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***In silico* Analysis of nsSNPs of Human *BDNF* Gene Using Bioinformatic Tools**

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KEYWORDS *Brain Derived Neurotrophic Factor Gene. PolyPhen-2. Provean. Single Nucleotide Polymorphisms*

ABSTRACT *Brain Derived Neurotrophic Factor (BDNF)* plays a significant role in the synaptic plasticity and memory processes. Its contribution to the pathogenesis of cognitive symptoms in pathological situations has a direct impact on memory function in both healthy and diseased animals. For this purpose, computational tools (Provean with mutant score cut-off -2.5 and PolyPhen 2 score ranging from 0 to 1) have been used in this study to evaluate the deleterious or damaging effect of non-synonymous SNPs (nsSNPs) that are harmful to the structure and function of the *BDNF* gene. Results of the present study found a total of 50 highly deleterious SNPs by both the tools which could be disease susceptible.