



University of Zabol
College of Science
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**Dissertation submitted for master's degree
(in the field of genetic sciences)**

**Investigating lithium treatment during
pregnancy and breastfeeding on miR124 gene
expression in the hippocampus and blood
serum of newborns
Rats**

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Abstract:

Bipolar disorder: formerly known as manic-depression; It is a type of mental disorder characterized by episodes of depression, mania and abnormal mood. In this research, in order to investigate the microRNAs involved in this disease, the molecular changes in the level of microRNAs in the offspring of female rats that consume lithium during pregnancy are investigated. In such a way that 8 pregnant female mice are considered, 4 pregnant female mice, control female mice and 4 pregnant female mice are given lithium treatment. Offspring from female mice that have been tested for lithium consumption and behavioral and biochemical tests are performed on them. Next, the total RNA of the born mice is extracted and cDNA is prepared. Finally, Real time PCR test is performed and data analysis is done with standard curves, fluorescence intensity is created and calculations related to data analysis of different samples are done.

The aim of this study was to determine the expression of miR124 gene in the hippocampus and blood serum of rats whose mothers were treated with lithium during pregnancy.

Keywords: hippocampus, microRNA, memory, lithium, rat, bipolar disorder