

given parentally. For the experimental studies, totally a total of 24 female Sprague-Dawley rats, 21 days old and 35 ± 2 g weight, were used and randomly divided into two groups as control and asprosin groups ($n=12$). Asprosin (500 ng/kg) was given intraperitoneally daily in the animals in the asprosin group from postnatal day 21 for about 8 weeks. Similarly, the control group received only saline. For determining the puberty onset, vaginal opening (complete canalization of the vagina, an external index of puberty onset) was monitored daily in rats. Vaginal smears were performed daily from the date of puberty onset to determine the day of the first estrus. The ELISA method is used to analyze hormones in blood samples. Asprosin administration did not affect the onset of puberty or pubertal weight compared to the control group ($p>0.05$). The first day of estrus in female rats administered with asprosin was shown to be significantly earlier than control rats ($p<0.05$). Asprosin administration significantly increased the levels of FSH, oxytocin, and estradiol in the blood ($p<0.05$). It significantly decreased inhibin B level ($p<0.05$). There was no significant difference in LH level ($p>0.05$). In conclusion, our findings suggest that asprosin may have stimulatory effects on pubertal maturation of the reproductive system in female rats. However, we believe that more research is needed to determine the mechanism by which asprosin affects the pubertal maturation of the reproductive system. This study was supported by TUBITAK (Project# 220S744).

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The Effects of Asprosin Pubertal Maturation in Female Rats

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Adipokines play an important role in sexual maturation and reproduction in a variety of ways. The central Asprosin administration of asprosin, a new adipokine secreted by white adipose tissue, has been found to have the potential to stimulatory effects influence on the hypothalamus-pituitary-gonadal axis (HPG)pubertal maturation in male rats. However, there is no study on the effects of asprosin on the HPG axis. Interestingly, peri-ovarian adipose tissues, which surround the ovaries and perform both auto-crine and paracrine functions, suggest that asprosin may have a role in ovarian function. Asprosin has been also shown to cross the blood-brain barrier. However, the effects of asprosin, a novel adipokine, are not fully defined on the hypothalamus-pituitary-gonadal axis at the peripheral levels. The aim of the research study aims is to see how asprosin affects pubertal maturation in female rats when it is