



第 474 回 つくば分子生命科学セミナー

TSUKUBA MOLECULAR LIFE SCIENCE SEMINAR

演題 : Deamination of influenza A-viruses: just a marker for inflammation or an anti-viral defence mechanism?

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日時 : 2023 年 9 月 29 日 (金) 17:00-18:30

会場 : 健康医科学イノベーション棟 8 階講堂

要旨 : Influenza A virus (IAV) causes seasonal flu, accounting for in average 290,000 to 645,000 deaths per year worldwide. Less understood is the effect of nucleic acid modifications on RNA virus replication affected by adenosine deaminases acting on RNA (ADARs). ADARs deaminate adenosine to inosine on double-stranded RNA, which is read as guanosine during translation and replication, leading to increased instances of A→G mutations. Through both viral RNA editing and non-editing functions, ADARs can modulate the immune response against viral dsRNA, resulting in diverse effects on viral fitness and infectivity. In this study, we used whole-genome next generation sequencing to investigate potential ADAR signatures in IAV RNA collected from nasopharyngeal swabs of patients during the 2016/2017 H3N2 IAV epidemic. Our mutational analysis of patient samples revealed, for the first time, a direct age-dependent antiviral function for ADAR editing against IAV, which was directed against its mRNAs.

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