

P014 *FIONA* mediates cell-cell communication in the female gametophyte

Christina Kägi^{*}, Nadine Baumann^{*}, Nicola Nielsen, York Stierhof, and Rita Groß-Hardt
^{*} these authors contributed equally

Center for Plant Molecular Biology (ZMBP), University of Tübingen, Germany

In flowering plants gametes develop in few-celled haploid structures, termed gametophytes. The female gametophyte of *Arabidopsis* consists of four distinct cell types. The egg and central cell get fertilized to form the main components of the seed. These gametes are flanked by accessory cells that partially aid in fertilization.

We are interested in the mechanisms underlying the specification of the distinct cell types. In a screen for regulators of egg cell fate, we have previously isolated the *lachesis* mutant which forms supernumerary egg cells. In-depth characterization of the mutant revealed that accessory cells differentiate egg or central cell fate, demonstrating that all cells in the female gametophyte are competent to adopt gametic cell fate. Our data suggest that the mechanism which suppresses gametic competence in accessory cells is generated in gametic cells, implying that gametic and accessory cells develop in a coordinated manner.

Here, we present the isolation and characterization of the *FIONA* gene, which provides new insights into the molecular basis of this cell-cell communication.