

## Abstract

The objective of the research and development of Thai indigenous knowledge for herbs and folk medicine was to study the phytochemistry and biological effects of herbal groups for body tonic and detoxification. The research study initially aimed to chose 3-5 body tonic herbs and 1-2 detoxification herbs for further study. In 2014, 71 ethanolic extracts of herbs used for body tonic and to relief pain as well as 34 sample of herbs used for detoxification were studied for antioxidant effects by using ABTS and DPPH. Finally, about 5 body tonic herbs and 1 herb for detoxification were then chosen for studies in the year 2015. These body tonic herbs were Hua-Jai-Suea-Dam (หัวใจเสือดำ), stem of Tuang-Khruea-Kham (เถาตั้งเครือคำ), *Rourea* sp., *Dalbergia* sp., and *Archidendron clypearia* (Jack) I.C.Nielsen. The herbal recipe for detoxification consisted of *Thunbergia coccinea* Wall.ex D.Don, which used with root of *Morinda angustifolia* Roxb. Var. *angustifolia*, Bab-Loi-Woi (แบบล่อวอ) and stem of *Thunbergia laurifolia* Lindl. From phytochemical study, it was found that these herbs contained phenolic compounds as the main constituents. The biological studies including 1) cytotoxicity study showed that almost of the extracts revealed low cytotoxicity except the extract of Tuang-Khruea-Kham (ตั้งเครือคำ). 2) studies of anti-inflammatory and analgesic activities in experimental animals showed that all 5 extract of Hua-Jai-Suea-Dam (หัวใจเสือดำ), stem of Tuang-Khruea-Kham (เถาตั้งเครือคำ), *Rourea* sp., *Dalbergia* sp., and *A. clypearia* produced anti-inflammatory effect in EPP-induced ear edema, carrageenan- and arrachidonic-indexed paw edema, as well as analgesic effect in acetic acid-induced writhing response and tail-flick test; 3) anti-toxic effect against insecticide-induced toxicity in experimental animals showed that the oral treatment of the herb recipe extract for detoxification for 18 days ameliorated the toxicity of insecticide but did not affect boty weights, visceral organ weights, as well as hematological and blood biochemical values of the rats. However, the extract did not reverse the AChE activity to normal level and the high dose of the extract lowerd the AChE activity.

Strategies of the development of products consist of 2 parts including 1) community products that used the available technology such as ready to drink, instant drinking powder, and herbal tea; 2) commercial products that used advance technology for production such as concentrated of ready to drink product, products of concentrated extracts in the forms of granule.

**Keywords:** anti-oxidant, cytotoxic, anti-inflammatory effect, analgesic effect, antidote effect against insecticide, herbs on highland