

Toxichip could replace animals in toxicity screening



A cell-based biosensor is the latest innovation that could replace animal testing in toxicity screening. Toxichip, developed by scientists at the Tyndall National Institute in Cork, Ireland, acts as a sensing system that monitors in real-time the effects of substances on human and animal cells in culture.

Currently, safety (toxicity) testing uses rodents, dogs and monkeys to screen out candidates in early trials for chemicals and pharmaceutical. These tests can cause suffering in very large numbers of animals, currently estimated to be hundreds of thousands globally. The tests also have the potential to produce misleading results due to the variability of chemical effects between species, so there are compelling scientific, economic and ethical reasons to find more efficient and reliable solutions.

Toxichip works by detecting the cellular responses that occur as a result of toxicity. It can be used to examine the overall toxic effect of not only individual chemicals but also combinations of these chemicals in areas such as environmental protection and drug development and design.

The development of Toxichip came about with European Commission funding through the Sixth Framework Programme and the work was presented during Nanoweek in Ireland organised by the Nanoscience Network.

“The Dr Hadwen Trust welcomes this collaboration between industry, academia and EU Programmes.” says Dr Candida Nastrucci, Science Communications Officer. *“This clearly demonstrates what exciting outcomes can result when funding is in place to support scientists from both disciplines coming together to develop highly advanced technological solutions to replace animal testing.”*

Source: www.tyndall.ie