研究題目　Molecular analysis of drug-like small molecules in the nucleoli

研究組織

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【1】研究の概要

[1-1]本研究の目的・概要

Our primary objective is to characterise in detail how Madrasin, a druglike small molecule initially identified as a splicing modulator affects the structure, molecular composition, functions, and dynamics of nuclear bodies (NBs) in cells.

[1-2]研究の方法・経過

We employed a multidisciplinary approach, including fluorescence and electron microscopy imaging, biochemical methods, including subcellular fractionation, Mega-SEC technology and northern blotting and quantitative MS-based proteomics.

【2】研究成果

[2-1]本共同研究で明らかになった研究成果

We found that Madrasin has a profound effect on pre-rRNA processing by binding and/ or inhibiting assembly factors during the process of ribosome subunit biogenesis.

[2-2]本共同研究による波及効果及び今後の発展性

The close collaboration and the sharing of resources are crucial for the successful completion of this project. Moreover, this project will lead to generation of potential new therapeutics targeting ribosome assembly, which is often dysregulated in cancer cells.

【3】主な発表論文等

[3-1]論文発表

Manuscript in preparation.

【4】今後の課題等

今後の課題、その他等

We will identify the protein components of nucleolar pre-ribosomal particles and analyse how their composition is altered by Madrasin.