

Protecting the heart with exosomes



Dr Sean Davidson

**Vice Chair (Chair elect) and
Secretary of ESC working
group on Cellular Biology of
the Heart**

Principal Research Fellow

**Group Leader: Exosome
Research Group**

**The Hatter Cardiovascular
Institute, University College
London, UK.**

Exosomes are nano-sized vesicles that are produced by all cell types. They are able to transport miRNA and protein to recipient cells and modulate their function. We have been investigating how exosomes can protect the heart from ischaemia and reperfusion injury, such as occurs during a heart attack, with the overall aim being to identify the optimal source of exosomes that could be used clinically to protect the heart. We find that exosomes from different sources are able to activate protective kinase signalling pathways in the heart. However, in the setting of diseases or co-morbidities such as diabetes this cardioprotective ability is impaired.

Curriculum Vitae

Dr Sean Davidson

Academic and Employment Record

2016 – present Principal Research Fellow.

Group Leader: Exosome Research Group.

The Hatter Cardiovascular Institute, University College London, UK.

2003 - 2016 Senior Research Fellow, in the laboratory of Prof. Derek Yellon

The Hatter Cardiovascular Institute, Division of Medicine, University College London.

2001 - 2003 Post-doctoral Training

Laboratory of Prof. David Latchman Institute of Child Health, UCL, London.

1999 - 2001 Post-doctoral Training

Laboratory of Prof. Michel Morange, l'Ecole Normale Superieure, Paris.

1992 - 1998 Post-Graduate Education

PhD, Biochemistry. Supervisor: Dr. Robin Anderson, La Trobe University Melbourne.

1990 -1991 B.Sc. (Hons), 1st class, University of Melbourne, 1991

Total peer-reviewed publications: 133

On Scopus (authorId=10139785100):

On Google Scholar:

H-index 44 Total citations: 6,698

H-index 50 Total citations: 9,211

Elected Committee positions of scientific societies

2018-present **Secretary and Vice-chair** of ESC working group – Cellular Biology of the Heart

2018-present **Council member** of Int Society of Heart Research (ISHR) - European Section

2012-present **Nucleus committee member** ESC working group – Cellular Biology of the Heart

2011-2017 **Commitee member** of the British Society for Cardiovascular Research (BSCR)

Editorial board memberships

2018-present **Associate Editor:** Basic Research in Cardiology

2015-present **Associate Editor:** Cardiovascular Research

2015-present **Associate Editor:** Cardiovascular Drugs and Therapy

Current collaborations

Prof Derek Yellon, Director of the Hatter Cardiovascular Institute, UCL, UK

Prof Bart Vanhaesenbroeck, Cancer Institute, University College London, UK

Dr Pascale Guillot, Institute of Women's Health, University College London, UK

Prof Beppe Battaglia, Chemistry Department, University College London, UK

Prof Borja Ibanez, Fundacion Centro Nacional de Invest Cardiovasculare, Madrid, Spain.

Prof Michael Duchon, Dept Cell & Dev Biol, University College London, UK