TITLE: Evolution of the pallium: New insights from studies in amphibians.

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The dorsal telencephalon constitutes the pallium in all vertebrates, and it is the territory that in mammals gives rise to the cortex, the region that shows the greatest functional and organizational complexity during evolution. Despite the differences found in the different vertebrates studied comparable conserved pallial regions have been identified. Our aim is to analyze the genoarchitectonic pattern of these pallial subdivisions particularly at the anamniote-amniote transition, which will allow us to evaluate which regions are conserved at this evolutionary point, likely recapitulating the situation found in the stem amniote, and which are unique amniote acquisitions. Based on the expression of the mammalian pallial domain markers, we have analyzed their expression patterns in the amphibian anuran *Xenopus laevis*, the only anamiote tetrapod. We have identified different pallial subdivisions, where neither layered nor nuclear structures are formed. Two different domains have been identified in the *Xenopus* medial pallium based on the Prox1/Er81 expressions, likely homologous to the amniote medial cortex, the hippocampal-like region. Similarly, the dorsal pallium of *Xenopus* was subdivided in dorsal and dorsolateral parts showing distinct EGFR, Er81, Cux2, Lmo4 and Ctip2 expression. The lateral pallium derivatives have been rostrocaudally identified by the Satb2 and Reln expressions. And finally, the ventral pallium of amphibians was rostrocaudally subdivided by the distinct Tbr1, FeZ2 and Lhx2/9 expressions. Our results suggest that a common bauplan in the pallial organization is present in the tetrapod ancestor and that the differences could be evolutionary divergences and adaptations.