東京大学大学院農学生命科学研究科・農学部
Graduate School of Agricultural and Life Sciences / Faculty of Agriculture , The University of Tokyo

東京大学
微生物科学イノベーション連携研究機構

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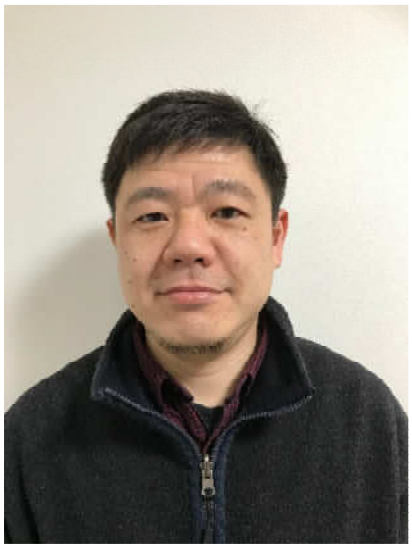
新学術領域研究（研究領域提案型）
化学コミュニケーションのフロンティア

応用生命工学･微生物学研究室　特別セミナー
Lab of Microbiology, Dept of Biotechnology　Special Seminar

Wednesday May 8, 2019, 4:30 PM – 5:30 PM
Room Chem 3, Bldg 2 / 2号館 化学第3講義室

“Strigolactone perception and deactivation by a hydrolase receptor DWARF14”



Lab website　Recent press release

Dr. Yoshiya SETO / 瀬戸義哉 博士
Senior Assistant Professor
School of Agriculture, Meiji University

Strigolactone (SL) is a plant hormone that regulates shoot branching and diverse aspect of plant growth and development. The perception mechanism for SLs has been a subject of debate because their receptor, DWARF14 (D14), is an β/α-hydrolase that is in fact able to cleave SLs. A significant question is when and how the signal is transduced upon binding of SLs. We performed detailed analysis of D14-SL interaction in vitro, and found that the intact SLs have a critical role to activate the D14 receptor. We further demonstrate that D14 deactivates the SL molecules by its hydrolase activity after transmitting the signal. In conclusion, we demonstrate that D14 is a dual-functional protein that is responsible for both the perception and deactivation of bioactive SLs.

Ref. Nature Commun. 2019, 10, 191.

Please contact Shinichi Nishimura / 西村 慎一 (anshin@mail.ecc.u-tokyo-ac.jp; ex. 25162) with any questions.