BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Clive Svendsen

eRA COMMONS USER NAME (credential, e.g., agency login): CSvendsen

POSITION TITLE: Professor and Director

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
University of London, Kings College, England	B.Sc.	05/83	Zoology
University of Cambridge, Cambridge, England	Ph.D.	05/91	Neuroscience
University of Cambridge, Cambridge, England	Post Doc	05/95	Neuroscience

NOTE: The Biographical Sketch may not exceed five pages. Follow the formats and instructions below.

A. Personal Statement

My laboratory focuses on neuroscience and stem cell research. The two main current themes are disease modeling using induced pluripotent stem cells, and neural cell and gene therapy approaches for diseases such as ALS, Huntington's Disease, Parkinson's Disease and stroke. Underpinning both of these studies is studying the development of the human brain and factors that control it, and trying to see what goes wrong during disease. From a translational perspective we are currently exploring the use of neural progenitor cells releasing GDNF for the treatment of ALS and have developed a cGMP Master Cell Bank from which we are deriving clinical lots of cells. Together with neurologists, neurosurgeons and regulatory experts we are exploring how to take these cells forward in humans. As director of the Regenerative Medicine Institute I am also overseeing active programs in Eye, Pancreas/Liver, Skeletal and Blood areas of research.

B. Positions and Honors

Positions and Employment

1984-1988 Neurochemist, Brain Bank, McLean Hospital/Harvard Medical School, MA
1994-1999 Wellcome Research Fellow and PI, MRC Centre for Brain Repair, University of Cambridge
2000-2010 Professor of Anatomy and Neurology, University of Wisconsin-Madison, Madison
2006-2010 Co-Director of the UW Stem Cell and Regenerative Medicine Center
2007- Consultant Professor, Department of Neurosurgery, Stanford University, CA
2010- Professor in Residence, Department of Medicine, UCLA, CA
2010- Professor of Medicine, Cedars-Sinai Medical Center, CA
2010- Director, Cedars-Sinai Regenerative Medicine Institute, Cedars-Sinai Medical Center, CA

Other Experience and Professional Membership

1997-2000 Director of Training: MRC Centre for Brain Repair, University of Cambridge
2004-2007 SAB member of Michael J. Fox Foundation
2005- Editorial board member of Experimental Neurology and Neurobiology of Disease
2005-2010 Director of NIH T32 Stem Cell Training Grant
2008- 2013 Member of NIH study section (NSD-B)
2009- Advisory Board for the WiCell Institute, Madison, Wisconsin
2010- 2013 Member of Scientific Advisory Council for the Coriell Medical Institute

Honors

1995	Wellcome Trust (UK) Career Development Award
2004	Bernard Sanberg Memorial Award for Brain Repair
2005	Statuette with Pedestal award from the International Academy for Child Development
2009	Huntington's Disease Society of America (HDSA) Trailblazer Award
2010	Shelia Essay Award for ALS research from the American Academy of Neurology
2010	Commitment to a Cure Award from the ALS association

C. Contribution to Science

Complete List of Published Work in My Bibliography:
http://www.ncbi.nlm.nih.gov/sites/myncbi/clive.svendsen.1/bibliography/47390618/public/?sort=date&direction=ascending

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D. Research Support

ACTIVE

NIH/LINCS Thompson (MPI), Svendsen (MPI) 07/01/2014 – 06/30/2020
National Institute of Health
Neuron and Glial Cellular Signatures From Normal and Diseases iPS Cells
We will use existing iPS lines from control patients and patients with SMA, fALS and sALS. We will then differentiate them into neural phenotypes and perform a series of assays on the cells including time lapse microscopy, cell death assays, high content screening and a series of omics – transciptomics, proteomics and genomics in addition to epigenetic analysis.

1R01EY023429-01 Ljubimov (PI), Svendsen Co-I 06/01/2013 – 05/31/2016
NIH/NEI
Transplantable Limbal Cells From Induced Pluripotent Stem Cells
We propose to make human corneal epithelial cells from iPS cell lines derived from corneal limbal cell cultures. By using limbal cells that retain epigenetic memory as iPS source we expect to regenerate corneal cells more efficiently and reproducibly than before.

2R01 EY13431 Ljubimov (PI), Svendsen Co-I 03/15/2012 – 03/31/2016
NIH/NEI
Mechanisms of Epithelial Alterations in Diabetic Cornea
This proposal will use corneal stem cells as targets for gene therapy because they give rise to epithelial cells that become altered in diabetes.
Role: Co-I

W81XWH-14-1-0189 Svendsen (PI) 06/01/14 – 05/31/17
Department of Defense (DOD)
Muscle-derived GDNF: A gene therapeutic approach for preserving motor neuron function in ALS
Glial cell line-derived neurotrophic factor (GDNF) is a potent trophic molecule and can promote motor neuron survival in vitro and in vivo. This study will use a gene therapy approach to deliver GDNF to the muscle of rats. We aim to file an IND with the FDA by the end of this proposal.

DR2A-05320 Svendsen (PI) 02/01/2013 – 01/31/2017
California Institute for Regenerative Medicine (CIRM)
Progenitor Cells Secreting GDNF for the Treatment of ALS
This project will produce under a line of neural progenitor/stem cells that are genetically modified to release a powerful growth factor (CNS 10-NPC-GDNF), complete preclinical pharmacology/toxicology/tumorogenicity studies in both small and large animals, and complete a first in man Phase 1/2a combined stem cell and ex vivo gene therapy trial in ALS patients.
Role: PI

LQLWE0 Svendsen (PI) 08/01/2012 – 07/31/2015
ALS Association
Combining Muscle Derived GDNF
Here we propose combining the viral delivery of the growth factor glial cell line-derived neurotrophic factor to the muscles of SOD1G93A rat model of ALS with the transplantation of human neural progenitors/stem cells (hNPCs) secreting potent neurotrophic factors or immunomodulatory molecules.

Leandro P Rizzuto Foundation/ALSA Svendsen (PI) 10/01/2014 – 12/31/2014
Using Novel Imaging Agents as a Biomarker for ALS
Progression in the fALS Rat
We will assess whether degeneration in both the motor cortex and spinal cord can be detected in the G93A preclinical animal model using novel MR and/or optical imaging agents developed at GE.

Leandro P Rizzuto Foundation/ALSA Svendsen (PI) 10/01/2014 – 06/30/2015
Application of MultiOmyx to iPSC Models of ALS
The ability of cell systems including iPSC to recreate some of this complexity in vitro presents both opportunities and challenges. More efficient and effective tools to deeply interrogate and analyze these systems will help accelerate the discovery of disease causes and treatments.

University of Technology Sydney Svendsen (PI) 11/01/2014 – 10/31/2016
AHDS Patient-derived Induced Pluripotent Stem Cells
Provide a Disease in a Dish Model to Elucidate the Role of Mct8 in the Human Brain
We propose 4 specific aims in order to further understand of the mechanisms that underlie Mct8-deficiency, develop these iPSC-based platforms and establish molecule screens for the treatment of AHDS.

ALS Association Svendsen (PI) 07/01/2015 – 03/30/2016
Application of MultiOmyx to iPSC Models of ALS
Studies on ALS in collaboration with GE.

ALS Association Svendsen (PI) 01/01/2015 – 06/30/2016
Using Novel Imaging Agents as a Biomarker for ALS
Progression in the fALS Rat
We will assess whether degeneration in both the motor cortex and spinal cord can be detected in the G93A preclinical animal model using novel MR and/or optical imaging agents developed at GE.

ALS Association Svendsen (PI) 11/01/2014 – 12/31/2016
ENROLL ALS: DNA, Inflammatory and IPSC
Markers and Model of ALS
Our goal is to identify biomarkers in people with ALS to expand our understating of ALS pathology, treatment targets, disease progression, and anatomical differences between different disease phenotypes. This pilot project will allow us to conduct future efficient ALS clinical trials and learn more about the causes of ALS.

PENDING
NIH Svendsen (PI) 08/01/2015 – 07/31/2019
Ultrasensitive Multi-omic Platform – NIH
Transformative Research Award
We propose to apply the methods developed to the elucidation of ALS disease mechanisms using a well-characterized animal model of ALS progression and human iPSC cells representing normal and ALS phenotypes.

OVERLAP
There is no scientific overlap.