

Phytochemicals from *Potentilla fragarioides* Inhibit LPS-induced Inflammation in RAW 264.7 Macrophages via Inactivating NF- κ B Pathway

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SUMMARY. *Potentilla fragarioides* is a medicinal plant for the treatment of inflammation-related diseases in Chinese folklore. However, there are rare reports on the phytochemistry and pharmacology. In our research interests to find anti-inflammatory agents from nature, phytochemical and pharmacological investigations were implemented and resulted in the identification of 12 phytochemicals including β -sitosterol (**1**), β -daucosterol (**2**), ursolic acid (**3**), pomolic acid (**4**), swinhoeic acid (**5**), (1-p-hydroxy-cis-cinnamoyl)cinnamic acid (**6**), trans-caffeoylisocitric acid (**7**), trans-caffeic acid (**8**), quercetin (**9**), quercetin-3-O- β -D-glucuronide (**10**), (+)-catechin (**11**) and 3-O-methylelagic acid-4'-O- α -L-rhamnopyranoside (**12**). Of these phytochemicals, compounds 3-12 showed anti-inflammatory effects through inhibiting secretion of pro-inflammatory cytokines, inactivating the activity of pro-inflammatory enzymes and suppressing the synthesis of other mediators. And the potency of compounds 5-7 was close to that of dexamethasone. Their anti-inflammatory effects were closely associated with the inactivation of NF- κ B pathway.

RESUMEN. *Potentilla fragarioides* es una planta medicinal para el tratamiento de enfermedades relacionadas con la inflamación en el folclore chino. Sin embargo, hay informes raros sobre la fitoquímica y la farmacología. En nuestro interés de investigación para encontrar agentes antiinflamatorios de la naturaleza, se implementaron investigaciones fitoquímicas y farmacológicas que dieron como resultado la identificación de 12 fitoquímicos que incluyen β -sitosterol (**1**), β -daucosterol (**2**), ácido ursólico (**3**), ácido pomólico (**4**), ácido swinhoeico (**5**), ácido (1-p-hidroxi-cis-cinamoil) cinámico (**6**), ácido trans-cafeoilisocítrico (**7**), ácido trans-cafeico (**8**), quercetina (**9**), quercetina 3-O- β -D-glucurónido (**10**), (+)-catequina (**11**) y ácido 3-O-metilelágico-4'-O- α -L-ramnopiranosido (**12**). De estos fitoquímicos, los compuestos 3-12 mostraron efectos antiinflamatorios al inhibir la secreción de citocinas proinflamatorias, inactivar la actividad de enzimas proinflamatorias y suprimir la síntesis de otros mediadores. Y la potencia de los compuestos 5-7 fue cercana a la de la dexametasona. Sus efectos antiinflamatorios se asociaron estrechamente con la inactivación de la vía NF- κ B.

KEY WORDS: inflammation, NF- κ B, phytochemicals, *Potentilla fragarioides*.

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