

PCNA immunoreactivity revealing normal proliferative activity in the brain of adult *Lampetra planeri* (Bloch, 1784)

Vito Margotta*, Brunella Caronti**,
Paolo Tito Colombari*** and Riccardo Castiglia*

* Dipartimento di Biologia animale e dell'Uomo (Sede di Anatomia comparata),
Università di Roma "La Sapienza"

** Dipartimento di Scienze Neurologiche, Università di Roma "La Sapienza"

*** Agenzia Regionale per lo Sviluppo e l'Innovazione dell'Agricoltura del Lazio (A.R.S.I.A.L.),
Stabilimento Ittiogenico di Roma, Italy

Key words: *Lampetra planeri*, Brain, Matrix cells and/or areas, PCNA, Proliferating cells

SUMMARY

It is now well known that the Teleosts among Osteichthyes, Urodele and Anuran Amphibians, Lacertilian Reptiles possess encephalic natural proliferative activities even into adulthood, as demonstrated by a great number of researches performed both under normal and various experimental conditions. Few years ago we have undertaken in adult heterothermic vertebrates a reappraisal on spontaneous cerebral proliferative events involving some organisms (*Podarcis sicula*, *Triturus carnifex*, *Rana esculenta*, *Carassius carassius*) representative of these vertebrates and belonging to the same or phylogenetically similar species used by previous researchers in studies having the same object. In our investigations, these performances were revealed by a proliferative immunocytochemical marker, the Proliferating Cell Nuclear Antigen (PCNA). At this point of our study in the scenario emerging from findings a missing piece is represented by Petromyzontidae. To fill up this gap in the present investigation, using our usual test, we have paid attention to adult specimens of *Lampetra planeri*. The obtained immunostaining panorama has revealed the presence of a considerable number of spontaneous proliferative activities. These events might differ in quantity, in various encephalic districts. PCNA-labelled cells appeared scattered in the cranial portion of olfactory bulbs, while the PCNA expression has been observed steadily localized with a distinctly continuous distribution in cells interposed among the ependymal epithelium which lines the cavities of the proximal portion of the olfactory region and of the cerebral ventricles. DNA synthesis activity has been also found in cells scattered in the telencephalic, diencephalic, mesencephalic and *medulla oblongata* periventricular grey. This immunoreactivity was not revealable in the *cerebellum*. Our findings are discussed in the light of bibliographic news.