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JOURNAL ARTICLE

Human Sertoli cells in vitro. Lactate, estradiol-17 beta and transferrin production

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Human Sertoli cell parameters, namely lactate, estradiol-17 beta, and transferrin production, were determined after a 24-hour incubation with either human follicle stimulating hormone (FSH) or dbcAMP in the presence or absence of testosterone plus a phosphodiesterase inhibitor (1-methyl-3-isobutylxanthine; MIX). Testicular tissues were obtained from 10 young patients (mean age, 29 years); using a 3-step enzymatic treatment, Sertoli cell enriched preparations (> 92%) were studied after 4 days as primary cultures. No significant changes in lactate, estradiol-17 beta, and transferrin outputs have been observed according to age in patients ranging in age from 16 years to 47 years. Sertoli cell production of the compounds is controlled by testosterone plus MIX; FSH (or dbcAMP) treatment only slightly improves their synthesis. It is suggested that human Sertoli cell function, as far as the parameters measured in this study are concerned, is likely regulated by cAMP-dependent and independent pathways.

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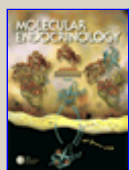


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C. Lecureuil, M.C. Saleh, I. Fontaine, B. Baron, M.M. Zakin, and F. Guillou
Transgenic mice as a model to study the regulation of human transferrin expression in Sertoli cells
Hum. Reprod., June 1, 2004; 19(6): 1300 - 1307.

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S. Catalano, V. Pezzi, A. Chimento, C. Giordano, A. Carpino, M. Young, M. J. McPhaul, and S. Ando
Triiodothyronine Decreases the Activity of the Proximal Promoter (PII) of the Aromatase Gene in the Mouse Sertoli Cell Line, TM4
Mol. Endocrinol., May 1, 2003; 17(5): 923 - 934.

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M. Lanzino, S. Catalano, C. Genissel, S. Ando, S. Carreau, K. Hamra, and M. J. McPhaul

Aromatase Messenger RNA Is Derived from the Proximal Promoter of the Aromatase Gene in Leydig, Sertoli, and Germ Cells of the Rat Testis

Biol Reprod, May 1, 2001; 64(5): 1439 - 1443.

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R. Middendorff, M. Kumm, M. S. Davidoff, A. F. Holstein, and D. Müller
Generation of Cyclic Guanosine Monophosphate by Heme Oxygenases in the Human Testis--A Regulatory Role for Carbon Monoxide in Sertoli Cells?

Biol Reprod, August 1, 2000; 63(2): 651 - 657.

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