



京都大学医生物学研究所

## 「ウイルス学の潮流セミナー」2025

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**演者 : Dr. Dawid Zyla**

Staff Scientist, La Jolla Institute for Immunology, USA

**演題 : “Structural insights into Measles glycoprotein dynamics and intervention”**

**日時 : 2025 年 10 月 27 日 (月) 13:30~14:30**

**場所 : 京都大学医生物学研究所 3号館 3階 セミナー室**

3F Seminar room , Bldg. #3 of Institute for Life and Medical Sciences (LiMe)

開催言語 : 英語 Language: English

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**講演内容** : The measles virus is one of the most ancient pathogens known to infect humans. Although an effective vaccine exists, global measles cases have been rising due to sociopolitical barriers to vaccination. Importantly, the current vaccine is contraindicated in certain vulnerable populations, including immunocompromised individuals, pediatric cancer patients, and pregnant women. These limitations hinder the achievement of full herd immunity and contribute to the ongoing resurgence of measles.

Our research focuses on the structural and immunological characterization of the measles virus surface glycoproteins, hemagglutinin (H) and fusion (F), which mediate host cell receptor recognition and membrane fusion, respectively, initiating viral entry. We engineered a stabilized form of the F glycoprotein that enabled detailed analysis of the antibody response against the measles virus. This approach uncovered a previously uncharacterized mechanism of viral neutralization targeting the F protein. Furthermore, we used this stabilized F construct as a foundation for designing a proof-of-concept vaccine booster candidate aimed at enhancing immune protection through targeted immunization.

These findings underscore the importance of integrative approaches that combine structural biology, virology, and immunology in informing the development of next-generation antiviral strategies and supporting broader efforts to control measles virus transmission.

主催 : JSPS 研究拠点形成事業 Core-to-Core Program

「ウイルスの二面性の理解・活用のための国際研究拠点形成」

共同利用・共同研究拠点「ウイルス・幹細胞システム医生物学共同研究拠点」

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