**P12: THE EFFECTS OF PHYTOESTROGEN, *PUERARIA MIRIFICA,* ON**

**LPS-INDUCED MICROGLIAL ACTIVATION.**

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**ABSTRACT**

*Pueraria mirifica* (PM), a Thai medicinal plant known to possess estrogenic properties, has been traditionally used as a rejuvenating agent for over a hundred years. PM contains various phytoestrogenic compounds including miroestrol and deoxymiroestrol which are believed to have the highest estrogenic activity among the known phytoestrogens due to their structural similarities. It is known that estrogen can exert anti-inflammatory effects both *in vitro* and *in vivo* by inhibiting the expression and production of various proinflammatory mediators such as TNF-a, IL-6, MMP-9, NO, and ROS in microglia. However, the effects of phytoestrogens on microglial activation in the CNS is not as well established. Thus, in the present study, LPS induced microglial activation was used as a model to investigate the plant's effects. The results have shown that administration of PM to HAPI, a rat microglial cell line reduced NO production, iNOS protein expression, and·MCP-1 expression induced by LPS. The mechanisms of these effects are discussed. This study indicated that PM could serve as an anti-inflammatory mediator, thus it may provide neuroprotective effects to many neurodegenerative and inflammatory diseases in the CNS.

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