

[P-18]

**REQUIREMENT OF METABOLIC ACTIVATION OF
PUERARIA MIRIFICA FOR ESTROGENIC ACTIVITY**

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A wide range of chemicals derived from plant and human-made xenobiotics are reported to have hormonal activity. The present studies were performed to examine the estrogenic effect of Kwao Keur, *Pueraria mirifica* (PM), that has been used a rejuvenating folk medicine from Thailand, using recombinant yeast, MCF-7 cell proliferation and HepG2 cell transient transfection assay. In recombinant yeast assay, 0.025, 0.25, 2.5, 25, 2.5 × 10², 2.5 × 10³, 2.5 × 10⁴ ng/ml concentrations of PM did not show any estrogenic activities, while 10⁻⁹ of 17 β -estradiol (positive control) showed high estrogenic activity. However, estrogenic activities were induced at 2.5ng/ml to 25mg/ml concentrations of PM in a dose-dependent manner on MCF-7 cells and the estrogenic effect of PM was blocked by tamoxifen treatment which was well-known anti-estrogen. In addition, PM also showed estrogenic effect on human hepatoma cell line, HepG2 cells, containing estrogen receptor and luciferase reporter gene.

Taken together, PM in itself may have no estrogenicity in yeast system, but it has estrogenicity in MCF-7 & HepG2 cells which have human metabolic enzymes. The present results indicated that PM might require estrogenic effect through metabolic activation.

keyword : *Pueraria Mirifica* (PM), endocrine disrupter, metabolic activation