

Differential localization of α' and β subunits of protein kinase CK2 during rat spermatogenesis

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Protein kinase CK2 is a serine/threonine kinase expressed in organisms from yeast to human and is composed of a catalytic subunit (α or α') and a regulatory subunit (β) forming a holoenzyme with the possible subunit combinations $\alpha_2\beta_2$, $\alpha_2\beta$, or $\alpha\beta_2$. This kinase has been shown to be involved in embryonic development and gametogenesis. We have studied the expression of the CK2 α' and CK2 β subunits during the first wave of spermatogenesis and in adult testis in the rat. Western blot analyses have demonstrated that both CK2 α' and CK2 β are expressed in testes from birth to adulthood. A more detailed study of the protein localization of CK2 α' and CK2 β by immunohistochemistry suggests that CK2 α' and CK2 β are localized in the nuclei of Sertoli cells in 5-day-old rats, whereas they appear to have a cytoplasmic localization in older animals. In adult testes, CK2 α' and CK2 β subunits are present in spermatocytes. Both subunits exhibit a similar expression pattern with the highest level in sperma