

Better health and care

Innovative health: Chemical safety assessment – Non-animal testing

- **In vitro toxicity testing using human induced pluripotent stem cell derived 2D and 3D assays**
 - Prof. Dr. Andras Dinnyes coordinator
 - BioTalentum Ltd, SME, HU

Organization



#H2020PartnerHealth

- BioTalentum Ltd (BIOT) is a RTD intensive SME, focusing on human induced pluripotent stem cell (iPSC) derived technology platforms for ***in vitro* toxicology** and **medical solutions** (disease models and regenerative medicine)
- We have excellent technology for human iPSC generation, gene editing (eg. CRISPR/Cas9) for toxicology reporter lines, 2D and 3D (organoid) differentiation into neuronal, cardiac etc. directions.
- BIOT scientifically **coordinated** 9 FP7 projects. Currently involved in 11 H2020 projects including large RIA (EU-ToxRisk) and MC ITN (In3) on in vitro and in silico toxicology, and coordinating RIA project (iNanoBIT) and a MC ITN (DohARTnet) supported by its' own consulting branch.

Our project idea / expertise



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- Addressing the **C1-BHC-11-2020: Advancing the safety assessment of chemicals without the use of animal testing** call.
- BioTalentum/Prof Dinnyes as very experienced coordinator and current participant of alternative testing method focused H2020 projects (EuToxRisk, TUBE, In3) and CRO provider of such services plan to develop further in silico and in vitro methods, validation and industrial uptake.
- The objective is to develop human in silico and in vitro toxicology tools integrating understanding of human biology and related toxicity pathways towards comprehensive safety assessment of chemical substances without animal testing. Priority will be on systemic health effects in humans and to seek uptake by end-users and addressing regulatory requirements.
- The core consortium exist for in silico and in vitro assays and 3D technology, and we are seeking additional industrial and academic teams for validation and as end users (chemical industry and CRO service providers) and multi-organ in vitro toxicology assay developers.

Further calls of interest

BioTalentum core expertise in ***in vitro* toxicology assay** development, human stem cell based **diseases modelling** and **regenerative medicine**, and extensive network of collaborators (academic and industrial) fit the following calls as

i) **partner/coordinator** and/or

ii) **dissemination/business development/management** support:

- **SC1-BHC-36-2020: Micro- and nano-plastics in our environment: Understanding exposures and impacts on human health**
- **DT-NMBP-23-2020: Next generation organ-on-chip (RIA) (*potential coordinator*)**
- **NMBP-21-2020: Custom-made biological scaffolds for specific tissue regeneration and repair (RIA) (*potential coordinator, for Type 1 diabetes treatment by bioartificial pancreas implantation or cartilage repair*)**

Contact details

- Prof. Dr. Andras Dinnyes
- BioTalentum Ltd. (SME, Hungary)
- Andras.dinnyes@biotalentum.hu
- Skype: dinnyesandras
- www.biotalentum.eu
- +36 20 5109632