Lund University Cancer Center

Distinguished Seminar

“"The good and the bad of tumor oxygenation””

Prof. Randall Johnson, PhD
KI, Sweden and Cambridge University, UK

Time and location: February 25th at 13.30, MV Lecture Hall (Hörsalen), coffee and cake at 14.30

Contact: Håkan Axelson, hakan.axelson@med.lu.se

Biography: Ph.D. in Genetics from Harvard in Prof. Bruce Spiegelman's lab, pioneering gene targeting techniques in embryonic stem cells. Post-doctoral work as a Jane Coffin Childs Fellow with Prof. Doug Hanahan at UC San Francisco, working on the role of angiogenesis in transgenic tumor models. Thereafter he became a group leader in the Dept. of Biology at the University of California, San Diego focusing on hypoxia and its effects on tumorigenesis and physiology using knockout and other genetic models. Since 2011 Wellcome Trust Principal Research Fellow at Cambridge University and since 2012 an associated member of the Department of Cell and Molecular Biology at the Karolinska Institute. Member of the Nobel Assembly at the Karolinska Institute since 2015.

Abstract: One of the functions of the mammalian hypoxic response in development and cancer is the generation of nascent vascular networks through angiogenesis. Through transcriptional regulation of the vascular endothelial growth factor A (VEGF-A) and other angiogenic factors, the Hypoxia-Inducible Factors can increase angiogenesis in an oxygen dependent fashion and give a survival and growth advantage to HIF wild type tumors. However, their role in other cell types is not always redundant. We are starting to understand that each cell type within the tumor microenvironment has specific hypoxia response strategies that independently affect tumor growth and tumor dispersion. We use genetic techniques to identify the role of hypoxia-triggered and HIF-dependent responses in different cell types, with a particular focus on cancer.

Selected publications:

