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創発的研究支援事業 年次報告書

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研究課題名	植物におけるキノン受容の分子機構の解明 Molecular mechanisms of quinone perception in plants
研究実施期間	2023 年 4 月 1 日～2024 年 3 月 31 日

研究成果の概要

Previously, our group identified a quinone-sensing receptor in plants. To further understand how plants sense quinones in detail, we identified CARD1 interactors and through interactor screenings and obtained several candidates, which are now being studied in greater detail. In parallel, we attempted to look at how the receptor protein and quinone chemicals can interact at the molecular level through structural studies. We measured quinone level in plants using mass spectrophotometry and attempted to isolate quinones in plants using standard isolation methods. Finally, we identified novel Arabidopsis mutants which cannot perceive specialized plant-derived quinone compounds. Altogether, our work provides an important framework to understand how quinones are sensed, and their roles in plants, which remain enigmatic.