Institute of Molecular and Cell Biology

A*STAR

SEMINAR ANNOUNCEMENT

We would like to invite you to attend this seminar hosted by Prof Hong Wanjin:

Date: Friday, 17 January 2020
Time: 11:00AM – 12:00NN
Venue: Level 3, IMCB Seminar Room 3-46, Proteos, Biopolis

Lgr5+ Stem Cells in Homeostasis and Disease of the Stomach



Prof Nicholas Barker
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Abstract

We have identified Lgr5 as a facultative component of the Wnt receptor complex selectively expressed on various homeostatic stem cell populations. Employing new, non-variegated Lgr5-2A-CreERT2/EGFP/DTR mouse models we now identify a subset of Lgr5-expressing chief cells responsible for epithelial repair and cancer initiation in the corpus stomach following parietal cell atrophy. We additionally characterize the transcriptomes Lgr5+ stem cells in mouse intestine, colon and stomach, revealing new gastric stem cell-specific markers that can be used to isolate human gastric stem cells for regenerative medicine applications and for use in selectively targeting cancer-causing mutations to the Lgr5+ stem cell compartment in mice as a means of evaluating their contribution to gastric cancer initiation and progression.

Biography

With Hans Clevers, Nick identified dysregulated Wnt signaling as the initiating event in colon cancer (Science 1997). In 2001 he joined Semaia Pharmaceuticals to develop colon cancer therapeutics. In 2006, he re-joined Hans Clevers group as senior staff scientist, where he identified Lgr5 as a marker of various adult stem cell populations (Nature 2007) and intestinal Lgr5 stem cells as being the cell-of-origin of colon cancer (Nature, 2009). In 2010, he joined A-STAR IMB as Senior PI, later promoted to Research Director, where he focuses on Lgr5 gastric stem cells in self-renewal and cancer. Nick was short-listed for the ISSCR 2015 McEwen Award for Innovation and the 2018 Innovators in Science Award. In 2017 he received the NRF Investigatorship and is a Web of Science Highly Cited Researcher (H-index of 56 and >28,000 citations). He is adjunct Professor at NTU and a Research Professor at Kanazawa University, Japan.

ALL ARE WELCOME *(No registration required)*

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