

水稻、小麦花药培养白化苗质体亚显微结构和蛋白质的研究¹⁾

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摘要 通过对小麦和水稻花药培养白化苗质体的电镜观察, 表明白化苗质体早期发育正常, 但没有观察到正常的成熟叶绿体。对白化苗质体的类囊体膜蛋白的分析表明, 它缺乏细胞核编码的Chla/b AP, 质体DNA编码的Chla AP, 和Chla AP。质体DNA 编码的ATPase的 α R亚基显示了分子量和含量的变化。色素蛋白质的分析表明在白化苗质体中有两种小分子量的色素蛋白存在。文章还对产生上述结果的原因进行了讨论。

关键词 [白化苗, 质体, 类囊体膜蛋白质, 色素蛋白质复合体](#)

分类号

Ultrastructural and Protein Analysis of Albino of Rice and Wheat by Pollen Culture

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Abstract

Ultrastructural and protein analysis of albinos regenerated from rice and wheat pollen culture were performed in this experiment. Results are as follows:
1. Ultrastructural studies show that albino plastid development are normal at early stages. The obstacle (s) occurs at the 4th stage, the stage of pregranal plastid, according to whatley[20]. That chlorophylls can not be synthesized may cause subsequent abnormal plastid development. 2. Thylakoid membrane polypeptide SDS-PAGE shows that there is very little, if any, nucleus-coded Chl a/b AP2 in albino as comparing green control. Thylakoid membrane proteins of Chla AP2 and Cj; a A[3 coded by plastid DNA are missed from the albinos. Some variations in molecular weight and quantity of alpha and beta subunits in ATPase are observed. 3. Chlorophyll-protein complex analysis indicates six bands in green plantlet, only two of them exist in albinos. Both of the two are complexed with Chla, and with molecular weight of 15.8 kd and 13 kd respectively. These two proteins have not been reported in literatures. They may be components of PSI reaction center.

Key words [Albino](#) [Plastids](#) [Thylakoid membrane proteins](#) [Pigments protein complexes](#)

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