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Diabetes 2019: Genome-wide analysis of NeuroD family of bHLH transcription factor - Shouhartha Choudhury - Assam University, India

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The present study investigated NeuroD (Beta2) family is a basic helix-loop-helix transcription factor widespread in genome. In NeuroD family particular gene expresses in neurons, beta-pancreatic cells and, enteroendocrine cells. It is involved differentiation of nervous system and development of pancreas. The NEUROD1 (Neurogenic differentiation 1) found to convert reactive glial cells into functional neurons in brain. NEUROD1 induces differentiation of nervous system and regulate insulin gene expression by binding to critical E-box motif on insulin promoter and mutation result type 2 diabetes mellitus. It is logically assumed, NUEROD1 regulate insulin and found to Chromosome 2 of human. The genomic complement of NeuroD family of bHLH transcription factor is an essential component for identification of the specific gene. We accumulate eukaryotes genome i.e. Homo sapiens and Mus musculus for comparative and functional analysis. The genome-wide analysis results suggested NeuroD family and their bHLH domain, motifs, phylogeny, chromosome location and, gene expression. In this study, we performed bioinformatics and computational technique to the current knowledge of NeuroD family of bHLH transcription factor.

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