Context
The effect of steroids, testosterone and 17ß estradiol, on the β endorphin synthesis in the testis was performed for the first time in the sand rat Psammomys obesus, a diurnal deserticole rodent belonging to the family of Gerbillidae and characterized by a seasonal sexual function, with a maximum activity in the winter and a rest from late spring through summer.

Objective
This investigation may allow better understanding of the reproductive function in this seasonally breeding species.

Methods
The immunohistochemical and the molecular (western blot) studies were performed after the intraperitoneal treatment with steroids at the seasonal anoestrus, when the β-endorphin was expressed.

Results
The 17ß estradiol treatment decreases the labeling in all seminiferous tubules but not in the Leydig cells, whereas the decrease of the signal by testosterone treatment was partial in both tubular and interstitial compartments. Our results were confirmed by the western blot; the band of 3.5 kDa corresponding to the β-endorphin, which absent at the sexual activity, was expressed in the adult at the period of sexual rest, less expressed after the testosterone treatment and weakly expressed after 17ß estradiol administration.

Conclusion
These results suggest an intra-testicular regulation of the β-endorphin by both steroids. The 17ß estradiol appears to be involved in this regulation exclusively at the germinal level, where it strongly inhibits the opioid peptide biosynthesis compared to the partial effect of the testosterone.

Keywords
INSTITUTE.

Testis, β-endorphin, testosterone, 17β estradiol.