Abstract
The medial cerebral cortex of lizards, an area homologous to the hippocampal fascia dentata, shows delayed postnatal neurogenesis, i.e., cells in the medial cortex ependyma proliferate and give rise to immature neurons, which migrate to the cell layer. There, recruited neurons differentiate and give rise to zinc containing axons directed to the rest of cortical areas, thus resulting in a continuous growth of the medial cortex and its zincenriched axonal projection. This happens along the lizard life span, even in adult lizards, thus allowing one of their most important characteristics: neuronal regeneration. Experiments in our laboratory have shown that chemical lesion of the medial cortex (affecting up to 95% of its neurons) results in a cascade of events: first, massive neuronal death and axonal-dendritic retraction and, secondly, triggered ependymal-neuroblast proliferation and subsequent neo-histogenesis and regeneration of an almost new medial cortex, indistinguishable from a normal undamaged one. This is the only case to our knowledge of the regeneration of an amniote central nervous centre by new neuron production and neo-histogenesis. Thus the lizard cerebral cortex is a good model to study neuronal regeneration and the complex factors that regulate its neurogenetic, migratory and neo-synaptogenetic events.

Keywords
medial cortex, hippocampus, postnatal neurogenesis, neural stem cells, zinc, regeneration.