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Identification of SNPs in the luteinizing hormone receptor transcript of Gyr (*Bos indicus*) granulosa cells

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The final steps of follicular development and ovulation are LH dependent. Variations in the LH receptor (LHR) structure could be related to failures or deficient outcomes observed in cows undergoing reproductive protocols, especially in Zebu breeds. Gyr breed is mostly used to produce crossbreed dairy herds in Brazil and it is known to produce a low number of embryos after superovulation, regardless presenting a high number of follicles per follicular wave. The aim of this study was to identify variations in the mRNA of the LHR in mural granulosa cells recovered from dominant follicles of fertile Gyr cows. Cells from four previously selected cows were collected in vivo, washed in saline solution and kept in RNA Later (Ambion). RNA extraction were performed with "RNeasy Micro Kit" (Qiagen) and quantified by nano-spectrophotometry. Complementary DNA (cDNA) was produced using "SuperScript III kit" (Life Technologies). Nine primer sets were designed based on the *Bos taurus* sequence available in GenBank (NM_174381.1) and used in conventional PCR covering the whole transcript extension (2,106 base pairs). PCR products were purified using the "GFX PCR DNA and Gel Band Purification Kit" (GE Healthcare) prior to DNA sequencing reactions. Sequence chromatograms were obtained using MegaBACE 1000 DNA sequencer and sequences were analyzed using "DNA Baser software" (<http://www.dnabaser.com>). So far, nine SNPs were detected, from which six showed heterozigosity, two were found exclusively in one animal, and one was constant in all four animals. This last SNP, present in all animals, was the only one that did not change the amino acid sequence after translation. The remaining polymorphisms can be related to hormone-receptor binding sites leading to a variety of reproductive responses. We will continue to evaluate a larger number of animals to try to elucidate witch alterations are consistent for the Gyr breed and if they are associated to specific reproductive traits. Financial Support: Embrapa, CNPq and FAPEMIG.

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