DukeNUS Medical School

Signature Seminar Series

# mTOR Signaling in Growth and Metabolism

## ABOUT THE LECTURE

TOR (target of rapamycin) is a highly conserved serine/threonine kinase that controls cell growth and metabolism in response to nutrients, growth factors, and cellular energy. TOR was originally discovered in yeast but is conserved in all eukaryotes including plants, worms, flies, and mammals. TOR is found in two structurally and functionally distinct multiprotein complexes termed TORC1 and TORC2. The two TOR complexes, like TOR itself, are highly conserved. Thus, the two TOR complexes constitute an ancestral signaling network conserved throughout eukaryotic evolution to control the fundamental process of cell growth. As a central controller of cell growth, TOR plays a key role in development and aging, and is implicated in disorders such as cancer and diabetes. While the role of TOR in controlling growth of single cells is relatively well understood, the challenge now is to understand the role of TOR signaling in disease and in coordinating and integrating overall body growth and metabolism in multicellular organisms. This will require elucidating the role of TOR signaling in individual tissues. Data on the role of mammalian TORC1 (mTORC1) and mTORC2 in controlling cellular processes and in specific tissues will be presented.

**Speaker:** **Prof Michael Hall**
**Head of Research Group**
**Biozentrum, University of Basel**
**Switzerland**

**Host:** **Prof David Virshup**
**Director**
**Programme in Cancer & Stem Cell Biology**
**Duke-NUS Medical School**



**Date:** **Tuesday, 7 February 2023**

**Time:** **12.00 PM - 1.00 PM**

**Venue:** **For in-person attendance:**
**Duke-NUS Medical School**
**Amphitheatre, Level 2**

**For virtual seminar (via Zoom), please register *HERE*.**
***(Please rename your login name to include your institution to facilitate admission)***

**Contact Person:** **Ms Kathleen Chan (kathleen.chan@duke-nus.edu.sg)**
**Duke-NUS Research Affairs Department**

## ABOUT THE SPEAKER

Michael N. Hall received his Ph.D. from Harvard University and was a postdoctoral fellow at the University of California, San Francisco. He is currently Professor and former Chair of Biochemistry at the Biozentrum of the University of Basel, Switzerland. Dr. Hall is a pioneer in the fields of mTOR signaling and cell growth control. He is a member of the US National Academy of Sciences and has received numerous awards including the Breakthrough Prize in Life Sciences and the Albert Lasker Award for Basic Medical Research.

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