

## rbcl 转录物在原核体系中的成熟作用与其3'端碱基序列的关系

许煜泉, 赤田辰治, 町井博明, 孔宪铎

上海农学院植物科学系21101, 美国马里兰大学植物系

收稿日期 修回日期 网络版发布日期 接受日期

摘要 对烟草(Nicotiana tabacum)rbcl 转录单位3' 端前后相连的2个逆向重复序列作系统删 减并单独将此2个序列分开。在原核体系中考察这些缺失子的转录物, 结果表明, 成熟rbcl mRNA的积累依赖于3' 端的大逆向重复序列及未翻译区的一段序列。 将带有逆向重复序列的片段插入菠菜rbcl启动子及苏氨酸终止子之间, 大肠杆菌的RNA 多聚酶读过rbcl3' 端的逆向重复序列而全部停止在苏氨酸终止子的终止位点, 表明成熟的rbcl mRNA 不是rbcl 转录的直接产物, 而是由前体 mRNA 经转录后的加工过程后形成的。

关键词 [rbcl,缺失子,S1定位,转录后加工](#)

分类号

## The Correlation Between the maturation of rbcl Transcripts and Its Flanking Sequence in a Prokaryotic System

The Correlation Between the maturation of rbcl Transcripts and Its Flanking Sequence in a Prokaryotic System

1.Department of plant Science, Shanghai Agricultural College, Shanghai 201101; 2 .Department of Botany, University of Maryland, College Park, USA

### Abstract

There is a 15bp large reverse repeated sequence preceded by a 7bp small one in the 3'flanking region of rbcl of Nicotiana tabacum. A 383 bp of XbaI fragment containing these tandemly repeats was inserted into the plasmid pλsΔ,at the position between the λpand the cat gene. Then these two repeats were separated and deleted systematically to obtain various deletions. The deletion pRT65, pRT 74 and pRT83 was sequenced to determine the deleted base pairs exactly. S1 mapping analysis was adopted to investigate the transcripts of these deletions in E. coli JM83. The results showed us that the stability of mature 306bp mRNA relied on the large repeat and a short sequence downstream. The small one was not efficient. The regulation level of the rbcl termination was also investigated. The XbaI -EcoRI fragments from pRT65, pRT74 and pRT83 were transferred into pSP-TT\* at the position between the spinach promoter and threonine terminator to construct pRT65,pRT74 and pRT83 respectively. The results from S1 mapping analysis showed that the E. coli RNA threonine terminator. These results suggested that mature rbcl mRNA might be the product precisely processed from a precursor mRNA and the 3' flanking sequence might be the signal for precursor mRNA to be processed to the correct position.

Key words [rbcl](#) [Deletion](#) [S1 mapping](#) [Posttranscriptional procession](#)

DOI:

通讯作者

### 扩展功能

#### 本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(982KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

#### 服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

#### 相关信息

- ▶ [本刊中 包含“\[rbcl,缺失子,S1定位,转录后加工\]\(#\)”的 相关文章](#)
- ▶ [本文作者相关文章](#)

- [许煜泉](#)
- [赤田辰治](#)
- [町井博明](#)
- [孔宪铎](#)