

Journal of Andrology, Vol 6, Issue 6 348-352, Copyright © 1985 by The American Society of Andrology

JOURNAL ARTICLE

Differential release of polyamines by cultured rat Sertoli cells

Y. H. Tsai and S. N. Lin

Cellular and media concentrations of polyamines in Sertoli cell cultures were determined by fluorescent spectroscopy of dansylated compounds after separation by high-performance liquid chromatography. In spite of low cellular levels of putrescine, the Sertoli cells released relatively large amounts of putrescine and spermidine even after several media changes. The inclusion in the culture media of cortisol, insulin, and thyroxine significantly elevated cellular polyamine levels, altered the spermidine to spermine ratio, and enhanced putrescine release by 3- to 4-fold. No spermine, however, was detected in the media under any of the conditions studied. The polyamine concentrations in cultured Sertoli cells from 13-day-old rats and the pattern of polyamine release by these cells differed significantly from those in the Sertoli cells from 46-day-old rats. These data demonstrate the differential release of polyamines by cultured rat Sertoli cells. The profiles of polyamine secretion appear to be age-dependent, and the significance of this phenomenon is discussed.

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