Spatial and temporal expression of c-mos in mouse testis during postnatal development

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Aim: To immunolocalize the c-mos gene product and to investigate its spatial and temporal expression in mouse testis during postnatal development. Methods: Semi-quantitative reverse transcription-polymerase chain reaction (RT-PCR) and in situ hybridization techniques were used to examine c-mos mRNA and indirect immunofluorescence was used to localize c-Mos protein in mouse testis on postnatal days 14, 21, 25, 28, 30, 35, 49 and 70. Results: c-mos mRNA remained low on postnatal days 14-21, increased abruptly from day 25 and peaked on day 30. Its levels decreased a little on day 35 and became almost stable thereafter until day 70. c-mos mRNA was localized in the nucleus and cytoplasm of the spermatocytes and round spermatids. The nuclear staining was much stronger than the cytoplasmic staining. Using a polyclonal anti-c-Mos antibody, Western blotting detected a single band at 43 kDa in testis lysate. c-Mos protein was exclusively localized to the elongating spermatids and was first detected on postnatal day 30. The number of c-Mos-positive spermatids increased progressively till day 49 and stabilized thereafter. Conclusion: The c-mos gene displays a spatial and temporal expression pattern in the mouse testis during postnatal development at both the mRNA and protein level. This suggests that c-mos might play important roles in spermatogenesis.

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