

Gradients of histogenesis in the ependymal lining of the third ventricle in the Rabbit

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Tritiated thymidine autoradiography was used to analyze the site, time of origin, and developmental gradients of the specialized lining of the ependymal surface of the third ventricle. Cells destined to form the ependyma are generated between days 15 and 22 of embryogenesis (gestation: 30 ± 2 days), the majority of the cells undergoing final division on the 18th day of gestation. Ependymal cells originate in an orderly fashion according to 3 gradients. Two gradients of opposite direction (ventrodorsal and dorsoventral) are found in the parasagittal plane. Both gradients start at the level of the hypothalamic sulcus, progressively departing from this anatomical landmark as histogenesis progresses. A third gradient occurs in the caudorostral axis, such that cells located in caudal regions originate earlier than those located in rostral sectors. Thus, an orderly relationship exists between the time of origin of ependymal cells and their final location within the lining of the ventricular wa