Outline of presentation

● Main features of EU research programmes
● EU support to stem cell research
  ▶ Framework for support
  ▶ hESC research
  ▶ SME participation
  ▶ Examples of projects
● Future perspectives
FP7 Health Programme

- **Main Policy Drivers**
  - Improving health of European citizens
  - Increasing competitiveness of European health-related industries and businesses
  - Addressing global health issues, including emerging epidemics

- **Scope**
  - Basic and applied research, including discovery activities, translational research and early clinical trials (normally phase I and II, exceptionally phase III)

- **Budget**
  - €6.1 billion over 7 years (2007-13) - EC manages about 6% of total EU public R&D spending
EU research projects

- Networks (min 3 countries; av 7 partners)
- Multidisciplinary
- Competitive calls for proposals, peer review
  - Scientific excellence
  - Potential impact
- Industry/ SMEs
- 75% funding for public bodies, SMEs; 50% others
- Third country participation
- Outreach/ training/ ethics/ regulatory affairs, etc
Stem cell research in EU

● Active research area relevant to our priorities; offers hope for incurable diseases; fast-moving field

● Uneven regulations on hESC research in MS

● EU programme can support hESC research subject to:
  ▶ Respect of national laws
  ▶ Some exclusions, eg reproductive cloning, SCNT
  ▶ Case-by-case scientific and ethical review

● Evolving landscape
EU stem cell research projects FP7
(to May 2009)

● Cooperation 27
  ▶ Health 23
  ▶ NMP 3
  ▶ Socio 1
● Ideas 31
● People 43
● TOTAL 101, approx €187 million
● hESC 16, approx €49 million
EU Stem Cell Research

- Alternative Testing
- Banking
- Cell Therapy
- Cancer Research
- Underlying Mechanisms
- Gene Therapy
- Transplantation Issues
- Drug Development

- hESC
- Mesenchymal
- iPS
- Adult
- Foetal

- Hematopoietic
- Cord Blood

- Regenerative Medicine

- islets
- brain
- spine
- heart
- bone/cartilage
- skin
- muscle
Examples of stem cell projects (FP7) I

EuroStemCell portal:
- [www.eurostemcell.org](http://www.eurostemcell.org)

Translation to the clinic:
- **OptiStem**: Optimization of stem cell therapy for clinical trials of degenerative skin and muscle diseases [www.optistem.org](http://www.optistem.org)

- **NeuroStemCell**: European consortium for Stem Cell Therapy for neurodegenerative diseases [www.neurostemcell.org](http://www.neurostemcell.org)
Examples of stem cell projects (FP7) II

Tool development

- **STEMEXPAND**: Stem Cell Expansion – Expansion and engraftment of haematopoietic and mesenchymal stem cells [www.stemexpand.eu](http://www.stemexpand.eu)

- **PurStem**: Utilisation of the mesenchymal stem cell receptome for development of uniform, serum-free culture conditions and tools for cell characterisation [www.purstem.eu](http://www.purstem.eu)

- **LIV-ES**: Development of culture conditions for the differentiation of hES cells into hepatocytes [www.liv-es.eu](http://www.liv-es.eu)

- **ESNATS**: Embryonic Stem cell-based Novel Alternative Testing Strategies [www.esnats.eu](http://www.esnats.eu)
Regenerative medicine Call 3
(closed Dec 2008)

- **Strategy**
  - Support in-patient work, paving the way for new therapeutic products
  - Remove bottlenecks and expand knowledge of mode of action
  - Boost European biotech industry, incl SME
  - Large-scale integrated projects (€6-12 million each)

- **Topics**
  - Cell therapy for tissue and organs
  - Regeneration of tissue using bio-compatible materials & cells
  - Activation of endogenous cells as an approach to regenerative medicine

- **8 projects supported - approx €90 million**
Proposals received:

- Bone and cartilage (incl. disc, tendon, tooth) 26
- Neuro (incl. Parkinson, Alzheimer, stroke, sci) 13
- Heart/Muscle 11
- Vascular 7
- Eye 3
- Kidney/liver 3
- Skin 2
- Diabetes 2
- Several conditions 3
- Other (eg, obesity) 4

TOTAL: 74

of which, SME coordinated: 16
Regenerative medicine
Calls 1, 2 and 3

- Total 17 projects supported
- EU contribution: c. €134 million
- Coordinators: 10 univ, 7 govt lab
- 35 SMEs, of which
  - Cell culture/production, incl repository/bank 13
  - Biotherapeutics 10
  - Cell therapy companies 4
  - Implants/tissue engineering 5
  - Instruments/vectors 3
Future perspectives (1)

- **Next call** (published before summer)
- **Special emphasis**
  - Clinical trials
  - SMEs
  - 2-step submission
- **Regenerative medicine**
  - HEALTH.2011.1.4.1 Regenerative medicine clinical trials
  - HEALTH.2011.1.4.2 Tools, technologies and devices for application in regenerative medicine
  - Both, up to €6 million, >1 project/topic

*Pending approval
Future perspectives (2)

● Other possibilities for cell therapy*
  ▶ HEALTH.2011.2.2.1-1 Investigator-driven clinical trials for childhood onset neurodegenerative diseases
  ▶ HEALTH.2011.2.2.2-1 Investigator-driven clinical trials for therapeutic interventions in the elderly populations
  ▶ HEALTH.2011.2.4.1-1 Investigator-driven treatment trials for rare cancers
  ▶ Up to €6 million, SME focus, >1 project/topic

* Pending approval
Information

Health Research

Open information day Health research 8 June 2010 Brussels
http://ec.europa.eu/ research/ health/ events_en.html

Register as expert evaluator
https://cordis.europa.eu/ emmfp7

New Therapies Catalogue
Conclusions

- EU active in supporting stem cell research
- Research covers many applications but therapy is the most important
- We encourage projects to engage with regulators
- Getting to the in-patient trial stage is a bottleneck and we wish to explore ways this can be overcome
- Further opportunities, esp for clinical trials and SMEs
Thank you for your attention

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