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Cell function-based high-throughput screening of natural and synthetic compounds

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Modulators of cell functions such as transport pathways, signal transduction and redox balance may have biomedical applications as pharmaco-therapeutics. We have developed biochemical and cellular high-throughput screening assays to assess activities of natural products, standardized plant extracts, as well as synthetic compounds and biosimilars. Several of these assays will be discussed in the context of (1) pro-oxidative and other pathological effects of misfolded and aggregated polypeptides in amyloidogenic diseases, (2) infectious diseases involving endocytosis of the microbe and (3) epigenetic regulation in metabolic disorders. Medicinal and dietary plant extracts, purified phytochemicals including flavonoids and nutrients, as well as combinations of purified compounds, are currently undergoing screening in our laboratory and the latest results will be presented.

Biography

Amandio Vieira has completed his BSc and PhD studies in Alberta, Canada and Postdoctoral studies in California, USA. He is currently Associate Professor and the Director of the Nutrition and Metabolism Research Laboratory, Biomedical Physiology department, Simon Fraser University, Burnaby, Canada. He has over 90 publications, including research papers in major International journals, with over 1500 citations. He has served as Reviewer and Editorial Board member for journals related to biomedical research, molecular and cellular biology, as well as educational and scientific books.

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