

京都産業大学 総合生命科学部 バイオフィォーラム 2011



最先端の生命科学研究に触れてみませんか

第4回 9月22日(木)開催 【開場】16:30～【開演】17:00～(90分)

[1]

【講師】 Senior Group Leader Hubrecht Institute for Developmental biology and stem cell research

Catherine Rabouille 博士



【演題】「Modulation of secretion by signaling.」

Secretion is mediated by the secretory pathway that has a basic functional organisation identical in *Drosophila* as in mammalian cells. In *Drosophila*, the early secretory pathway comprises ER exit sites (tER sites) in close proximity to Golgi stacks (that are not connected into a Golgi ribbon as in mammalian cells) and forms the tER-Golgi units. We performed a microscopy based RNAi screen for kinases involved in the organisation of tER-Golgi units and identified an atypical MAPK kinase CG32703. Upon overexpression, Sec16, the protein key to the organisation of the tER sites is found dispersed in the cytoplasm leading to the disassembly of the tER sites. Surprisingly, we found that nutrient starvation results in a similar phenotype (together with a cessation of anterograde transport). We will discuss evidence showing that inhibition of secretion in the absence of nutrient is an active mechanism involving CG32703.

[2]

【講師】 Professor The Hong Kong University of Science and Technology (HKUST)

David K Banfield 博士



【演題】「Mechanisms of Protein retention in the Golgi」

The majority of proteins localized to the Golgi at steady state are type II integral membrane proteins, and of these the glycosyltransferases are predominant. Much has been learned about the features of glycosyltransferases that contribute to their Golgi retention, however a mechanism by which these enzymes might be incorporated into COPI coated vesicles has remained elusive. We have identified a protein in yeast (Vps74p) that is required for the retention of glycosyltransferases in the Golgi. Vps74p is a member of an evolutionarily conserved protein family termed GOLPH3, of which there are two members in vertebrates, GOLPH3 and GOLPH3L. While human GOLPH3 proteins can functionally substitute for Vps74p, paradoxically human glycosyltransferases do not bear Vps74p-binding motifs, nor do GOLPH3 proteins appear to be required for glycosyltransferase retention in human cell lines. I present data that reveals novel mechanistic insight into the role of Vps74p / GOLPH3 in Golgi protein retention and that resolves the apparent paradox concerning the seemingly disparate role(s) GOLPH3 proteins play in the Golgi.

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- 交 通● ※キャンパス内に駐車場はありません。公共交通機関をご利用ください。
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地下鉄で「北大路駅」下車→市バス(北3号系統)または京都バスで京都産大前下車
- 主 催● 京都産業大学 総合生命科学部

英語講演(通訳無し)・事前申込不要・入場無料