Effect of zearalenone on estrogen receptor, IGF-I and IGF-II genes expression in bovine oviduct epithelial cell culture

Zearalenone (ZEA) is a nonsteroidal estrogenic component that we assumed ZEA can bind to estrogen receptors and causes estrogenic responses and affect Insulin like growth factors (IGF) secretion and cause embryo growth retardation and abortion in cattle. Therefore bovine oviduct epithelial cells cultured (BOEC) in DMEM Ham F12 medium, 1% Penicillin-erythromycin and 5% fetal bovine serum. The cells passaged for 2 times. Culture flasks divided into 4 treatments and 3 replications. Amounts of 0.061, 0.001 and 0.052 l of ZEA(0.001 ng/ml) added to 3 treatment of experiment and one treatment maintained as control group. After 24 hours cells detach from flasks surface and total RNA extracted. Total RNA converted into cDNA and estrogen receptor, IGF-I and IGF-II genes expression assessed with quantitative Real Time PCR. Results analyzed with SPSS statistics 20. The results show that estrogen receptor gene expression in presence of different amount of ZEA had a significant difference (P<0.01) with control group, but IGF-I, II gene expressions had no significant difference (P>0.1) between treatments and control group. It means that ZEA is agonist to estrogen receptor and it can activate estrogen receptors transcription. Although ZEA is able to activate estrogen receptors and cause alteration in function of reproductive tract. IGFs genes expressed in both treatments and control group and there was no any difference between them. ZEA is group of endocrine disrupters, but it has no effect on IGFs system hormones.
این صفحه به معنای تاییدیه نمایه سازی مقاله در پایگاه استنادی سیویلیکا می‌باشد. در هر لحظه به منظور تایید اصلی این گواهی می‌توانید وضعیت ثبت مقاله را از طریق لینک فوق به صورت آنلاین کنترل نمایید.