DukeNUS Medical School

Signature Seminar Series

Discovery and Development of Novel Marine-Derived Anticancer and Antiangiogenic Agents

ABOUT THE LECTURE

Over half of all current drugs are derived from natural products, while the marine environment represents a largely untapped resource. Natural products from marine cyanobacteria cover therapeutically relevant chemical space, underscored by the approval of brentuximab vedotin, an antibody-drug conjugate with a cytotoxic payload that is derived from dolastatin 10 which we discovered from a marine cyanobacterium. In addition, we have identified novel anticancer and antiangiogenic agents with other targets, including novel inhibitors of class I histone deacetylases and cotranslational translocation. A requisite for the development of these marine natural products into therapeutics is the detailed characterization of their mechanisms of action, along with solving the supply problem. An integrative platform of pharmacological, genomic and proteomic profiling assisted us in understanding their activities on the cellular and molecular level. Total synthesis and medicinal chemistry campaigns allowed us to improve selectivity profiles. Rigorous biological evaluation directed us to specific disease indications and enabled us to perform more targeted preclinical studies.

Speaker: **Prof Hendrik Luesch**
Chair, Department of Medicinal Chemistry
Director, Center for Natural Products, Drug Discovery and Development (CNPD3)
University of Florida, USA

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

Date: **Tuesday, 24 September 2019**

Time: **12.00 PM - 1.00 PM**
(Light refreshments will be served at 11.30 AM)

Venue: **Duke-NUS Medical School**
Amphitheatre, Level 2

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

ABOUT THE SPEAKER

Hendrik Luesch received his Diploma in Chemistry at the University of Siegen (Germany) in 1997 and his Ph.D. at the University of Hawaii at Manoa with Richard E. Moore in 2002. After three years of postdoctoral studies at The Scripps Research Institute with Peter G. Schultz, he joined the University of Florida as a faculty member in 2005 and is now Professor and Chair of the Department of Medicinal Chemistry and Director of the Center for Natural Products, Drug Discovery and Development (CNPD3).



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