



Short Communication

Identification of a DNA methylation point in the promoter region of the bovine *CYP21* gene

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ABSTRACT. The *CYP21* (steroid 21-hydroxylase) gene is involved in the synthesis of steroid hormones. Bov-A2 is a retroposon that is common in ruminant genomes. The promoter region of bovine *CYP21* contains a short interspersed nucleotide element of Bov-A2, which overlaps a putative Sp1 binding site. We looked for RFLP/*Hpa*II polymorphism in the Bov-A2 element in bovine Zebu breeds by PCR-RFLP, and examined whether polymorphism in this element is associated with methylation. Among DNA samples from 135 Brazilian Zebu breed cattle, we identified an RFLP/*Hpa*II polymorphism (T/C), which, based on a restriction methylation-sensitive assay employing *Hpa*II and isoschizomer *Msp*I enzymes (methylation-sensitive and -non-sensitive enzymes, respectively), appears to be a DNA methylation point. This

is the first report of this polymorphism and on DNA methylation in the bovine *CYP21* promoter region in Brazilian Zebu cattle.

Key words: *CYP21* gene; Bov-A2; SINE; Cattle; Epigenetics; Methylation