Number and nuclear localisation of nucleoli in mammalian spermatocytes

Berríos, Soledad

Fernández-Donoso, Raúl

Pincheira, Juana

Page, Jesús

Manterola, Marcia

Cristina Cerda, Marcia

In seven mammalian species, including man, the position and number of nucleoli in pachytene spermatocyte nuclei were studied from electron microscope (EM) nuclear sections or bivalent microspreads. The number and position of the nucleolar organiser regions (NORs) in mitotic and meiotic chromosomes were also analysed, using silver staining techniques and in situ hybridisation protocols. The general organisation of pachytene spermatocyte nucleoli was almost the same, with only minor morphological differences between species. The terminal NORs of Thylamys elegans (Didelphoidea, Marsupialia), Dromiciops gliroides (Microbiotheridae, Marsupialia), Phyllotys osgoodi (Rodentia, Muridae) and man, always gave rise to peripheral nucleoli in the spermatocyte nucleus. In turn, the intercalated NORs from Octodon degus, Ctenomys opimus (Rodentia, Octodontidae) and Chinchilla lanigera (Rodentia, Cavidae), gave rise to central nucleoli. In species with a single nucleolar bivalent, just one nucleolus is