

"MICRORNA EXPRESSION PATTERN DURING EMBRYONIC CENTRAL NERVOUS SYSTEM DEVELOPMENT"

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MicroRNAs (miRNAs) are a recently discovered class of non-coding RNA molecules of 21-24nt that regulate the expression of target genes in a post-transcriptional manner. This regulation is likely to be mediated by translational repression or target mRNA degradation. MiRNAs are thought to be involved in several important biological processes, including cell differentiation and embryonic development. In order to better investigate the role of miRNAs in embryonic central nervous system development, we quantified 104 different miRNAs in mouse brain during development. We obtained RNA from mouse in four stages of development (E15, E17, P1 and P7) and used it in real-time PCR reactions with a stem-loop RT based TaqMan® MicroRNA Assay. Bioinformatics analysis identified four clusters (C1, C2, C3 and C4) of miRNA expression. In addition, we found a significant decrease in expression of 12 miRNAs (Cluster C1; $p < 0,05$) in latter stages of development. These results suggest the presence of specific expression pattern in cluster C1 and that these miRNAs probably have an essential role in embryonic brain development.

Key words: central nervous system; development; microRNA

Supported by CAPES and FAPESP