QBiC SEMINAR

Speaker

Robert A. Cross, Ph.D.

Warwick Medical School, University of Warwick

Date & Location

Wednesday, September 16, 2015
12:30 - 13:30

QBiC Bldg. A, 1F lounge
(6-2-3, Furuedai, Suita, Osaka)
*There will be a video broadcast in CDB Bldg.A 7F, S703-704

Title

Strong-state kinesins inhibit microtubule shrinkage

Abstract

In cells, the tips of dynamic microtubules often engage with kinesins, either because kinesins walk to MT tips or because MT tips are captured by tethered kinesins. There is evidence from the Muto lab that MT binding by motile kinesins changes the conformation of tubulin heterodimer subunits in the GDP-taxol lattice so as to promote further kinesin binding. We have recently found that binding of strong-state kinesins to the GDP-lattice of dynamic MTs changes tubulin conformation so as to stabilise the MTs against shrinkage following catastrophe. Adding ADP converts the kinesins to weak binding and triggers MT shrinkage, at a rate that depends on the ADP concentration.

Host

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