# Investigation of the Effect of Asprosin on Follicle Development in a Model of Premature Ovarian Insufficiency


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## KEYWORDS

- ✓ Premature ovarian insuffiency (POI)
- ✓ Asprosin
- ✓ Reproductive biology
- ✓ İnfertility



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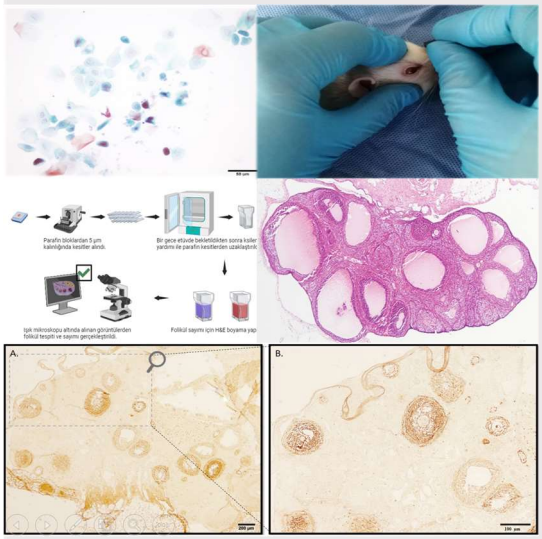

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## THESIS ABSTRACT


This study, planned to test the hypothesis that "Asprosin increases the decreased ovarian reserve in POI, which negatively affects female fertility, by stimulating the development of ovarian follicles", was aimed to show whether asprosin affects the decreased ovarian reserve and impaired ovarian follicle development in POI. For this purpose, the effect of asprosin on the 4-vinylcyclohexene diepoxide (VCD) induced POI rat model was evaluated by histological, immunohistochemical and biochemical methods. Sixty-day-old rats were intraperitoneally given asprosin (500 ng/kg/day) or physiological saline for 8 weeks. Serum AMH and estrogen concentrations were measured in blood samples taken on the 1st, 15th and 71st day. Ovarian follicles were counted and granulosa cell proliferation was evaluated on the sections which were prepared from the ovaries of the rats and stained with hematoxylin-eosin or PCNA,. Biochemical findings showed that AMH and estrogen levels were increased significantly with asprosin administration compared to POI group; histological and immunohistochemical findings showed that asprosin caused a significant increase in the number of developing follicles as well as primordial follicles and the proliferation of granulosa cells.


## APPLICATION AREAS OF THE THESIS RESULTS

In conclusion, our study showed that asprosin positively affects ovarian reserve and follicle development by causing activation of primordial follicles. In this context, we think that our study will lead to new studies in which asprosin will be investigated on various factors and mechanisms affecting the activation of primordial follicles and follicle development.

## ACADEMIC ACTIVITIES

Presented at national/international peer-reviewed events and summarized in the proceedings booklet Işıklar, S., Çakır, C., Ganiyev, A., Kurt, G., Pomak, B., & Avcı B. (2021, November 11-14).
Effect of SARS-COV-2 infection on semen parameters. TSRM 2021 - National Reproductive Health and Infertility Congress, Belek/Antalya, Türkiye.

Researcher in a national/international project Minbay, F.Z. (Executive), Pomak Adalı, B. Investigation of the effect of asprosin on follicle development in the premature ovarian failure model.
(TYL-2023-1498). Higher Education Institutions Supported Project, 2023.