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OFFICERS IN-CHARGE

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Development and Characterization of Nanoemulsion
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Selected Journals

We have more than 200 journals published in 2009-2013 with total impact factor of 373.469.

Fatemeh Abedini, Hossein Hosseinkhani, Maznah Ismail, Yi-Ru Chen, Abdul Rahman Omar, Chong Pei Pei and Abraham J. Domb. Cationized dextran nanoparticles encapsulated CXCR4-siRNA enhanced correlation between CXCR4 expression and serum ALP in mouse model of colorectal cancer. International Journal of Nanomedicine, 2012, 7: pg. 4159-4168. IMPACT FACTOR: 3.463

Maznah Ismail, Ghanya Al-Naqeep and Kim Wei Chan. Thymoquinone rich fraction greatly improves plasma antioxidant capacity and expression of antioxidant genes in hypercholesterolemic rats. Free Radical Biology and Medicine, 2010, 48(5): pg. 664-672. IMPACT FACTOR: 5.271

Mustapha Umar Imam, Maznah Ismaill and Abdul Rahman Omar . Nutrigenomic effects of germinated brown rice bioactives on antioxidant genes. Free Radical Biology and Medicine, 2012, 53(S1): pg. S105-S106. IMPACT FACTOR: 5.271.

Mustapha Umar Imam, Nur Hanisah Azmi and Maznah Ismail. Upregulation of superoxide dismutase genes involved in antioxidant effects of germinated brown rice. Free Radical Biology and Medicine, 2012, 53(2) : pg. S84. IMPACT FACTOR: 5.271

Mustapha Umar Imam and Maznah Ismail. Nutrigenomic effects of germinated brown rice and its bioactives on hepatic gluconeogenic genes in type 2 diabetic rats and HEPG2 cells. Molecular Nutrition and Food Research, 2013, 57(3): pg. 401-411. IMPACT FACTOR: 4.301

Norlelawati Arifin, Koh Soo-Peng, Kamariah Long, Tan Chin-Ping, Mohd Suria Affandi Yusoff and Lai Oi Ming. Modelling and optimization of lipozyme RM IM-catalyzed esterification of medium and long chain triacyanglycerols (MLCT) using response surface methodology. Food Bioprocess Technology, 2012, 1(5): pg. 216-255. IMPACT FACTOR: 4.115.

Nurdin Armania, Latifah Saiful Yazan, Siti Noorhidayah Musa,Intan Safinar Ismail, Jhi Biau Foo, Chan Kim Wei,Husain Noreen, Abdul Hamid Hisyam, Said Zulfahmi and Maznah Ismail. Dillenia suffruticosa exhibited antioxidant and cytotoxic activity through induction of apoptosis and G2/M cell cycle arrest. Journal of Ethnopharmacology, 2013, 146(2) : pg. 525-535. IMPACT FACTOR: 3.014

KetLi Ho, Latifah Saiful Yazan, Norsharina Ismail, Maznah Ismail. Apoptosis and cell cycle arrest of human colorectal cancer cell line HT-29 induced by vanillin. Cancer Epidemiology, Detection and Prevention, 2009, 33(2): pg.155-160. IMPACT FACTOR: 1.182

Norsharina Ismail, Maznah Ismail, Musalmah Mazlan, Latiffah Abdul Latiff, Mustapha Umar Imam, Shahid Iqbal, Nur Hanisah Azmi and Kim Wei Chan. Thymoquinone prevents β-amyloid neurotoxicity in primary cultured cerebellar granule neurons. Cellular and Molecular Neurobiology, 2013, 33(8) : pg. 1159-1169. IMPACT FACTOR: 2.293

Hajar Iqbal Ismail, Kim Wei Chan, Abdalbasit Adam Mariot and Maznah Ismail. Phenolic content and antioxidant activity of cantaloupe (Cucumis melo) methanolic extracts. Food Chemistry, 2010, 119(2): pg. 643-647. IMPACT FACTOR : 3.334

Kim Wei Chan and Maznah Ismail. Supercritical carbon dioxide fluid extraction of Hibiscus cannabinus L. seed oil: potential solvent-free and high antioxidative edible oil. Food Chemistry , 2009, 114(3): pg. 970-975. IMPACT FACTOR: 3.334

Abdalbasit Adam Mariod, Ramlah Mohamad Ibrahim, Maznah Ismail and Norsharina Ismail. Antioxidant activity and phenolic content of phenolic rich fractions obtained from black cumin (Nigella sativa) seedcake. Food Chemistry , 2009, 116(1): pg. 306-312. IMPACT FACTOR: 3.334

Abdal Adam Mariod, Siti Farhana Fathy and Maznah Ismail. Preparation and characterization of protein concentrates from defatted kenaf seed. Food Chemistry, 2010, 123 (3): pg. 747-752. IMPACT FACTOR: 3.334

MOLEMED

ONE STOP SERVICE CENTER

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INTRODUCTION

Laboratory of Molecular Biomedicine (MOLEMED) of Institute of Bioscience is actively involved in research on nutra-cosmeceutical, nutrigenomics and nanodelivery for the prevention and treatment of various lifestyles diseases, such as obesity, cardiovascular diseases (CVD), diabetes, colon cancer, Alzheimer's disease and so on. In addition, other research activities in MOLEMED involve protein engineering and therapeutic proteins based on recombinant proteins technology.

Through strategic research planning and currently available expertise, we manage to produce high quality research products, professional services and publications since our establishment. From year 2009 to 2013, we have published more than 200 articles in high impact journals and developed a ISO 17025 accredited in-house method for the determination of antioxidant activity of nutraceuticals and functional food products.

In order to offer the optimal convenience to our prospective customers, we have initiated an "One-stop Service Center" in MOLEMED. The main components of One-stop Service Center consisted of bioactive extraction and antioxidant activity determination, proximate analysis, development and characterization of nanoemulsion, cell culture and flow cytometry as well as nutrigenomics and animal studies. With the complete coverage of useful analytical analyses for nutraceuticals and functional food products under this initiative, customers just need to submit their samples, select the desired analyses and wait for their analysis report. At MOLEMED, we will strive for our best to provide our customers with biggest satisfaction.

SERVICES OFFERED

BIOACTIVE EXTRACTION & ANTIOXIDANT ACTIVITY DETERMINATION

NO.	SERVICES	SPECIFICATIONS
1.	Solvent extraction	• Alcohol (methanol, ethanol, butanol etc.) • Water • Other solvents (acetone, chloroform, DCM, petroleum ether, hexane etc.) • Validated phenolic extraction (ISO 17025 accredited)
2.	Super and near critical fluid extraction	• Supercritical carbon dioxide fluid extraction (1 L capacity) • Near critical/ subcritical water extraction (500 mL capacity)
3.	Phenolic content determination	• Total phenolic content (standard: gallic acid) • Total flavonoid content (standard: rutin)
4.	In-vitro antioxidant activity test	• DPPH· scavenging activity (ISO 17025 accredited) • ABTS cation radical scavenging activity • Ferric reducing power • β-carotene bleaching activity • Gavinoxyl radical scavenging activity by ESR measurement. • Iron chelating activity • Hydroxyl radical scavenging activity by ESR measurement • Electron spin resonance spectrometer (ESR) measurement
5.	Consultancy services	• Consultancy on bioactive extraction and antioxidant activity evaluation

PROXIMATE ANALYSIS

NO.	SERVICES	SPECIFICATIONS
1.	Proximate analysis	• Fat, protein, carbohydrate, ash and moisture

DEVELOPMENT & CHARACTERIZATION OF NANOEMULSION

NO.	SPECIFICATIONS
1.	• Preparation of nanoemulsion by high pressure homogenizer • Characterization of nanoemulsion by Zeta Sizer

CELL CULTURE AND FLOW CYTOMETRY

NO.	SERVICES	SPECIFICATIONS
1.	Cell culture training	• Maintenance of cells • MTT assay
2.	Flow cytometry	• Cell cycle • Annexin V-FITC • Mitochondrial membrane potential • Reactive oxygen species
3.	Consultancy services	• Sample preparation and data analyses

NUTRIGENOMICS AND ANIMAL STUDIES

NO.	SERVICES	SPECIFICATIONS
1.	Nutrigenomic studies	Gene expression studies related to antioxidant, cholesterol metabolism, glucose metabolism and apoptosis genes, or any selection of genes covering different pathways
2.	Animal experimenta-tion	Evaluating the effectiveness of plant or food extracts, or pharmacological agents against cancer, oxidative stress, diabetes, hypercholesterolemia and other chronic diseases
3.	Consultancy services	Consultancy on animal experimentation and nutrigenomic studies Primer design, sample preparation, optimization, normalization and data interpretation