

South American special issue: Editorial

Pharmacology is essentially an interdisciplinary science. As such, knowledge gained in several different areas is gathered to focus on human health. Although South America is a region ravaged by multiple political and economic conflicts throughout its history, cell biology and pharmacological studies were conducted by many South American outstanding researchers working in their own countries and abroad. On the region, Argentine has a privileged history, including Bernardo Houssay, who was awarded the Nobel Prize in Physiology and Medicine in 1947 for his work on pituitary hormones¹; Luis F. Leloir, who was awarded the Nobel Prize in Chemistry in 1970 for his research on glycogen metabolism²; Eduardo Braun-Menendez, who was one of the discoverers of angiotensin³; Adolfo J. De Bold, who discovered atrial natriuretic factor,⁴ and a team that made a great contribution that was pivotal for understanding the presynaptic regulation of neurotransmitter release.^{5,6} All these exceptional researchers and their contributions helped to establish an Argentinean pharmacological tradition that still has a strong influence nowadays. Almost 30% of all researchers recruited by the most important scientific national organism (CONICET) are involved only in biomedical research.

Unfortunately, projects and scientific careers in South America are often finished or significantly delayed because of adverse social conditions, political turmoil, and economic collapses. Unhappily, this has been recurrent in most of our countries and a constant in the region. Nevertheless, there is a pharmacological tradition that continues producing exceptional work contributing to our current knowledge. When economic constraints and infrastructure issues are constant, you are forced to harness your imagination and creativity and make the most of them.

This special issue features articles written by a selected group of leading South American scientists working on different aspects of pharmacology who share the passion for knowledge and use their inspiration to search for alternatives making the most of their budgets and compensating the shortages with innovation.

The common thread of the articles comprised by this issue is the exploration of options or alternative uses for well-established compounds or systems. With resource optimization as their motivation, Gorzalczy et al.⁷ wrote an article discussing potential substitutes for the use of experimental animals, Giunti et al.⁸ consider the use of a simple and economic platform based on nematodes for drug discovery, and Nuske et al.⁹ explore the application of algorithms

and computer simulations to optimize and reduce bioequivalence studies.

On the other hand, examining alternatives for the treatment of well-studied pathological situations, Nader et al.¹⁰ study the use of probiotics in hygienic products for the treatment of female urogenital tract infections, Schofs et al.¹¹ discuss the antimicrobial effects of Cannabis sativa against fungus and pathogenic bacteria to assess its potential use as an antimicrobial agent, and Formica et al.¹² report the benefits of novel nanoparticles for the delivery of anti-vascular endothelial growth factor agents for ocular angiogenesis.

Finally, exploring the complexity of some conditions that require innovative approaches, Palumbo et al.¹³ explore how immunomodulation by neuropeptides can be a valid strategy for the treatment of neurodegenerative disorders, and Sarasola et al.¹⁴ investigate the immunomodulatory roles of histamine for cancer treatment.

In summary, this special issue of *Pharmacology Research & Perspectives* will provide an outlook of the current research in South America, hoping that readers will find the articles to be of interest and that help promote collaboration with colleagues in other parts of the world.

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