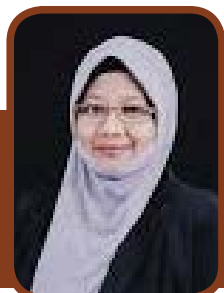


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### Plant cell cultures and secondary metabolites production in medicinal plants

Plant cell and tissue cultures have remained an important tool in the study of basic field of plant biology, biochemistry, molecular and biotechnology. It is a system of developing plant cells, tissues, organs, seeds or other plant parts under sterile condition on a supplement medium. Different types of plant cultures can be initiated such as seed culture, embryo culture, meristem culture, hairy root cultures, callus culture and cell suspension culture for getting products with high yield and at faster rate. Plant tissue cultures system is also can be used as an alternative for the production of useful secondary metabolites

in medicinal plants. The secondary metabolites had a great scope in food additives, pharmaceuticals, pigments, flavours and application in industry. Various callus and cell suspension cultures of medicinal plants are important as from which the useful secondary metabolites can be extracted. These cell cultures can be elicited by physical and elicitors to the culture medium. Here, elicitation of useful secondary metabolites production using abiotic and biotic elicitors from in vitro cultures of Malaysian medicinal plants will be presented.

### Biography

Norrizah Jaafar Sidik is the Head of School of Biology, Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia. She holds a Ph.D Degree (2008), in Plant Biotechnology from Universiti Putra Malaysia. Her main field of scientific interest are plant physiology, plant development and micropropagation of several agricultural, medicinal and forestry plants to conserve endangered and rare species. She also has a keen interest in plant tissue culture and enhancement in the productivity of important pharmaceutical compounds of medicinal plants, hairy root transformation using *Agrobacterium rhizogenes*. She has completed research projects dealing with the production of anticancer, antimicrobial, antiinflammatory and antioxidant compounds from plants using in-vitro cultures. She is a member of Malaysian Society of Plant Physiology, Natural Product Society and Asian Federation of Biotechnology. She served on a number of National and International Scientific Committees.

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