Assoc. Prof.
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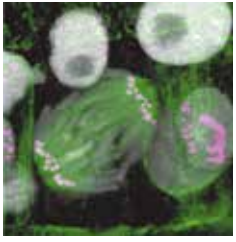
Analyses of kinetochore components of plant and its applications

We have been conducting molecular cytogenetic studies on the structure and function of nuclei and chromosomes using plant species. Kinetochores have been our main research subjects among functional chromosomal elements. We have been conducting basic research on the kinetochores, and have identified kinetochore components from various plant species including many crops. Additionally, we have conducting applied research including “construction of plant artificial chromosome (chromosome vector)” and “haploid production” using knowledge of the basic researches.



Analyses of epigenetic status in plants

Epigenetic regulation plays important roles in all aspects of plant life activities including development and stress responses. Epigenetic modifications of individual cells in plant organs/tissues are considered to be individually controlled, but it is difficult to know how each cell is modified by current methods. In order to solve this problem and to obtain epigenetic modification information of individual cells, we are developing epigenetic modification analysis methods using immunohistochemical staining, which provides a bird's-eye view and single cell-level resolution keeping positional information of individual cells in organs/tissues.