



# 第 353 回 つくば分子生命科学セミナー

**TSUKUBA MOLECULAR LIFE SCIENCE SEMINAR**

演題 : Direct visualization of cell division using high resolution imaging of M-phase of the cell cycle

演者 : Michael Hesse 先生

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日時 : 2012 年 9 月 18 日 (火) 17:00-18:30

会場 : 医学系棟 Seminar Room 482

要旨 :

Current approaches to monitor and quantify cell division in live cells, and reliably distinguish between acytokinesis and endoreduplication are limited and complicate determination of stem cell pool identities. To overcome these limitations we report the generation of an in-vivo reporter system using the scaffolding protein anillin fused to eGFP to provide high spatiotemporal resolution of M-phase. This approach visualizes cytokinesis and midbody formation as hallmarks of expansion of stem- and somatic cells and enables distinction from cell cycle variations. High resolution microscopy in embryonic heart and brain tissues of eGFP-anillin transgenic mice allows live monitoring of cell division and quantitation of cell cycle kinetics. Analysis of cell division in hearts post-injury shows that border zone cardiomyocytes in the infarct respond with increasing ploidy, but not cell division. Thus, the eGFP-anillin system enables monitoring and measurement of cell division in-vivo and markedly simplifies in-vitro analysis in fixed cells.

連絡先 :

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