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Deleted in Azoospermia Associated Protein 1 Shuttles Between Nucleus and Cytoplasm During Normal Germ Cell Maturation

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DAZAP1 (Deleted in Azoospermia Associated Protein 1) was originally identified through its interaction with a putative male azoospermia factor, DAZ (Deleted in Azoospermia). It contains 2 RNA-binding domains (RBDs) and a proline-rich C-terminal portion and is expressed most abundantly in testes. We used RNA in situ hybridization and immunocytochemistry to study the expression of *Dazap1* in mouse testes. *Dazap1* messenger RNA (mRNA) was present predominantly in immature germ cells, between the intermediate spermatogonia and preleptotene spermatocyte stages. The DAZAP1 protein was more abundant in germ cells of later stages of development and showed a dynamic subcellular distribution. High expression of DAZAP1 was first detected in midpachytene spermatocytes in stage VII tubules. In these cells, DAZAP1 was present in both the cytoplasm and the nuclei and was clearly excluded from the sex vesicles. In round spermatids, DAZAP1 was localized mainly in the nuclei, whereas in elongated spermatids, it redistributed to the cytoplasm. The subcellular distribution of DAZAP1 suggests that it shuttles between the nucleus and the cytoplasm and may play a role in mRNA transport and/or localization.

Key words: Spermatogenesis, RNA-binding protein, gene expression

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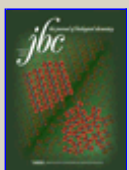
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