

Figure 1 | Male gametophyte development in *Arabidopsis*

Schematic diagram representing the distinct morphological stages of male gametophyte development in *Arabidopsis*. Diploid pollen mother cells undergo meiotic division to produce a tetrad of haploid microspores. The released microspores undergo a highly asymmetric division to produce a bicellular pollen grain with a small germ cell engulfed within the cytoplasm of a large vegetative cell. Whereas the vegetative cell exits the cell cycle, the germ cell undergoes a further mitotic division to produce twin sperm cells. The sperm cells then continue through the cell cycle to reach G₂-phase before karyogamy and double fertilization. A colour-coded timeline of the cell-cycle progression in each cell lineage is provided. Listed on the timeline are mutations that affect male gametophyte development at the point at which they are known to act. PMI, pollen mitosis I; PMII, pollen mitosis II.

