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## Comparative Analysis Of Six Genes Related To Dairy Production In Bos taurus And Bos indicus

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Genome of a Dairy Gyr bull, a Bos indicus breed, has been partially sequenced using the Applied Biosystems SOLiD v.3 Plus platform. Two sequencing runs were performed, using both a fragment library and a mate-paired library approaches. SOLiD reads produced a 1.18x genome coverage and the initial genome assembly was performed using Hereford whole genome sequence as a reference. For an initial comparative analysis, six genes related to dairy production were chosen, namely: diacylglycerol O-acyltransferase 1 (DGAT1), thyroglobulin (TG), oxytocin (OXT), beta lactoglobulin (LGB), kappa casein (CSN3) and prolactin (PRL). B. indicus scaffold genome was screened for previously described SNPs for each gene. The position 102,908 on reference sequence NW_001493195.2 corresponds to a known SNP (rs29021775). This position on the reverse complementary sequence of the TG gene was covered by only two reads, and both contain a citosine instead of a timine. OXT gene showed two different regions and they suggest the existence of rare alleles of Bos indicus OXT gene. Smallest variation was observed on the PRL gene. For the remaining genes studied, the overall identity of amino acids corresponding to the exons varied greatly, which may be a consequence of a true dissimilarity between these genes on different Bos genomes. The 1.18-fold coverage of the indicine genome did not allow us to validate new SNPs, neither to confirm those available in the literature. However, it was possible to verify that variation exists between the two genomes and further sequencing of Bos indicus genome will allow more robust analysis of polymorphisms.