

P26 Ultrastructural organization of the reptilian nucleolus

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Recently, we have emphasized the fact that there are two types of nucleolus in the eukaryote cells: a bipartite nucleolus and a tripartite nucleolus (Thiry and Lafontaine, 2005, TCB, 15: 194-199). Surprisingly, the bipartite nucleolus is widely common among the eukaryotic organisms; on the contrary, the tripartite nucleolus is only found in amniotic vertebrates. In other respects, although the fine structure of the nucleolus is well known in mammals and birds, it has been only described in two reptilian species.

In this present work, we have investigated the ultrastructural organization of the nucleolus in different tissues from 4 reptilian species: a lizard *Japalura sp.*, a snake *Python regius* and two turtles *Trachemys scripta scripta* and *Pseudemys scripta elegans*.

Using cytochemical and immunocytochemical techniques, we demonstrate that, in reptiles, both types of nucleolus are present: a tripartite nucleolus in the lizard and a bipartite nucleolus in the other species examined in this study. It is also interesting to note that all the tissues from a same species have the same type of nucleolus, although the importance and the repartition of those components can vary from a tissue to another one.

More specifically, the fibrillar centers and the dense fibrillar component of tripartite nucleolus are stained with the AgNOR method but only the fibrillar centers contain DNA. As far as the unique fibrillar zone of bipartite nucleolus is concerned, only the electron-dense cordons of this zone contain AgNOR proteins and DNA. These results suggest that this fibrillar and heterogenous zone would be the source of two distinct fibrillar components in the tripartite nucleolus.