



Assessment of correlation between pre-miRNA-1757 polymorphism and chicken performance traits

H. Li, K.R. Jiang, S.H. Wang, X.J. Liu, X.T. Kang, R.R. Jiang, Z.J. Li and G.R. Sun

College of Animal Science and Veterinary Medicine,
Henan Agricultural University, Henan Innovative Engineering Research
Center of Poultry Germplasm Resource, Zhengzhou, China

Corresponding author: G.R. Sun
E-mail: grsun2000@126.com

Genet. Mol. Res. 14 (4): 12184-12195 (2015)
Received March 30, 2015
Accepted June 8, 2015
Published October 9, 2015
DOI <http://dx.doi.org/10.4238/2015.October.9.7>

ABSTRACT. Single nucleotide polymorphism in microRNAs (miRNA) may influence their target gene selection and regulation efficiency, leading to animal phenotypic variation. The aim of this study was to evaluate the possible effect of single nucleotide polymorphisms in the *miRNA-1757* gene precursor region (pre-mir-1757) on economic-related traits in chicken. Genotyping was performed using Sequenom MassArray® iPLEX GOLD System. Association analysis was performed using SPSS19.0. The data showed that the G/C polymorphism was significantly correlated with semi-evisceration weight, evisceration weight, carcass weight, body weight at 10 weeks of age, shank length at 4 weeks of age, pectoral angle at 8 weeks of age, and body slanting length and pelvis breadth at 12 weeks of age ($P < 0.05$), and led to the alteration of the RNA secondary structure of *pre-mir-1757*. Our results provide useful information for further annotation studies of miRNA function.

Key words: Chicken; Function annotation; miRNA-1757; Target gene; Polymorphisms