

Effects of oral exposure to *Pueraria candollei* var. *mirifica* on reproductive hormonal profiles and metabolic parameters in intact female rats

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Abstract

Recent studies have reported that *Pueraria mirifica* (PM) exerts estrogenic-like effects in ovariectomized rats. However, lack of the estrogenic control groups in previous research studies were noted, and data about the biological mechanisms of action of *P. mirifica* on the pituitary-ovarian axis function and metabolic parameters in females with intact uteri and ovaries is still lacking. Adult female rats were allocated by randomization into 8 groups (n = 12/group). Groups I and II were vehicle control groups that were orally gavaged with olive oil and double distilled water (DDW), respectively. Groups III to VII were orally administrated respectively with 10, 100, 750, 1,000 and 1,500 mg/kg BW/day of PM's root powder suspended in DDW. Group VIII was subcutaneously injected with 17 β -estradiol (E2) at dose of 2 mg/kg body/day as the reference compound. Treatment period was 28 days. Serum levels of gonadal steroids and metabolic parameters were measured by chemiluminescent microparticle immunoassay and enzymatic colorimetric assay, respectively. PM did not affect relative weights of uterus and vagina, serum E2 and thyroid hormones levels. PM possessed E2-like properties in: 1) decreasing ovarian weight, 2) decreasing plasma levels of gonadotropins, and 3) reduction of serum lipids. This is the first report revealing that subacute administration of PM in intact female rats exerted weak estrogen-like actions on pituitary-ovarian axis function, lipid and thyroid metabolic parameters. PM therefore displayed the desired characteristics of a novel selective estrogen receptor modulator in adult female rats.

Biography:

Mallika Srasri is a doctoral student in the Ph.D. program in Biology at Mahasarakham University, Mahasarakham, Thailand. She is working under the supervision of Assist. Prof. Dr.rer.nat. Panida Loutchanwoot and Assoc. Prof. Dr. Prayook Srivilai. Her research interests are in Endocrinology, Histology, Pharmacology and Toxicology. She holds a B.Sc. and a M.Sc. in Biology from Burapha University and Mahasarakham University, the largest Universities in the eastern and northeastern parts of Thailand, respectively. Her current dissertation involves the evaluation of biological action of phytoestrogens and endocrine disruptors on the functions of the

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