

## Prolactin gene polymorphisms and associations with reproductive traits in Indonesian local ducks

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<b>Abstract</b>	<p>a:4:{i:0;s:634:"Background and Aim: Reproductive traits play an important role in population increases and the egg production (EP) abilities of Indonesian local ducks (ILD). The prolactin (PRO gene is a single chain polypeptide hormone belonging to a family of growth hormone genes that are mainly synthesized in the anterior pituitary gland in all vertebrates. It has a significant effect on reproductive traits and EP. Single nucleotide polymorphisms (SNPs) present in PRL, are a useful molecular marker for EP. This study aimed to identify the PRL polymorphisms based on these SNPs and to uncover the associations with reproductive traits in ILD.";i:1;s:643:"Materials and Methods: A total of 280 ILDs consisting of legal and Magelang (F0) ducks and their reciprocal crosses, namely Gallang (F1) and Maggal (F1), were maintained and specific variables were recorded, that is, age at first egg, body weight at first egg, first egg weight, and EP, for 90 days. Allele and genotype frequencies were used to determine the Hardy-Weinberg (H-W) equilibrium. The association between the SNP genotypes of PRL and reproductive traits was analyzed using one-way analysis of variance, following the GLM procedure of SAS. The genotypic effects on the reproductive traits were determined using regression analysis.";i:2;s:632:"Results: This study successfully amplified a polymerase chain reaction product of 190 bp, which was used to identify the SNP. Results indicated that PRL in ILDs is polymorphic. A SNP was found at position 164 nt (c.164G &gt;A), consisting of three different genotypes, namely, GG, GA, and AA. The genotypes of legal and Magelang (F0), and Gallang (F1) populations were not in H-W equilibrium. The Maggal population (F1) was in H-W equilibrium. Significant associations were detected between the genotypes and EP in all ILDs (<math>p &lt; 0.01</math>), following a regression line of <math>y = 2.337x + 64.605</math>, with a determination coefficient of 0.0188 (<math>r = 0.14</math>).";i:3;s:101:"Conclusion: PRL can be recommended as a candidate gene for reproductive traits in ILD, especially EP.";}</p>
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