NANYANG TECHNOLOGICAL UNIVERSITY

School of Biological Sciences

SBS Seminar Announcement

The Strength of Weak Biological Interactions as Applied to Drug Discovery and Diagnostics

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Abstract

A multitude of weak (transient) biological interactions (dissociation constant: K_D > μM), either working alone or in concert, occur frequently throughout biological systems and we are now starting to appreciate their significance in complex biological networks. This realization has important consequences in a number of areas such as drug discovery and diagnostics. The introduction of the transient drug concept, high throughput fragment screening and the continuous biosensor for clinical diagnostics are three examples of this. My presentation will focus on the background and key considerations of transient biological interactions in nature and how this knowledge can be applied in drug discovery and diagnostics.

Examples of transient binders will be given on fragment screening with commercial libraries using affinity LC/MS of protein targets such as serine proteases and kinases. The development of the continuous biosensor with weak binders will be exemplified with carbohydrate targets such as glucose. In addition the potential and relevance to develop transient drugs will be thoroughly discussed.

Maybe yet the greatest obstacle towards recognizing transient binders is the general notion among researchers that they are non-specific and therefore of no relevance.

Thursday, 10 Nov 2011 4.00pm to 5.00pm SBS Classroom 3 (SBS-01n-23)

Host: Associate Prof Konstantin Pervushin