



## **Profil Ekspresi mRNA Gen Reseptor Androgen pada Testis Kalkun Umur Pubertas dan Dewasa**

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### **INTISARI**

Reseptor androgen (AR) memegang kunci berlangsungnya respon jaringan testis terhadap stimulus hormon androgen. Informasi mengenai ekspresi reseptor androgen pada testis kalkun umur pubertas dan kematangan seksual masih minim. Tujuan penelitian ini adalah untuk mengkaji keberadaan terduga konsensus unik pada wilayah promotor gen pengkode AR dan membandingkan tingkat ekspresi relatif mRNA gen AR pada testis kalkun umur pubertas dan dewasa. Testis dikoleksi dari 5 ekor kalkun pubertas (umur 7 sampai 8 bulan) dan 5 ekor kalkun dewasa (umur 1 tahun) galur *bronze*. Isolasi DNA dan RNA total dilakukan secara terpisah untuk masing-masing individu sampel. Amplifikasi wilayah parsial promotor terduga gen AR dilakukan dengan cetakan DNA. Amplikon disekuensing dengan metode Sanger dan sekuen dianalisa dengan MEGAX. Molekul RNA total yang diperoleh digunakan sebagai cetakan untuk RT qPCR dengan target pada mRNA gen AR. Gen Beta aktin digunakan sebagai kontrol internal. Analisa tingkat ekspresi relatif dengan metode delta delta Ct. Hasil sekuensing wilayah promotor gen AR tidak dapat menemukan konsensus yang diduga berperan sebagai elemen transkripsi. Tingkat ekspresi relatif mRNA gen AR pada testis kalkun dewasa menunjukkan peningkatan dibandingkan dengan kelompok pubertas. Peningkatan ini diduga karena pada umur 1 tahun, kalkun masih berada pada masa puncak ekspresi gen AR kemudian akan menurun pada usia lanjut. Penelitian lebih lanjut dengan pendekatan endokrinologi dan imunohistokimia perlu dilakukan untuk melihat kompleksitas pengaturan kematangan seksual pada testis kalkun.

Kata Kunci: Ekspresi Gen, Kalkun, *Meleagris gallopavo*, Reseptor Androgen, Testis



## **The Profile of Androgen Receptor's mRNA Expression on Puberty and Adult Turkey Testes**

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### **ABSTRAK**

Androgen receptors (AR) plays important role for the response of testicular tissue to androgen hormone stimulus. Information regarding the expression of androgen receptors in turkey testes on puberty and sexually mature toms is still minimal. The aims of this study were to examine the presence of suspected unique consensus in the promoter region of the AR gene and to compare the relative expression levels of AR gene mRNAs in the turkey testes of puberty and adult group. Testes were collected from 5 puberty turkeys (7 to 8 months old) and 5 adult turkeys (1 year old) strain bronze. Isolation of DNA and total RNA were conducted separately for each sample. Amplification of the suspected promoter partial region of the AR gene was conducted with the DNA as the template. The amplicons were sequenced using Sanger method and the obtained sequences were analyzed using MEGAX. The total RNA molecule was used as a template for RT qPCR, targeting the AR gene's mRNA. The Beta actin gene was used as an internal control. The relative expression level was analysed using delta delta Ct method. Tracing the sequences of the AR gene promoter region was unable to find unique consensus that allegedly served as transcriptional elements. The relative expression level of AR gene mRNA in adult turkey testes showed an up regulated condition compared to the puberty. The increase was presumably because at the age of 1 year, turkey is still at the peak of the AR gene expression before it will decrease in later age. Further research with endocrinology and immunohistochemical approaches should be carried out to examine the complexity of sexual maturity regulation in turkey testes.

**Keywords:** Androgen Receptor, Gene expression, *Meleagris gallopavo*, Turkey, Testes