

Name of Technology	Analysis of the mechanism of pollen embryogenesis in plants	Biotechnology
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Key words	pollen embryogenesis, plant breeding, haploid	

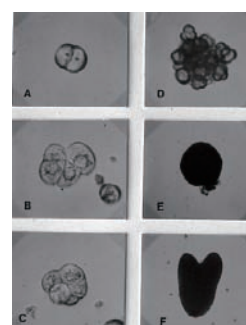
What kind of technology is this?

outline

We developed the technology for the differentiation of the plant body by pollen embryogenesis in the culture of pollen (microspore) and anther of plants such as cruciferous crops and gentian. We are now analyzing the differentiation mechanism of embryo from pollen.

【Research output contents】

Using the technology of pollen culture and anther culture in cruciferous crops such as rapeseed and white rape, and gentian, the plant body can be regenerated efficiently by inducing embryogenesis from pollen. As the basic research for applying the technology for various purposes, we are now analyzing the mechanism of embryo formation from pollen from the morphological, genetical and molecular biological points of view.



What are its applications?

By the technology, the genetically homozygous plants can be obtained quickly, so that the technology can be utilized for the plant breeding.

Related patents	None
Related materials	Tsuwamoto, R., H. Fukuoka and Y. Takahata (2007) Identification and characterization of genes expressed in early embryogenesis from microspores of <i>Brassica napus</i> . <i>Planta</i> 225: 641-652. Doi, T., R. Takahashi, T. Hikage, S. Yokoi and Y. Takahata (2008) Anther culture of <i>Gentiana scabra</i> and regeneration of plant body by unpollinated ovule culture. <i>Breeding Research</i> 10 (Supp. 2): 314