

## 奶牛乳铁蛋白基因5'非翻译区PCR-SSCP多态性分析

李国华<sup>1</sup>, 张沅<sup>1</sup>, 孙东晓<sup>1</sup>, 李宁<sup>2</sup>

1. 中国农业大学动物科技学院, 北京 100094; 2. 中国农业大学农业生物技术国家重点实验室, 北京 1000941.

收稿日期 修回日期 网络版发布日期 接受日期

**摘要** 采用PCR-SSCP技术, 对奶牛乳铁蛋白基因5'非翻译区1122bp序列进行多态性分析。在该区所划分的5个亚片段上, 发现 Blf 5'-1(227bp), Blf 5'-3(175bp)和Blf 5'-5 (293bp) 3个DNA片段存在多态。进一步对这3个片段进行测序分析, 在Blf 5'-1序列中, 发现位于转录起始位点上游-926和-915位分别有G→A及T→G点突变; 在Blf 5'-3片段中, -478位存在G的插入; Blf 5'-5位点上, 发生-28位的C颠换为A和+33位的G颠换为C两处突变。利用TFSEARCH (ver. 1.3) 软件对乳铁蛋白基因5'非翻译区潜在调控元件及蛋白质结合位点进行了预测, 结果显示5'非翻译区的突变引起了蛋白质结合因子的变化。

**关键词** [乳铁蛋白基因](#) [PCR-SSCP](#) [牛](#) [调控因子](#)

分类号

## Analysis of the 5'-region of Bovine Lactoferrin Gene

LI Guo-Hua<sup>1</sup>, ZHANG Yuan<sup>1</sup>, SUN Dong-Xiao<sup>1</sup>, LI Ning<sup>2</sup>

College of Animal Science and Technology, China Agricultural University, Beijing, 100094 China;

2. The National Laboratories for Agrobiotechnology, China Agricultural University, Beijing, 100094 China

### Abstract

To detect DNA variation of bovine lactoferrin gene, the sequence of 5'-regulatory region has been studied by PCR-SSCP. Among the five sub-sequences of this region, Blf 5'-1(227bp), Blf 5'-3(175bp) and Blf 5'-5 (293bp) were found to be polymorphic. After sequencing the Blf 5'-1, G→A and T→G transitions were identified at the sites of -926 and -915 respectively. In the Blf 5'-3 fragment, a G insertion at -478 was found. Transversions of C→A, G→C at -28 and +33 respectively were also detected in the Blf 5'-5 region. The frequencies of mutated alleles were 0.101, 0.112 and 0.237, respectively, in the three regions. By applying an analysis tool of TFSEARCH ver1.3, we studied the potential elements and protein factors which bind to the 5'-region, and discovered the different regulatory elements of pre-mutation and post-mutation.

**Key words** [lactoferrin gene](#) [PCR-SSCP](#) [bovine](#) [regulatory elements](#)

DOI:

通讯作者

### 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

▶ [本刊中包含“乳铁蛋白基因”的相关文章](#)

▶ [本文作者相关文章](#)

· [李国华](#)

· [张沅](#)

· [孙东晓](#)

· [李宁](#)