

STEM CELLS WORKSHOP *flash*

Brussels, Belgium, August 28-29th 2013



The European Partnership
for Alternative Approaches to Animal Testing

New Perspectives on Safety Project - Stem Cells

>>>Stem cell-derived organ-like models for analysis mid and long-term dosing dynamics studies

The European Partnership for Alternative Approaches to Animal Testing (EPAA) just held a fundamental research workshop on stem cells. At the cutting edge of science, this area is one of the most promising domains for alternatives to animal testing. Focusing on "Stem cell-derived organ-like models for analysis mid and long-term dosing dynamics studies", the high-level event gathered 25 participants from Academia and Industry, coming from as far as Japan.

The fundamental research workgroup of the EPAA New Perspectives on Safety-Stem Cells project organized this workshop as part of the recommendations that came out of a previous workshop held two years ago in Ispra, Italy.

The discussions addressed the main challenges of Induced-Pluripotent Stem Cells (IPSC)-derived cells in safety testing. IPSC are a type of cell that can be derived from human adult tissue and reprogrammed to the embryonic stage. Thus, these cells can theoretically give rise to any kind of cell of the body and therefore have enormous potential to match the requirements of in vitro alternatives. As experimental protocols using IPSC are complex and scientific advances are still developing fast, stem cell derived models must prove biologically relevant, show robust performance and be amenable to validation as alternative methods. Moreover, IPSC-derived cells need to be of high

quality and accessible in large amounts to fulfill the needs of safety testing.

The experts agreed that biological relevance was one of the key issues to be addressed. If novel alternative methods are scientifically sound and demonstrate in vivo relevance, they may be implemented into the non-regulatory Research & Development process very quickly. But whilst the potential benefits of IPSC-based in vitro alternatives are huge, we are still a long way from regulatory acceptance. Subsequent acceptance by the authorities in dialogue with industrial sponsors would be needed.

The workshop participants acknowledged that additional research is needed to increase the scientific acceptance and improve the public perception of IPSC technology. While Europe hosts many

high-level researchers on advanced Stem Cells technologies, much needs to be done to make sure Europe stays a major stakeholder in the future. Innovation, competitiveness and integrated regulatory acceptance will be keys to develop efficient and effective stem-cells based alternative methods in Europe. Further challenges to be addressed include stem cell banking, freezing of differentiated cells and shipping of cells.

The workshop conclusions will be published in a scientific, peer reviewed journal. In order to pro-

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Stem Cells

mote concrete research fields, the recommendations on main areas of focus will be discussed with funding bodies like EU and national boards.

Participating Organisations

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About EPAA

EPAA is a Public-Private Partnership across seven industry sectors and between European Commission and Industry stakeholders. Launched in 2005, it gathers 36 companies, 7 European trade federations and 5 Directorates-General of the European Commission.

Further information is available on www.epaa.eu.com

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