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Isolation and Sequencing of Genes Related to BMP Signaling in “Corvus splendens”

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Abstract—*Corvus splendens* it is also known as house crow. It is well known for its capability in diverse task of memory, cognition and problem solving. It is abundant and indigenous in India, Sri Lanka and Nepal region. Despite being a good model organism for behavioral studies worldwide, all the molecular and genetic details of *Corvus* is still unknown. This gap in the knowledge is the prime reason for absence of studies which look into the mechanisms underlying the cognition shown by these birds. Thus, the goal of our study is to generate the genetic information related to the molecular players which are found to be key players in learning and cognition processes in other model systems. This information will be critical to the development of the house crow as a molecular model organism. The Bone Morphogenetic Pathway signaling is one such pathway known to be important for learning in mammalian models. Thus we have targeted members of BMP Signaling Pathway e.g. *Id3*, *Id2*, *Bmp2*, *Bmp4*, *Bmp7* etc. so, that new genetic tools for various molecular analysis can be developed. In this study, genomic DNA was isolated from feathers of house crow. Primer sequence were predicted for target genes and DNA was isolated by PCR amplification for sequencing to find partial or full sequences of molecular players linked to learning and cognition.