

Autoradiographic study of development of the cerebral cortex in the rabbit

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The histogenetic development of the archi, paleo and neocortex of the rabbit was studied using autoradiographic techniques. The analysis is based upon a series of 54 embryos and newborn rabbits, whose mothers were injected on successive days of gestation with a single dose of tritiated thymidine. Neurons destined to form the cerebral cortex originate in the matrix layer surrounding the lateral ventricles. From the matrix, cells migrate to form the different cortical layers in an inside out sequence. This sequence appears reversed in the fascia dentata. In the anterior region of the brain, a single developmental gradient of histogenesis of the cortex is observed. This gradient starts in the ventralmost areas of the cortex and then advances in a dorsomedial direction. In the posterior region of the brain, there are two gradients of cortical histogenesis. These gradients start at the lateral aspect of the cortex. One advances in a ventromedial direction and the other in a dorsomedial direction.