Potential Research Title: Anti-Cancer Activity and Molecular Mechanism of Selected Diarylpentanoids in Human Cancer Cells

PhD Opportunity

We are looking for a highly motivated PhD student to undertake an exciting research project. The candidate should have a background in Biomedical Sciences/Biochemistry/Cell Biology/Molecular Biology/Biotechnology. Anticipated start date is anytime until the position is filled.

Potential Research Project Description:

Curcumin analogues

Curcumin plays an important role in many integrated signaling pathways that regulate cancer development such as apoptosis, proliferation, tumor promotion, metastases, angiogenesis, inflammation and immortality. Curcumin was demonstrated to have a wide spectrum of pharmacological properties but demonstrates poor bioavailability. Based on the biological and structural characteristics, curcumin can be used as a starting point to design and develop a wide variety of curcumin analogues with similar safety profile, but increased activity and solubility. Currently we are investigating diarylpentanoids, chemically synthesized synthetic analogues of curcumin, for their anticancer properties. We use human cancer cell lines such as colon, lung, prostate, breast and glioblastoma as models to understand the underlying molecular mechanisms responsible for their antitumor activity.

Supervisory Team

PhD Main Supervisor: Assoc Prof Rakesh Naidu
PhD Co-Supervisor: Prof Iekhsan Othman
Candidates who are interested please send your CV to rakesh.naidu@monash.edu

Eligibility:

Candidates must meet the minimum admission requirements (for academic and English language proficiency) to be offered admission in the PhD degree. For consideration of scholarship, candidates must possess academic standing equivalent to a high distinction average (H1 or First Class Honours) from a recognised university. Selection for a scholarship will be based on comprehensive ranking of academic achievement, research publications, and research experience or research-related awards as determined by Monash University Malaysia.

Potential Research Title: Chemosensitisation Effects and Mechanisms of Action of Curcumin against Selected Chemotherapeutic drugs in Human Cancer Cells.

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Potential Research Project Description:

The present research proposal will focus on the chemosensitisation effects and mechanisms of action of curcumin against selected chemotherapeutic drugs in human cancer cells. The synergistic study will be designed and analysed to evaluate cytotoxicity of curcumin and selected chemotherapeutic drugs in human cancer cells either alone or in combination to demonstrate the chemosensitivity of curcumin against these drugs. We use human cancer cell lines such as colon, lung, prostate, breast and glioblastoma as models to understand the underlying molecular mechanisms responsible for their antitumor activity. Appropriate combination treatment will be selected for mechanism studies.

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