

Molecular insights into xenobiotic disposition in Australian marsupials

Primary Supervisor: Dr Suong Ngo

Email: suong.ngo@adelaide.edu.au

Phone: 8303 0660

While most animals tend to select food low in potentially toxic chemicals, several Australian marsupials rely on eucalyptus leaves as a major or only food source. In order to ingest and absorb such large quantities of toxic plant secondary metabolites in these leaves, specialist eucalyptus feeders such as the koala must have evolved highly specialised detoxification mechanisms involving several liver enzyme systems. The project will examine the dietary effect of eucalyptus terpenes on the induction of CYP4A, peroxisomal Acyl CoA Oxidases and other CYPs in Australian marsupials. The transcriptional regulatory role of the nuclear receptor PPAR-alpha will also be investigated. The project will contribute to the knowledge of the metabolic capacity of Australian marsupials, especially at the molecular level that is limited at present.