

<b>Research Title</b>	Analysis of total phenolic compounds and study of antioxidant capacity of registered Ya-hom
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<b>Year of Publication</b>	2013
<b>Publisher</b>	Huachiew Chalermprakiet University
<b>Sources</b>	Huachiew Chalermprakiet University
<b>No. of Pages</b>	63 Pages
<b>Keywords</b>	Ya-hom, Antioxidant, Phenolic compounds, FRAP, DPPH, ABTS
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### Abstract

The objectives of this study were to investigate the total phenolic compounds and the antioxidant capacity of ten Ya-hom preparations registered as traditional medicines. Total phenolic compounds were determined using Folin-Ciocalteu reagent with gallic acid as a standard compound. Antioxidant capacity was inspected using DPPH assay, ABTS assay and FRAP assay concomitantly with Trolox and ascorbic acid as standard antioxidants. All Ya-hom preparations were separately extracted with absolute ethanol and de-ionized water. It was found that one of them (Ya-hom E) showed the significantly highest quantity of gallic acid equivalent (GAE) of  $48.4 \pm 11.6$  to  $52.9 \pm 6.7$  mg/g ( $p < 0.01$ ) while others resulted mean GAE of  $11.9 \pm 3.6$  to  $22.8 \pm 2.6$  mg/g. GAE and antioxidant capacity of both ethanol and de-ionized water extracts were not significantly different. Trolox equivalent (TE) values by DPPH assay were 2 times higher than those by ABTS assay. Both DPPH and ABTS assay provided the same manner of antioxidant capacity patterns by reason of the same free radical scavenging mechanism of both standard antioxidants. The correlation analysis of total phenolic compounds against antioxidant capacity was performed and resulted the relatively high  $R^2$  ranging from 0.8577-0.9457. Total reducing capacity was determined only in five preparations

(Ya-hom A-E). FRAP values ranged from  $1.54 \pm 0.16$  to  $7.25 \pm 1.28$  mM. The correlation analysis of total phenolic compounds against the total reducing capacity were relatively high with  $R^2$  ranging from 0.9418 - 0.9821.