

叶绿体类囊体膜多肽与细胞质雄性不育性

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摘要 本实验利用单向SDS-PAGE及双向电泳技术, 比较了玉米、甜菜和高粱三种作物的细胞质雄性不育系与其保持系之间叶绿体类囊体膜多肽的差异。结果表明, 三种供试材料的不育系与其相应的保持系之间类囊体膜多肽的单向SDS-PAGE中, 除个别条带染色深度有一些差异外, 没有观察到明显的差异。但是, 在双向电泳图式中, 两系之间在33kd附近肽斑的大小、数量与分布方面显示出明显的差异, 从而暗示, 叶绿体类囊体膜多肽的组成与细胞质雄性不育性之间可能存在某种联系。此外, 试验还表明, 单向SDS-PAGE条带, 几乎都是分子量相同而等电点不尽相同的一组多肽混合物; 在双向电泳图谱上, 它们可按等电点的差异分成若干个不同的多肽斑点。

关键词

分类号

Chloroplast Thylakoid Membrane Polypeptides and Cytoplasmic Male Sterility

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Abstract

In experiments comparative studies on the chloroplast thylakoid membrane polypeptides between the cytoplasmic male sterile lines and their respective maintainers from maize, sugar beets and sorghum were performed. Results obtained indicate that basing on the one dimensional SDS -PAGE of the thylakoid membrane polypeptides no obvious differences were observed between CMS and their maintainers, in addition to the distinction of color darkness of individual separated polypeptide bands. In two dimensional electrophoretic patterns, however, significant differences in the size and number of some peptide spots near 33kd between CMS and their maintainers were observed. This suggests that the compositions of thylakoid membrane polypeptides may be related to the pollen fertility. Results also show that almost all of the polypeptide bands obtained from one dimensional SDS-PAGE consist of peptide complexes with same molecular weights but different isoelectric points which may be re-separated into different peptide spots in two dimensional electrophoretic patterns basing on their isoelectric points.

Key words

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