

## BSTR-34

### Mir-17 MicroRNA Family in the Gonadotropins Regulation

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#### **Background & Hypothesis:**

The primordial germ cells and spermatogonia maximum number of RNA molecules are represented by the *mir-17* microRNA family. Molecules of *mir-17* microRNA family regulate differentiation, apoptosis and proliferation of primordial germ cells. In non-obstructive azoospermia, we observed a significant reduction in the number of molecules of *mir-17* microRNA family. Gonadotropins hormones secreted by the anterior pituitary gland-luteinising hormone and follicle-stimulating hormone play key roles in the hormonal control of spermatogenesis. The purpose of the study is to analyse the frequency of *mir-17* microRNA family prevalence in the intergenic space and introns of gonadotropins.

#### **Methods:**

Gonadotropins were obtained from the NCBI Gene database. Sequences of the *mir-17* microRNA family were obtained from the miRBase. Bioinformatic search was carried out using Mscanner software. The similarity index minimum was 0.85.

#### **Results:**

The length of the intergenic space of luteinising hormone beta is 1212 bp, follicle stimulating hormone (CGA – 95368 bp, beta – 315057 bp) and thyroid stimulating hormone beta is 48156 bp. The *Pma-mir-17a* was detected in the intergenic space after follicle-stimulating hormone alpha gene, and the *oan-mir-106* was detected in intergenic space after follicle-stimulating hormone beta gene. The intergenic space of genes luteinising hormone and thyroid stimulating hormone do not include genes from the *mir-17 microRNA* family.

#### **Discussion & Conclusion:**

The results indicate the potential involvement of genes from the *mir-17* microRNA family in the expression and suppression of gonadotropins and regulation of gametogenesis processes. Analytical work was carried out on the equipment of Center for collective use High Technology of SFedU. This research was supported by the Ministry of Education and Science of Russia №6.703.2014/K.



Proceedings of the



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**23 - 24 September 2016 | MAX Atria @ Singapore EXPO**



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Printed by Straits Printers (Pte) Ltd

ISSN 0304-4602

MCI(P) 029/11/2015