“Advances in Oncology Seminar series”

Prof. Steven Pollard

Neural Stem Cells and Brain Cancer Group leader

(MRC Centre for Regenerative Medicine and Edinburgh Cancer Research Centre, University of Edinburgh)

Title

“Programming and reprogramming brain tumour stem cells”

5th November 2014, 13.00h
Biodonostia Health Research Institute
Donostia - San Sebastian

PROF. STEVE POLLARD CV SUMMARY

2013 – present Group Leader, MRC Centre for Regenerative Medicine and Edinburgh Cancer Research Centre, University of Edinburgh
2009–2013 Group Leader, Samantha Dickson Brain Cancer Unit and UCL Cancer Institute
2006–2009 Beit Memorial Research Fellow and Kaye Fellow (Christ's College), with Austin Smith, Wellcome Trust Centre for Stem Cell Research, University of Cambridge

Neural stem cells and brain cancer

- 2002-2006 Postdoc with Prof Austin Smith FRS, Institute for Stem Cell Research, University of Edinburgh

Conversion of pluripotent ES cells to multipotent NS cells.

- 1998–2002 PhD student with Dr Derek Stemple, Division of Developmental Biology, MRC National Institute for Medical Research, Mill Hill, London

PROF. STEVE POLLARD RESEARCH SUMMARY

Steve's group focuses on the most common and malignant form of primary adult brain cancer, known as glioblastoma multiforme. These tumours are made up of several phenotypically distinct cell types, including an immature stem cell population which is thought to drive tumour growth. The long term goal of our research is to uncover the molecular and cellular mechanisms that control stem cell lineage choice, commitment and differentiation.His specific focus is on mammalian neural stem cells and he is studying how these pathways operate in the context of the lethal human brain cancer, glioblastoma. The primary model system is a novel set of neural stem (NS) cell lines generated from rodent and human germinal tissues or from brain tumour biopsies. These in vitro studies are complemented by in vivo assays (stereotaxic injection) and analysis of the developing mouse forebrain and primary tumour samples.There are currently three major areas of interest:
1. Lineage specific transcription factors – investigating the function and biochemistry of lineage specific transcriptional regulators, such as members of the SOX, FOX and bHLH family. These lie at the heart of cell fate decisions in neural stem and progenitor cells during development and within brain tumours.

2. High content chemical screening – carrying out image-based small molecule screens to search for new agents and pathways that can modulate self-renewal and differentiation in normal and glioblastoma-derived neural stem cells. (collaboration with Dr Neil Carragher and Dr Paul Brennan)

3. Epigenetic programming and reprogramming – investigating whether changes to the epigenome within glioblastoma-derived cancer stem cells enable suppression of malignant properties, using both direct differentiation as well as nuclear reprogramming strategies to test this.

Steve's hope is that these studies will uncover new possibilities for targeted therapy for glioblastoma.

Advances in Oncology Seminar Series

La Comunidad Autónoma Vasca está realizando un indudable avance en Innovación e Investigación en todos los campos. En particular, la Provincia de Guipúzcoa está sentando las bases para ser un área de referencia en el área de la Oncología. Esto ha sido posible gracias a la inversión que los distintos Estamentos e Instituciones están realizando en este campo en los últimos años.

El Hospital Donostia, el Instituto de Investigación Sanitaria Biodonostia , la fundación Onkologikoa junto con la inestimable ayuda de la AECC Guipúzcoa consideran que es necesario seguir dando pasos adelante en el objetivo de ser un referente en investigación y para ello han organizado el Programa "**Advances in Oncology seminar series",** una serie de seminarios que se realizará de manera mensual en la que va a participar lo más granado de la ciencia y medicina mundial en la lucha contra el cáncer. El objetivo es debatir los avances recientes y dirigir la investigación y tratamientos futuros que ha de realizarse en nuestra comunidad.