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Genotoxicity in non-traditional animal models

Pesticides are ubiquitous on the planet and they are employed to control or eliminate a variety of agricultural and household pests that can damage crops and livestock and reduce productivity. Anthropogenic activities are continuously introducing extensive amounts of these compounds into the environment regardless of their persistence, bioaccumulation and toxicity. Despite the many benefits of the use of pesticides in crop production and their significant contribution to the lifestyles we have come to expect, pesticides can also be hazardous if not used appropriately and many of them may represent potential hazards due to the contamination of food, water and air. However, it is well known that the indiscriminate use of pesticides can generate pest resistance, the emergence of new pest species, environmental pollution, toxic effects, genetic alterations on target and non target organisms including humans and biodiversity loss among other side effects. Pesticides may be introduced into the aquatic environment since they are applied directly on surface water to control aquatic weeds or via air onto crop fields. Indirect entrance into the freshwater environment is associated with runoff, erosion and lixiviation events resulting from terrestrial application. Furthermore, they may provoke harmful effects on the fish population and other aquatic organisms e.g., amphibians, contributing to long-term effects in the environment. One of the major goals of our research laboratory is to evaluate the genotoxic and cytotoxic effects exerted by several agrochemicals and their technical formulations on endemic vertebrate neotropical species namely *Cnesterodon decemmaculatus* (Actinopterygii, Poeciliidae) and *Rhinella arenarum* (Amphibia, Bufonidae) employing several end-points for geno and cytotoxicity. Among them are listed the herbicides dicamba, flurochloridone, glyphosate and 2, 4-D.

Biography

Marcelo L Larramendy has obtained his PhD from the National University of La Plata (UNLP), Argentina in 1978. He was appointed as a Member of the Research Career of the National Scientific and Technological Council of Scientific and Technical Research of Argentina in 1981, coating today as Senior Researcher. Since 1991, he serves as Professor of Molecular Cell Biology at the UNLP. He is the author of more than 450 contributions in the field including scientific publications mostly in high impact and prestigious scientific journals, research communications and conferences worldwide. He is a regular Lecturer at the international A Hollaender Courses organized by the International Association of the Environmental Society (IAEMS). He has carried out Postdoctoral research activities at the National Cancer Institute, USA and has been Guest Scientist at the University of Helsinki, Finland. He is an expert in Molecular Cytogenetics, Genetic Toxicology and Ecotoxicology. He is or has been the Referee for more than 20 international scientific journals including some of the top periodicals within his scope of work. He is the Editor of eight books in his field. Currently, he is the Head of the Laboratory of Molecular Cytogenetics and Genotoxicology at the UNLP.

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