DETERMINATION OF THE RELATIONSHIP BETWEEN THE ANTI-MULLERIAN HORMONE (*AMH*) GENE AND FERTILITY PARAMETERS IN MARES

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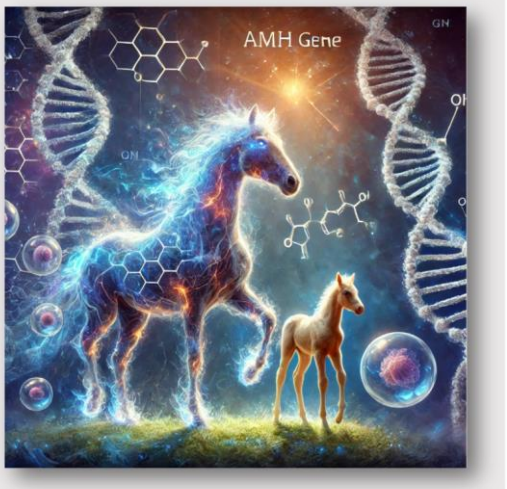

THESIS ABSTRACT

This study conducted a sequence analysis of the AMH gene in Arabian mares to investigate the effects of nucleotide variations on hormone levels and reproductive parameters. Blood samples were collected from 216 broodmares, followed by DNA isolation and AMH measurement. Next-Generation Sequencing *(NGS)* was used for genotyping, and the genetic data were compared with reproductive parameters. The findings revealed a significant relationship between AMH levels and pregnancy rates, and certain SNPs were found to significantly influence AMH levels and fertility rates.

The results indicate that genetic variations in the AMH gene can directly impact the reproductive success of mares. Specifically, some SNPs were associated with increased fertility, preovulatory follicle size, and seasonal pregnancy losses. These findings support the use of genetic analyses in broodmare selection and contribute to the development of new strategies to enhance reproductive success. This study highlights the importance of genetic-based selection in horse breeding.

APPLICATION AREAS OF THE THESIS RESULTS

This study reveals the genetic variations in the AMH gene and their effects on reproductive performance in Arabian mares, providing significant applications for horse breeding and reproductive management. The use of genetic testing in broodmare selection enables the early identification of reproductive potential and the development of strategies to enhance fertility. Additionally, it contributes to the preservation of genetic diversity and advances reproductive biology research, laying the foundation for next-generation selection methods in veterinary medicine and horse breeding.

ACADEMIC ACTIVITIES

1.Yendim, S.K., Aksen, Ö.Ü., Yıldırım, S., Uzabaci, Sarıoglu, S., Egesu Yıldız, G., Keskin, A., Yilmazbas-Mecitoglu, G., (2025) The Evaluation of Fertility Following Foal Heat or the Subsequent Postpartum Estrus in Purebred Arabian Mares. Indian Journal of Animal Research; DOİ:10.18805/IJAR.BF-1929
2.Mecitoğlu G. , Ardıçlı S., **Yendim S.K.,** Kısraklarda Anti Müllerian Hormon (AMH) Geni ile Fertilite Parametreleri Arasindaki İlişkinin Belirlenmesi, TOA-2021-199