

# **The FP7 Project AXLR8 – Accelerating the transition to a toxicity pathway-based paradigm for chemical safety assessment through internationally coordinated research and technology development**

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The aim of the EU FP7 coordination support project AXLR8 (= accelerate) is to lay the groundwork for a transition in toxicology toward a more “pathway based” in vitro and computational approach, through enhanced networking and collaboration among scientists, regulators at European and international levels. The new concept entitled “Toxicology in the 21st Century”, which was proposed by the US Academy of Science in 2007, calls for a transition in toxicology toward a more mechanistic, cell- and computer-based approach applying human cells and tissues. To support European scientists in getting actively engaged in this research effort AXLR8 is assisting the DG RTD of the European Commission in coordinating the FP6 and FP7 projects of the Alternatives Testing Strategies activity.

The overarching goals of the AXLR8 project can be subdivided into the following specific objectives:

- 1) organise a series of annual workshops to map research progress, gaps and needs in the FP6/FP7 programme on alternative testing strategies;
- 2) provide a range of tools and opportunities for enhanced interdisciplinary and international communication, coordination and collaboration in order to maximise the impact of available resources;
- 3) work to streamline regulatory acceptance procedures to provide for the uptake of validated new methods, including a smooth transition to 21st century systems and
- 4) produce annual progress reports on the state of the science, including recommendations on priority research and funding targets to ensure a prominent role for European science in this rapidly developing research area.

The following conclusions and recommendations were provided at the first AXLR8 workshop in 2010:

1. Substantial progress has been made in Europe on the development of alternative test methods and integrated testing strategies. Examples include the EU-funded projects Sens-it-iv and ReProTect, which will deliver non-animal tests for the assessment of skin sensitisation and reproductive toxicity.
2. Opportunities exist for exciting cross-fertilisation and creation of synergies among EU research teams and international initiatives such as “ToxCast” and “Tox21” in the USA.
3. A coordinated, long-term strategy towards a common goal is urgently needed. From there a practical roadmap can be developed that integrates new and existing European and global research programmes and defines knowledge gaps and future research needs and allow for a more structured framework for transatlantic/pacific coordination and collaboration.

Given the substantial and increasing global investment in research aimed at developing new safety assessment methods and implementing the “3Rs” in toxicology, there is a need for better international. In response to this demand, AXLR8 provides the tools for effective real-time dialogue, information exchange, problem solving, and international cooperation.

The AXLR8 Progress Report 2010 is available on the AXLR8 website

<http://axlr8.eu/axlr8-2010-progress-report.pdf>