Title of Project: Effect of complementary medicine formulations on the bioavailability of commercially available and prepared dosage forms

(FOR Code/s): 1104

Supervisor: A/Prof Dennis Chang  
Co-supervisor: Dr Jim Rowe  
Dr Frank van der Kooy  
Contact: d.chang@uws.edu.au  
Contact: jssteinrowe@gmail.com  
Contact: f.vanderkooy@uws.edu.au

Location of Project: Campbelltown

Project Background

The bioavailability of a bioactive substance whether it be a synthetic drug or complementary medicine from an oral dosage form is defined as the rate and extent of absorption of the bioactive material from the gastrointestinal tract. The factors which affect bioavailability include the physicochemical properties of the drug such as polymorphic form, particle size and crystal habit as these can affect the rate of solution of the active principle in the dosage form and hence the rate and extent of absorption.

Formulation factors also can have a significant effect on the rate of solution and hence bioavailability. The choice of excipients is crucial in a given dosage form to ensure the drug is released from the dosage form and is available to be absorbed into the plasma. The same active in different dosage forms (e.g., tablets, solutions, capsules, etc.) can have significantly different bioavailability characteristics which may result in therapeutic failure in the case of low bioavailability or toxic side effects in the case of too high bioavailability.

This project would suit a student contemplating a career in Industry either in Production or Regulatory Affairs.

Aim of Study:

This project will examine various complementary medicine formulations both commercial and prepared and test the bioavailability by standard pharmacopoeia tests such as disintegration and dissolution technology as an indicator of bioavailability

Ethics Application Requirements:

N/A

Key References:
