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The effects of steroids on the expression of Pit- I isotype gene in rat placenta and embryonic pituitary .

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Pit- I, a pituitary specific trans-acting factor regulates transcriptional activity of pituitary growth hormone and prolactin. And two types of pit- I gene isoforms (α and β form) have defined from pituitary related cell line, but its special activities are not cleared.

Recently the expression of pit- I gene is found out in rat placental tissue(Lee et al., 1996) and named placental pit- I reported to bind and activate the promoters of human chorionic somatomammotropin(CS-A) and GH variants(GH-V) as well. However the isoforms of placental pit- I has not yet been elucidated. And so the present study aims to determine whether the isoforms of placental pit- I were locally expressed and regulated by steroids in the rat placenta using RT-PCR and northern blot hybridization. We injected estrogen and progesteron after ovary ectomy at day 14 and killed them at day 18. Estrogen increase placental pit- I gene expression but progesterone decrease placental pit- I gene expression. Also we confirmed pit- I β isotype gene expression in rat placental and embryonic pituitary. The expression of pit- I β isoform of placenta and embryonic pituitary is proportionally increased from day 12 and day 15, respectively. (HRC-96-0102)

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Differential expression of bcl-2, bax, bad and bak gene during mouse ovarian maturation

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The development and growth of ovarian follicles require intercellular and hormonal interactions. In vivo antrum follicles were first appeared at 13 days after birth and the first ovulation occurs at around 20 days. The atretic follicles increase in number, reaching a maximum at about 18 days (Rugh, 1990). It was reported that apoptosis in granulosa cells coincides with altered expression of several cells survival/death related genes. The present studies were designed to evaluate differential expression of bcl-2, bax, bad and bak mRNA levels during growth and differentiation of the mouse ovaries. The levels of bcl-2, bax, bad mRNA were low at 10 days ovaries containing preantral follicles. The levels of bax mRNA were mximum at 15 days (antral follicles were first appeared). And the expression of bad gene was increased during ovarian growth and was maximum at 20 days (HRC-96-0102).