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## Real-time based quantification of HSF genes in two buffalo genomes

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The copy number variation is the number of copies of a particular gene in the genotype of an individual. Recent evidences show that the CNVs can vary in frequency and occurrence between breeds. These variations reportedly allowed different breeds to adapt to survive in distinct environmental conditions. Since, copy number variations follow mendelian pattern of inheritance; identification and distribution of these variants between breeds can be used to infer the evolutionary history of the species. In this study, we have examined the absolute copy number of four Heat shock factor genes viz. HSF-1, 2, 4 and 5 in two different breeds of buffalo using real-time PCR. Here, we report that the absolute copy number of HSF2 varies between the two buffalo breeds. In contrast no significant difference was observed in the copy number for HSF-1, 4 and 5 between the two breeds. Our results provide the first direct evidence of variation in copy number of a gene directly linked to Heat stress response. This seems to be the first step in delineating the genetic factors underlying environmental adaptation. Nevertheless, a more detailed study is needed to characterize the functional consequence of this variation.

**Keywords:** CNVs, inheritance, population, HSF, buffalo.

### Biography

Shardul Vikram Lal has earned his BVSc & AH degree from Sardar Krushinagar Dantiwada Agriculture University in 2008. He was the recipient of "Late Smt. Anilaben Kailash-Chandra Joshipura Gold Medal" for securing highest O.G.P.A. in clinical subjects for the year 2007-2008. He completed his MVSc & A.H. (Animal biotechnology) Degree Program with DBT JRF at Animal Biotechnology Centre; J.N.K.V.V. Jabalpur (M.P.) in the year 2010 with an OGPA of 8.23. He completed his PhD in the year 2014 from National Dairy Research Institute, Karnal.

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