

### Effects of *Pseuderanthemum palatiferum* ethanolic Leaf Extract on Rat Adipocyte Lipolysis

Kasira Navarattanakorn<sup>1</sup>, Sirapatsorn Kumboonma<sup>1</sup>,  
Erin Khaengkhan<sup>1</sup>, Achida Jaruchotikamol<sup>1</sup>, Pawitra Pulbut<sup>1\*</sup>

**Introduction:** *Pseuderanthemum palatiferum* (Nees) Radlk. (Phayawanon in Thai) is a medicinal plant in the family of Acanthaceae. The leaves of this plant are widely used as the medicinal herb to treat various diseases, including diabetes in Thailand. This study was aimed to investigate the effects of *Pseuderanthemum palatiferum* ethanolic leaf extract, (PPE extract) at the concentrations of 10, 25, 50, 100, 250 and 500 µg/mL on adipocyte lipolysis in adipocytes isolated from normal pellet diet (NPD)-fed rats and high fat diet (HFD)-fed rats. **Materials and Method:** Sixteen male Wistar rats were divided into 2 groups (8 rats per group) and were fed with NPD or HFD for three weeks. The adipocyte suspensions were prepared by the collagenase digestion method. The levels of the adipocyte lipolysis were indicated by the concentration of glycerol in the incubation media after 1 hour-incubation. **Results:** PPE extract at any concentration tested did not cause any effect on basal lipolysis in adipocytes derived from the NPD-fed rats. However, PPE extract at the concentrations of 25, 50, 100, 250 and 500 µg/mL significantly inhibited isoprenaline) 0.1 µM (-induced lipolysis (glycerol concentration were  $113.96 \pm 3.09$ ,  $111.14 \pm 10.56$ ,  $92.15 \pm 3.83$ ,  $79.26 \pm 8.95$  and  $79.14 \pm 1.05$  µg mL<sup>-1</sup>/mL packed cell volume (PCV)/hr (n = 4; p < 0.05), respectively). In adipocytes derived from the HFD-fed rats, PPE extract at all tested concentrations significantly inhibited basal lipolysis, with the glycerol concentrations of  $42.21 \pm 2.31$ ,  $38.92 \pm 2.85$ ,  $40.45 \pm 1.45$ ,  $36.93 \pm 1.56$ ,  $35.18 \pm 1.90$  and  $46.90 \pm 2.48$  µg mL<sup>-1</sup>/mL PCV/hr (n = 3-5; p < 0.05, respectively). Conversely, PPE extract at any concentration tested did not cause any effect on isoprenaline) 0.1 µM(-induced lipolysis in adipocyte isolated from HFD-fed rats. **Conclusion:** The lipolytic inhibitory effect of PPE extract found in this study may partly explain its mechanism of action, involving in the treatment of diabetes and dyslipidemia. However, further investigations are needed to explore the possible target site of its inhibitory action on adipocyte lipolysis.

**Keywords:** *Pseuderanthemum palatiferum*, adipocyte lipolysis, diabetes mellitus

<sup>1</sup>Faculty of Pharmacy, Mahasarakham University

**\*Corresponding author:** Faculty of Pharmacy,  
Mahasarakham University, Mahasarakham, Thailand 44150.  
Tel: 087-5891543. e-mail: ppawitra@yahoo.com

### Some Nutritional Information of Eatable Weaver Ant Eggs

Chomphan Puchongmart<sup>1\*</sup>, Rutchayaporn Anorach<sup>1</sup>,  
Supawadee Daodee<sup>1</sup>

**Introduction:** The weaver ant (*Oecophylla smaragdina*) is one of ant species commonly found in Asia and Australia. According to the Food and Agriculture Organization of the United Nations (FAO), the insect consumption can reduce the malnutrition in population of world because it has low fat with high protein and fiber (Inquisitr, 2013). In Northeast of Thailand, one of most popular local foods is weaver ant eggs because of favorite and always consumes in almost meal, and there are few studies about nutritional value of its eggs. Thus, the objective of this study is to determine some nutritional contents in weaver ant eggs which can be further developed for health supplement. **Materials and Method:** Weaver ant eggs were collected from Baan Fang district, Khon Kaen, Thailand in period of November, 2013 and used only its eggs for experiment. The moisture content, total solid, ash content, total fatty acid and some minerals were determined by using hot air method, gravimetric method, acid hydrolysis method, and Atomic Absorption Spectrophotometry (AAS). **Results:** Results in 100 g eggs were performed in this order, moisture content 77.7%; total solid 22.3%; ash 1.3%; total fatty acid 3.1%; Ca 0.0031%; K 0.002%; Fe 0.0033%; Cu 0.0011%; Zn 0.0023%. **Conclusion:** There is much nutritional information contained in weaver ant eggs. However, the more nutritional information of its eggs should be required to add on directions for further supplementary health food.

**Keywords:** Weaver ant eggs, *Oecophylla smaragdina*, nutritional information.

<sup>1</sup>Faculty of Pharmaceutical Sciences, Khon Kaen University

**\*Corresponding author:** Faculty of Pharmaceutical  
Sciences, Khon Kaen University, Khon Kaen, Thailand,  
40002. Tel: 083-3520572  
e-mail: chomphan\_chacha@hotmail.com