

## Phytochemical and Pharmacological Studies on Chinese *Rubus chingii*

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Two new alkaloids, rubusine-I (1) and rubusine-II (2) were isolated from the dried fruits of *Rubus chingii*. In addition, seven known compounds, methyl dioxindole-3-acetate (3), 2-oxo-1,2-dihydroquinoline-4-carboxylic acid (4), vanillic acid (5), *p*-hydroxybenzoic acid (6), kaempferol (7), nicotiflorin (8), and tiliroside (9) were also isolated. Their structures have been established on the basis of spectral evidence. A screening test of nine compounds on 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging activity and 26S proteasomes inhibitory activity of these compounds were evaluated. Among them, rubusine-II (2), vanillic acid (5), kaempferol (7), nicotiflorin (8), and tiliroside (9) possess significant DPPH radical scavenging activity. The ubiquitin-proteasome signaling pathway is a major mechanism for degrading intracellular protein in eukaryotes. Proteasome is a potential therapeutic target. Using proteolysis assay for inhibiting 26S proteasomes, tiliroside (9) was the active component in inhibiting chymotrypsin-like, caspase-like and trypsin-like activities of 26S proteasome.

Key Words : *Rubus chingii*, rubusine-I, rubusine-II, 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging activity, 26S proteasomes inhibitory activity