

# 京都産業大学 総合生命科学部 バイオフィォーラム 2014

最先端の生命科学研究に触れてみませんか

バイオフィォーラム 10月17日(金) 開催  
SEMINAR IN BIOCHEMISTRY

【開場】 16:15～ 【開演】 16:30～17:30

【場所】 京都産業大学 15号館1階15102セミナー室

【講師】 Prof. Chris Meisinger (Freiburg University, Germany)

【演題】 Mitochondrial protein import: from proteomics to functional mechanisms

Most mitochondrial proteins are nuclear encoded and have to be imported after their translation in the cytosol. For a long time the protein import machineries that mediate import and sorting of mitochondrial preproteins have been considered constitutively active. However, several proteomic and phosphoproteomic approaches led to the identification of mechanistic principles that regulate protein import according to changes in metabolism, cell cycle phases or stress. These mechanisms include cytosolic as well as mitochondria-bound protein kinases that act particularly at the central protein entry gate of the mitochondrial outer membrane, the TOM-complex.

Furthermore, a systematic global approach determined the mature N-termini of >600 mitochondrial proteins. The data allowed a systematic analysis of mitochondrial presequences that direct preproteins to the organelle, and the characterization of authentic cleavage site motifs for presequence processing peptidases. Additionally, cleavage of presequences upon import and their subsequent degradation by the mitochondrial peptidosome had been considered independent reactions. Our results revealed a functional coupling of both processes that plays a role in mitochondrial proteostasis and is a central target for the toxicity of the Amyloid beta peptide. This mechanism might explain why Amyloid beta leads to multiple mitochondrial dysfunctions in Alzheimer's disease.



※本講演は英語講演となります。通訳はありませんので、ご注意ください。

□お問合せ□

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□交 通□

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