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Towards pharmacological validation of MAP kinase interacting kinases (MNKs) as anti-cancer drug targets

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Cancer is a leading cause of death worldwide, and according to WHO estimates the number of new cases will increase by 70% over the next 20 years. New treatments are urgently needed. The MAP kinase interacting kinases (Mnks) have been validated as potential cancer targets using cell biology and animal models. Inhibition of Mnk activity can effectively block oncogenic transformation and tumor development. Importantly while Mnk activation is essential for tumorigenesis it is not required for normal tissue development. Pharmacological inhibition of Mnks could therefore provide a major advance in treatment strategies, a nontoxic and effective anti-cancer therapeutic agent. But to date the lack of specific Mnk inhibitors has confounded pharmacological target validation and clinical development. However, we have recently identified several potent Mnk inhibitors. In this presentation we discuss our strategy to develop specific Mnk inhibitors including the impact of these on eukaryotic translation initiation factor 4E (eIF4E), tumor cell migration and how they might be used to improve cancer treatment.

Biography

Hugo Albrecht is a Senior Lecturer at the University of South Australia and a member of the Centre for Drug Discovery and Development within the division of Health Sciences. Prior to his appointment to the University of South Australia, he has held various positions in academic and commercial settings in Switzerland and the US, where he gained profound experience in preclinical drug discovery. From 2000-2007, he was employed at Discovery Partners International AG, Allschwil, Switzerland as Head of Research & Development. From 2007-2011 he was employed as Professor of Bioanalytics at the University of Applied Sciences Northwestern Switzerland (FHNW), Basel.

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