

Polyphenolic Compounds from Flowers of *Hibiscus rosa-sinensis* Linn. and their Inhibitory Effect on Alkaline Phosphatase Enzyme Activity *in vitro*

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Graded concentrations (0.1–100 mg/mL reaction mixture) of the methanolic extract of the flowers of *Hibiscus rosa-sinensis* Linn., its water-soluble fraction as well as compounds isolated from this fraction were tested for their inhibitory effect on alkaline phosphatase enzyme activity *in vitro*. Both the methanolic extract and its water-soluble fraction showed significant inhibitory effects on the enzyme activity *in vitro*. On screening the activity of the compounds isolated from the water-soluble fraction, its high inhibitory activity was attributed to the presence of quercetin-7-*O*-galactoside which showed a high potent inhibition of the enzyme activity reaching 100% at 100 mg/mL reaction mixture. Phytochemical investigations of the water-soluble fraction were also carried out and afforded ten polyphenolic compounds including two new natural compounds, namely kaempferol-7-*O*-[6'''-*O*-*p*-hydroxybenzoyl- -D-glucosyl-(1↓ 6)- -D-glucopyranoside] and scutellarein-6-*O*- -L-rhamnopyranoside-8-*C*- -D-glucopyranoside). The chemical structure of the isolated compounds was elucidated on the basis of chemical and spectral data.

Key words: *Hibiscus rosa-sinensis* Linn., Alkaline Phosphatase Inhibition, Novel Flavonoids