

Earning Gold Medals in PIMNAS 2011 due to *Myrmecodia peden*

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Up to now, *Myrmecodia peden* is much used by Indonesian people for health treatment. The epiphyte plants are found in Papua and are believed to be able to treat various severe diseases such as cancer, diabetes, hypertension, liver, uric acid, and cardiac. Such use is very reasonable, moreover, after various scientific researches can give evidence of the use of this plant.

Research has also been conducted by a number of students of Faculty of Medicine UGM. The research done by Arius Suwondo, Felicia Widyaputri, Marika Suwondo, and Prenali Satmika proved that *Myrmecodia peden* can hamper and even kill cancerous cells. The research entitled *Myrmecodia Peden: Alternative to Breast Cancer Chemotherapy with Minimal Side Effects* made the four students gain the gold medals in the *National Student Competition Week (Pimnas XXIV)* at Universitas Hasanuddin, Makassar, from 19-21 July.

Arius Suwondo told journalists that they had been moved to do the research as the plant is often consumed by people to cure diseases, including cancer. Later, they study it further to know whether this can be used to treat cancer with minimal side-effects. "The idea for research was based on the consideration that chemotherapy made many patients stop the treatment due to the side-effects. We expect that with the plant, the result can minimise the side-effects," he said in Faculty of Medicine UGM on Tuesday (26/7).

Myrmecodia peden is known to contain flavanoids and polifenol that have the function as antioxidant that is very good to prevent cancer. In addition, it also contains tokoferol and alfa-tokoferol, substance with high anti-oxidant activity able to stop free radicals.

Arius said that the cytotoxic test showed the presence of activity to cancerous cells after it is reacted with the extract of *Myrmecodia peden*. The extract is proven to block and even kill cancerous cells through apoptosis mechanism, which is eradicating cancerous cells in a programmed manner without causing pain to patients. "After cytotoxic test, it is observable that this plant can inhibit and

stop cancerous cells with apoptosis mechanism, not breaking cells which cause inflammation that can harm the health of the patient," he explained.

Felicia Widyaputri added that with Inhibitory Concentration (IC) 50 dosage amounting to 539,902 microgram/milliliter, it can inhibit until 50% the growth of cancerous cells. When the extract is increased with Effective Concentration (EC) 50 at 1599,998 microgram/milliliter, it can kill cancerous cells until 50%. "When the dosage is increased, the apoptosis process also increased, with EC 50 up to 1599,998 microgram/milliliter, it can kill cancerous cells until 50%," said the student of class 2008.

The research done by Arius and friends can be done in vitro (laboratory scale) and has not been tested on humans nor animals. "With the positive result of the research, this opens possibilities that in future it will be tested on animals and later humans, but a series of testing has yet to be conducted thoroughly," he concluded.

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