Seminar

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Current Topics in Biological Science

大学院理学研究科アドバンス生命理学特論

Sensors, Signals, Structures: Unravelling the Mechanisms of Flagellar Motor Regulation in Campylobacterota

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場　所：　理学部E館　131講義室

言　語：　英　語

Chemotaxis contributes to persistent host colonisation by Campylobacterota, yet the signals guiding bacterial movement remain incompletely characterised. This presentation will discuss an integrative structural approach to identifying chemoreceptor ligands, including a method for determining dissociation constants from thermal shift data. In *Helicobacter pylori*, we identified citrate as a second TlpC attractant and demonstrated allosteric coupling between its lactate- and citrate-binding subdomains. In *Campylobacter jejuni*, we identified the dipeptide Ile-Tyr as a Tlp3-mediated repellent and demonstrated receptor binding to the host antimicrobial peptide fowlicidin-2. These findings reveal new mechanisms of signal integration and suggest roles for chemoreceptors in innate immune evasion.

オーストラリアのMonash大のRoujeinikova先生が来日するにあたり、名古屋にお立ち寄りいただいてセミナーをお願いしました。彼女は結晶構造解析の専門家で、タンパク質の物性、相互作用の解析が得意です。今回、食中毒菌のカンピロバクターがもつ走化性受容体のリガンドを構造情報をもとに見出した研究についてご発表いただきます。膜タンパク質受容体のリガンドの探索手法をご堪能ください。

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