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JOURNAL ARTICLE

The differential effects of the indazole-carboxylic acid derivative, tolnidamine, on Sertoli cell protein secretion

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The indazole-carboxylic acid derivative tolnidamine (TOL) has marked antispermatogenic activity in rats. Previous morphological and biochemical studies indicate that Sertoli cells are one of the targets of this compound. The aim of this study was to assess the effect of TOL on the in vitro secretory functions of primary Sertoli cell-enriched cultures prepared from rats of different ages by monitoring the changes of three known Sertoli cell proteins, androgen binding protein (rABP), transferrin (rTF), and testibumin (rTB). The addition of TOL at the beginning of the culture period reduced the plating efficiency of Sertoli cells; however, TOL did not induce a significant change in cell number if it was added 24 h after plating of the cells. Sertoli cell-enriched cultures prepared from tests of 10-day-old rats were highly sensitive to TOL as evidenced by a marked inhibition in secretions of rABP, rTB, and rTF in all experiments. In cultures prepared from 15- and 20-day-old rats, TOL had no apparent effect on rABP secretion, but reduced rTF and increased rTB secretion. Thus, TOL has a differential effect on the secretion of individual proteins in Sertoli cells cultured from rats between 10 and 20 days of age. This phenomenon is presumably a consequence of the progressive maturation of Sertoli cells in the seminiferous epithelium.

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