in drug discovery process. Relative low cost of zebrafish experiments allows using zebrafish as an inexpensive, alternative to rodent test system. Zebrafish model does not replace classical rodent/mammalian models, but it promises to contribute in target identification and validation, drug discovery, toxicology and disease modelling. Use of zebrafish may provide a shorter path to develop a novel therapy for human and animal disease. In most cases, the advantages appear to outweigh the limitation of zebrafish as an animal model.

Biography

Shah, T.M has completed his master's in field of veterinary pharmacology & Toxicology from Junagadh Agricultural University, India. He is In-charge of Animal facility at Dabur research foundation. He has published 04 research papers in reputed journals. He is keen interested in 3Rs principal of research

shahtrushenkumar@gmail.com

Notes: