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研究论文

提高马铃薯原生质体细胞分裂频率的研究

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摘要 为了提高马铃薯原生质体培养时的细胞分裂频率， 对原生质体游离、 纯化， 培养过程中 的几个重要环节进行了研究。 结果表明： 以蔗糖作为渗透压调节剂游离原生质体时， 原 生质体的损伤小、 活力好、 分裂频率高、 原生质体自发融合频率低； 采用看护培养时， 在同一属内， 马铃薯物种的异同， 饲养层愈伤组织与培养细胞的亲缘关系的远近， 对饲 养效果并无显著影响； 进行单个原生质体培养时加入1.2%的马铃薯块茎浸提液可明显提高 细胞分裂频率； 酶的纯度也是影响原生质体游离效果的重要因素之一。

关键词 马铃薯 原生质体 细胞分裂频率

分类号

扩展功能

本文信息

Supporting info

PDF(36KB)

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Studies on Improving the Cell Division Frequency of Potato Protoplasts

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Abstract The low cell division frequency of the protoplasts is one of the main problems i n potato protoplast manipulatio n. The present studies aimed at solving the probl e m. The results showed that the protoplasts had good vigor, high cell divi sion fr equency and low cell selffusion frequency as well as less cell damage frequency when sucrose was used as osomotic regulator during the isolation of protoplasts. Using nurse cuiture system, the cell division frequency of protoplasts could be increased but no significant effects could be found from different potato specie s and different blood relationship to the cult ure results. Using single protopla st culture system, good results were also obtained when the 1.2% potato tuber ex traction solution was supplied into the medium. The purity of the enzymes used t o isolate protoplasts was also one of the importa nt factors which affect the yield and the vigor of protoplasts.

Key words Potato Protoplast Cell division frequency

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