

**ANALISIS HOMOLOGI DAN HUBUNGAN KEKERABATAN  
GEN RESEPTOR FOLLICLE STIMULATING HORMON  
(rFSH) PADA SAPI MADURA, SAPI MADRASIN, DAN  
SAPI LIMOUSIN**

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**ABSTRAK**

Tujuan dari penelitian ini adalah untuk menganalisis homologi dan hubungan kekerabatan gen reseptor Follicle Stimulating Hormon (rFSH) pada sapi Madura, sapi Madrasin, dan sapi Limousin. Penelitian ini menggunakan sampel darah utuh dari satu sapi Madura, satu sapi Limousin, dan satu sapi Madrasin. Sampel darah sapi Madura diambil di UPT Pembibitan Ternak dan Kesehatan Hewan, Pamekasan, sampel darah sapi Madrasin diambil dari Galis, Pamekasan, Jawa Timur dan sampel darah sapi Limousin diambil dari Balai Embrio Ternak (BET) Cipelang, Bogor, Jawa Barat. Sampel darah diambil dan digunakan untuk analisis homologi dan hubungan kekerabatan gen rFSH yang meliputi amplifikasi DNA dengan metode *Polymerase Chain Reaction* (PCR) dan sekuensing DNA di Institute of Tropical Disease, Universitas Airlangga. Hasil penelitian menunjukkan bahwa fragmen DNA reseptor Follicle Stimulating Hormon (rFSH) berukuran 211bp. Berdasarkan hasil uji homologi sapi Madura lebih memiliki kemiripan dengan sapi Limousin dan hubungan kekerabatan sapi Madura lebih dekat dengan sapi Limousin dibanding dengan sapi Madrasin. Kesimpulannya metode PCR dapat mendeteksi gen rFSH sapi Madura, sapi Madrasin, dan sapi Limousin.

**Kata kunci** : gen, homologi, Limousin, Madura, Madrasin, rFSH

**HOMOLOGY AND PHYLOGENETIC ANALYSIS OF FOLLICLE  
STIMULATING HORMON RECEPTOR (rFSH) GENE IN MADURA  
BREED, MADRASIN CROSSBREED, AND LIMOUSIN BREED**

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**ABSTRACT**

The aim of this study was to analyze the homology and phylogenetic of Follicle Stimulating Hormon Receptor gene (rFSH) in Madura breed, Madrasin crossbreed and Limousin breed. The research are using whole blood samples from Madura breed, Limousin breed, and Madrasin crossbreed. Madura breed was taken from UPT Pembibitan Ternak dan Kesehatan Hewan, Pamekasan, East Java, Madrasin crossbreed sample was taken from Galis, Pamekasan, East Java and Limousin breed was taken from Balai Embrio Ternak (BET) Cipelang, Bogor, West Java. Samples were used for homology and philogenetic analysis such as DNA amplification with Polymerase Chain Reaction (PCR) method and DNA sequencing in Institute of Tropical Disease, Universitas Airlangga. The result showed that DNA fragment of Follicle Stimulating Hormon Receptor (rFSH) was 211bp. Based on the results of the homology test, Madura breed are more similar to Limousin breed and philogenetic of Madura breed more closer to Limousin breed than Madrasin crossbreed. In conclusion, this study can detect rFSH gene Madura breed, Madrasin crossbreed, Liimousin breed.

**Keywords** : genetic, homology, Limousin, Madura, Madrasin, rFSH