



Bovine dopamine receptors DRD1, DRD4, and DRD5: genetic polymorphisms and diversities among ten cattle breeds

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Genet. Mol. Res. 15 (1): gmr.15017725

Received September 25, 2015

Accepted December 4, 2015

Published February 19, 2016

DOI <http://dx.doi.org/10.4238/gmr.15017725>

ABSTRACT. The aim of this study was to analyze the allelic frequency distribution and segregation among breeds and/or between different cattle genetic groups of four novel single nucleotide polymorphisms of the bovine DRD1 and DRD5 genes and one reported SNP from the DRD4 gene. One hundred and nine-animals from ten different cattle breeds were genotyped and allelic frequencies for each locus were estimated. There were significant differences in the allelic frequencies ($P < 0.05$) among breeds for the DRD1 and DRD5 markers. The allelic frequencies for markers DRD1-825A>G and DRD5-378C>T were also significantly different between groups differing in genetic background. Because differences in temperament have been reported between *Bos taurus taurus* and *B. taurus indicus* breeds and their crosses, further studies are needed to investigate if any association exists between described markers and cattle behavior traits.

Key words: Behavior; Genetic polymorphism; Dopamine; Temperament