

Special Issue on
Stem Cells in Toxicity Testing

CALL FOR PAPERS

During the past decades, stem cells have been widely used in regenerative medicine, drug screening, and establishing *in vitro* disease models. In addition, increasing attention has been directed towards the field of toxicity testing. Due to the pluripotency of stem cells, it paves the way for an unlimited supply of primary human cells, such as neurons and cardiomyocytes, which are difficult to obtain in traditional ways for toxicity testing. Thus, it promotes development and implementation of *in vitro* assays for toxicity of substances related to humans. Furthermore, in many cases, stem cells in culture undergo a relatively normal developmental process. In that case, it holds a great deal of promise in developmental toxicity, developmental neurotoxicity, and reproductive toxicity testing. Due to the development of induced pluripotent stem cell (iPS) technology, it also provides an opportunity for toxicity testing with human diseased tissues. In contrast to the traditional approaches to toxicological testing, which are generally considered expensive, time-consuming, and requiring large numbers of animals, stem cell-based assays are cost-efficient and of high-throughput and in the long term will decrease the use of animals.

This special issue will focus on using stem cell-based models to evaluate the toxicity of environmental hazards or drug development. Any original research and reviews regarding developing innovative stem cell models in toxicity testing and stem cell-based toxicity testing are encouraged for submission. Moreover, manuscripts focused on toxic effects to adult stem cells and their implications on human diseases are also welcome for submission.

Potential topics include but are not limited to the following:

- ▶ Stem cell 3D models in toxicity testing
- ▶ Stem cells and developmental toxicity, including neurotoxicity
- ▶ Stem cells and reproductive toxicity testing
- ▶ Stem cells and hepatotoxicity and cardiotoxicity
- ▶ Human stem cell-derived *in vitro* models for evaluating the toxicity of substances to humans
- ▶ Toxicity to stem cells and human disease

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/sci/sctt/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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