IMI Induced pluripotent stem cell projects Shifting Drug Discovery Paradigms

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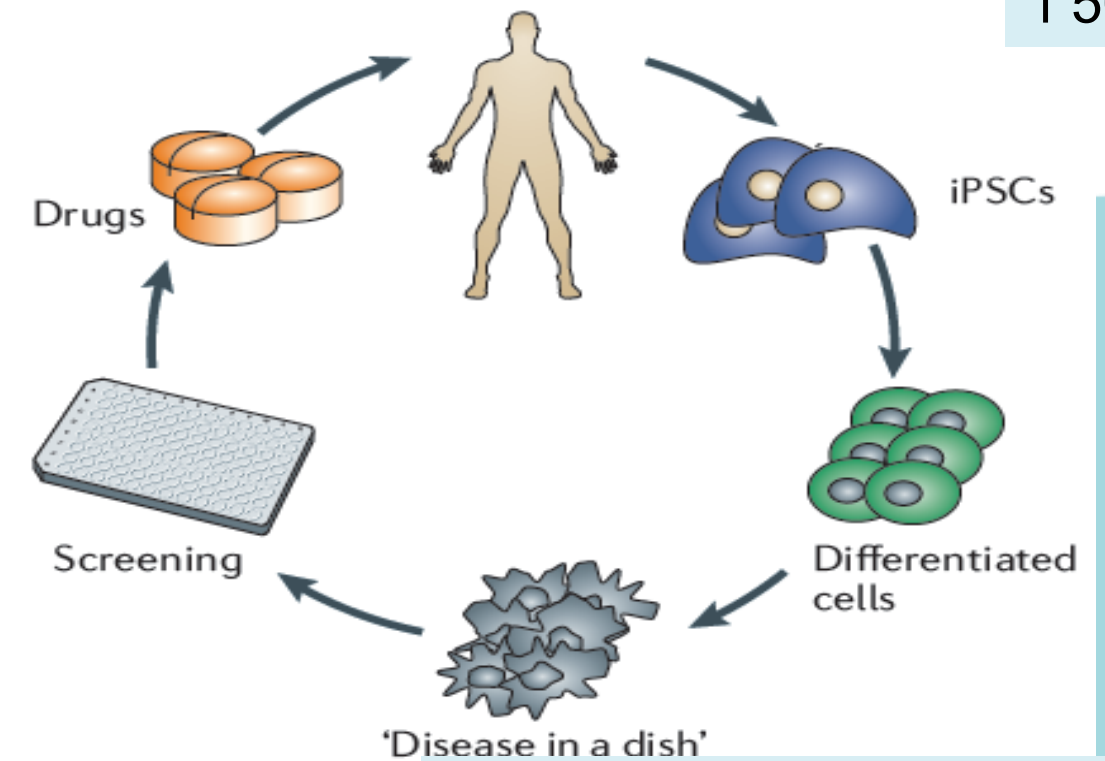
Aims to generate and characterise 1 500 high quality human induced pluripotent stem (iPS) cell lines from 500 people that can be used by researchers to study a range of diseases and test for drug efficacy and safety.

500 Patients

1’500 iPSCs



Grskovic et al. Nature Reviews, Dec

Identify phenotypes,
Develop assays . . .

Disease Areas

- **Diabetes**
- **PNS**
- **CNS**

Toxicology

Consortium of 10 Pharma and 23 Academic/SME

Start date: Autumn 2012

Duration: 5 years

Total cost: €55.6 million

Achievements

- >60 subject reprogrammings in progress/completed: focus on monogenic forms of disease

- Technology Transfers / Trainings ongoing in iPS cultivation and differentiation

- Regular WebEx presentations to disseminate knowledge and experience

- Development of standardized differentiation protocols validated in multiple labs, e.g.:
  nociceptive neurons
  cortical glutamatergic
  mid-brain dopaminergic neurons
  podocyte differentiation protocol established and patented

EBiSC

A €35 million, IMI funded project through which 26 leading European organisations will establish a central facility for the collection, testing and distribution of iPS cells to researchers.

- **Generator of standardized, research grade iPS cell lines**
- **Distributor of quality controlled & banked iPS cell lines**
- **Facilitator of user access to clinical resources & expertise**
- **Innovate a self-sustainable, not for profit, iPSC storage & distribution centre:**
  - With a catalogue for all **major categories of user**
  - With full e-commerce & **international distribution capability**
  - Supportive of diverse applications from disease modelling, target validation to stratified medicine
  - With operational capacity to generate **bespoke lines on demand**

How will EU stakeholders benefit?

A common European approach for iPSC based research

Establishing a central resource will

- **define and disseminate best practice for iPSC based research to tissue donors, their clinicians, research funders, patients etc as well as to researchers**
- **strengthen profile of current European practice for iPSC based research**
- **provide a focal point for academics and SME's for technology innovation**
- **enable faster more cost effective research.**

innovative medicines initiative

Thank you

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