
PAUL DE SOUSA

CV

PARTICIPANT AT:

FUTURE TOOLS FOR BIOMEDICAL RESEARCH. IN VITRO, IN SILICO AND IN VIVO DISEASE MODELING



October, 1st-2nd, 2015, Barcelona

Paul De Sousa, Reader, Centre for Clinical Brain Sciences, University of Edinburgh, Chief Scientific Officer, Roslin Cells Ltd. UK

Following graduate and postdoctoral training in Canada and the US as a developmental biologist, Dr De Sousa joined the Roslin Institute in 1998 as a group leader in embryo biotechnology focused on development of animal cloning and transgenesis by somatic cell nuclear transfer and associated technologies such as egg and embryo culture, parthenogenesis and pregnancy maintenance across diverse species including mouse, pig, cow, sheep and human. In 2001 he shifted and narrowed his focus to human embryo stem cells, specifically development of culture environments to support their isolation and growth for human clinical applications. Dr De Sousa joined the University of Edinburgh in 2005, at which time he also co-founded Roslin Cells Ltd, a not-for-profit company serving to translate stem cell research into quality assured Good Manufacturing Practice (GMP) for advanced cellular therapies. His academic research concerns advancing knowledge and tools to enable the isolation, growth, and qualification of induced and embryo derived pluripotent stem cells for their safe and efficacious use in therapy and discovery, notably for the treatment of neurodegenerative diseases. Dr De Sousa currently serves as an Executive Director and Chief Scientist for Roslin Cells Ltd, and leads work-packages to establish foundational collections for the EU Innovative Medicines Initiative European Bank for Induced Stem Cells, GMP translation of a human pluripotent stem cell based therapy for **Huntington's** Disease (EUFP7 Repair HD) and automated developmental toxicity screening (EUFP7 Droptech). He is also an executive director of Roslin Cellab Ltd, and on the scientific advisory board of the UK government Department of Health Advisory Committee for Safety of Blood Tissues and Organs.

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ABSTRACT

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Establishing standardised access to Human Induced Pluripotent Stem Cell Line Acquisition via the European Bank for Induced Stem Cells

Under joint Innovative Medicines Initiative (IMI) funding from the European Commission and a consortium of European Federation of Pharmaceutical Industries and Associations (EFPIA) members (AstraZeneca AB, H Lundbeck A/S, Janssen Pharmaceutica AB, Novonordisk A/S, Pfizer Ltd, UCB Biopharma SPRL), the European Bank for Induced Stem Cells (www.ebisc.org) has been established to provide standardised access to disease representative human induced pluripotent stem cells for discovery to benefit both industry and the broader community. This includes detailed scrutiny of ethical provenance, safety screening, scientific characteristics and intellectual property issues. EBISC has established acceptability criteria and a management process to evaluate and approve new lines, and assure consistency of stem cell lines at an early phase of accession. These procedures are captured in a Quality Manual designed to assure consistent delivery of high quality cell lines to users. To launch the bank a fast track “**Hot Start**” process was implemented with EBISC project partners at the Universities of Bonn, Cologne, Hubrecht, Newcastle, Instituto de Salud Carlos III, Bioneer and Roslin Cells, to provide early release of established iPSC lines. Data characterising these lines supplied by the depositors directly will be available via the hESCreg database (www.hescreg.eu/). Cell lines will be stored at central and mirror banking facilities at Roslin Cells in Edinburgh and Babraham UK, and Fraunhofer IBMT, in Sulzbach Germany and Babraham, UK, and distributed via the European Collection of Cell Cultures, Public Health England, UK) with certificates of analysis for each lot of cells. Here we present the experience of the bank to date and discuss scientific and technological challenges for the field in the procurement, processing and use of this resource in discovery.

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