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研究报告

# 酿酒酵母转座标签插入突变体263-H9中高盐胁迫基因的确定

于典科，张小华，刘向勇，鲍晓明，高 东

山东大学微生物技术国家重点实验室, 济南 250100

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摘要 突变体263-H9是利用mTn3转座标签对酿酒酵母(Saccharomyces cerevisiae) W303-1A诱变、筛选得到的。该突变体表现出对多种逆境胁迫(1.5 mol/L山梨醇高渗透压胁迫、0.65 mol/L NaCl高盐胁迫和15℃低温胁迫)敏感的表型特征，而且与其他突变体不同其转座标签的插入位点是GIP2和YER053C-A的基因间隔区域。本文通过基因敲除、基因组文库功能互补等多种分子生物学和遗传学方法，确定了突变体263-H9的敏感表型不是由于转座标签的插入直接引起的，而是盐胁迫反应信号传导途经中重要的基因PBS2发生部分缺失，造成该基因不能正常表达，而导致的表型变化。

关键词 转座标签 酿酒酵母 高盐胁迫 PBS2

分类号 Q933

# Identification of the Gene Correlated with Salt Stress in the Saccharomyces cerevisiae 263-H9 Mutant

YU Dian-Ke, ZHANG Xiao-Hua, LIU Xiang-Yong, BAO Xiao-Ming, GAO Dong

State Key Laboratory of Microbial Technology, Shandong University, Ji’nan 250100, China

**Abstract**

The mutant 263-H9 with hypersensitivity to several stress conditions (1.5 mol/L Sorbitol, 0.65 mol/L NaCl and 15℃) was obtained by using transposon mutagenesis in the Saccharomyces cerevisiae strain W303-1A. Unlike other mutants the transposon in 263-H9 was intergenic between GIP2 and YER053C-A. Using gene knockout, a yeast genomic library and other methods, the gene correlated with the salt stress response was identified. The data indicated that the phenotype of 263-H9 was not directly caused by the insertion of the transposon. On the other hand, the hypersensitivity to salt and other stress conditions was due to the deletion of 5 base pairs close to position 936bp in the PBS2 gene essential for HOG signal pathway regulation under salt stress.

**Key words** transposon tagging Saccharomyces cerevisiae salt stress PBS2

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通讯作者