

专论与综述

## 水稻抗白叶枯病基因Xa21的研究进展

白 辉, 李莉云, 刘国振

河北农业大学生命科学学院, 保定 071001

收稿日期 2005-12-28 修回日期 2006-1-24 网络版发布日期 2006-6-7 接受日期

**摘要** Xa21是最早克隆的水稻抗病基因, 作为类受体激酶类广谱抗病基因它受到广泛的关注。转基因Xa21材料, 很可能成为世界上第一个被批准进行大田释放的水稻转基因材料。本文在简要回顾Xa21的发现、定位和克隆过程之后, 总结了目前Xa21基因的抗病作用机理和育种应用研究现状, 包括XA21蛋白质激酶的生化特性、AvrXa21的鉴别、Xa21介导的抗病途径、抗病机理等, 并对今后的研究进行了展望。

**关键词**

分类号 [S511](#)

## Research advances of rice bacterial blight disease resistance gene Xa21

BAI Hui, LI Li-Yun, LIU Guo-Zhen

College of Life Sciences, Hebei Agricultural University, Baoding, Hebei 071001, China

### Abstract

Xa21 was the first disease resistance gene cloned from rice, which encodes a receptor-like kinase and confers broad spectrum resistance against *Xanthomonas oryzae* pv. *oryzae* (Xoo). In this paper, the discovery, mapping and cloning of Xa21 were reviewed briefly, and the molecular mechanism of resistance and its breeding application, including biochemical properties of the kinase domain of XA21, AvrXa21 identification, the disease resistance pathway mediated by Xa21, and the mechanism of disease resistance were summarized. The future perspective on Xa21-related research is also discussed.

### Key words

DOI:

通讯作者 刘国振 [gzhliu@mail.hebau.edu.cn](mailto:gzhliu@mail.hebau.edu.cn)

### 扩展功能

#### 本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(0KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [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 无 相关文章](#)
- ▶ 本文作者相关文章
  - [白 辉](#)
  - [李莉云](#)
  - [刘国振](#)