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## JOURNAL ARTICLE

# Inhibition of steroidogenesis in neonatal Leydig cells by unknown factor(s) present in spent media of androgen-treated cultured testicular cells from adult rats

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Treatment of cultured testicular cells from adult rats with 5 alpha-dihydrotestosterone (DHT;  $10^{-6}$  M) or the synthetic androgen methyltrienolone (R1881;  $10^{-6}$  M) inhibited Leydig cell 3 beta-hydroxysteroid dehydrogenase/delta 5-4 isomerase (3 beta-HSD) enzyme activity, whereas no effect of both androgens on cultured cells derived from neonatal animals could be observed. The inhibitory effect of DHT or R1881 on Leydig cell 3 beta-HSD enzyme activity, however, was abolished when adult cells were cultured in the presence of the anti-androgen cyproterone acetate (CPA;  $10^{-6}$  M) or the protein synthesis inhibitor cycloheximide (CX; 1 microgram/ml). Testicular cells from adult animals were also cultured in the presence of the different treatments described above, and the spent media was collected and thereafter used as conditioned culture medium (CCM) in subsequent experiments performed with neonatal cells. Dispersed testicular cells from neonatal rats were cultured for 12 days in McCoy's 5a medium or in CCM derived from R1881-treated adult cells, and fresh culture medium or CCM was replaced every 2 days. The human chorionic gonadotropin (hCG)-stimulated testosterone production of neonatal cells was abolished in the presence of CCM derived from R1881-treated adult cells. Nevertheless, the steroidogenic response to hCG recovered when neonatal cells were cultured for two additional days in McCoy's 5a medium. Treatment of neonatal cells with increasing concentrations of hCG (0.1-10 ng/ml) resulted in a dose-dependent augmentation in Leydig cell 3 beta-HSD enzyme activity and testosterone production. (ABSTRACT TRUNCATED AT 250 WORDS)

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