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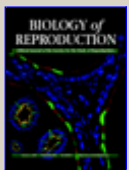
JOURNAL ARTICLE

Expression of Notch pathway components in spermatogonia and Sertoli cells of neonatal mice

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Members of the Notch gene family have been shown to play an important role in the control of cell fate in many developmental systems. We hypothesized that the fate of the male germ line stem cells may also be mediated through the Notch signaling pathway. We therefore sought to determine whether the components of the Notch pathway are expressed in the mouse testis. Western blot analysis revealed the expression of three Notch receptors (Notch 1, Notch 2, and Notch 3), Notch ligands (Jagged 1, Jagged 2, and Delta 1), and presenilin 1 (PS1) in neonatal mouse testis. We then examined their cellular localization by immunohistochemical analysis of cocultures of spermatogonia and Sertoli cells. The 3 Notch receptors were found to be expressed in spermatogonia. Sertoli cells expressed only Notch 2 receptor. Among the Notch ligands, Delta 1 and Jagged 1 were localized exclusively in spermatogonia and Sertoli cells, respectively. PS1 was apparent in both spermatogonia and Sertoli cells. The presence of Notch receptors and Notch ligands in spermatogonia and Sertoli cells indicates that these cells are capable of responding to and eliciting Notch signaling during the process of spermatogenesis. Key words: Cell fate, delta, jagged, presenilin, spermatogenesis.

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