

ANTIOXIDANT AND ENZYME INHIBITORY ACTIVITIES OF THAI HERBAL TEAS IN COMPARISON TO CONVENTIONAL TEAS (*CAMELLIA SINENSIS*)

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Conventional teas (*Camellia sinensis*) and herbal teas are currently popular beverages associated with health promotion and lifestyle. Not only does tea possess attractive flavours, but it is also a significant source of bioactive compounds with medicinal properties. Nevertheless, previous research has only emphasized conventional teas. Thus, the objective of this study was to investigate the effects of fifteen commonly consumed Thai herbal teas in comparison to five conventional teas regarding the relatedness of their antioxidant activity and biological properties against glycation, obesity, and hypertension through non-enzymatic and enzymatic perspectives. In order to optimize the quality and quantity of bioactive compounds from teas, solutions using aqueous ethanol were investigated in correspondence to antioxidant activity. Teas extracted with 50% (v/v) aqueous ethanol were found to provide the most effective antioxidative agents. These solutions were then tested in order to examine the biological activities of aqueous ethanol extracted teas against glycation, lipase, and angiotensin-converting enzymes (ACE) in comparison to their tea infusion counterparts. The results suggest that the antioxidant, anti-glycation, anti-lipase, and anti-ACE activities of aqueous ethanol extracted teas were significantly higher than those of tea infusions. Conventional teas generally provided higher biological activities against these selected disease-controlled enzymes than those of Thai herbal teas with the exception of Stevia, Cat's Whisker, and Indian gooseberry herbal teas. This information can provide supportive evidence to promote the usage of conventional tea and Thai herbal teas as excellent choices of healthy beverages or dietary supplements for health conscious individuals or patients with oxidative stress conditions, obesity, or hypertension.

KEY WORDS: *CAMELLIA SINENSIS*/ THAI HERBAL TEAS/ ANTIOXIDANTS/
ANTI-GLYCATION/ LIPASE INHIBITOR/
ANGIOTENSIN-CONVERTING ENZYME INHIBITOR

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