

## Human cellular 3D-cardiovascular model for drug development and toxicity testing of chemicals

Heart disease is the leading cause of death. Treatment is very expensive leading to yearly costs of appr. 210 billion in Europe. Global cardiovascular market value is 140 billion (2015). **Adverse cardiovascular effects are the second most important reason** for discontinuation of drug development and drug withdrawal from the market. The most important reason is that the used testing models, animal models, do not predict sufficiently the effects in man. In addition to drugs, cardiovascular toxicity have to be assessed with all chemicals.

We have **developed a novel, scalable, functional human cellular cardiovascular model (mini heart)** applicable for drug development, chemical toxicity testing and biomedical research.

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Tuula is a toxicologist having over 25 years' practical experience in drug development, toxicology and alternative in vitro methods. She has been responsible to set up FICAM, an expert center that focuses on development of human cell based validated tissue and organ models to supplement and to replace animal experiments, educate scientists, give lectures and share information. FICAM is the official OECD-GLP grade validation laboratory in EU. Tuula is the Finnish PARERE person for EURL-ECVAM and act in several expert roles for Commission.

**SPARK VALUE: HuManCardio group expects to get expert opinions and help to identify market value, customers and commercialization strategies.**