

HPLC and anti-inflammatory studies of the flavonoid rich chloroform extract fraction of *Orthosiphon stamineus* leaves.

Abstract

The aim of the present study was to verify the anti-inflammatory activity of *Orthosiphon stamineus* leaf extracts and to identify the active compound(s) contributing to its anti-inflammatory activity using a developed HPLC method. Active chloroform extract of *O. stamineus* was fractionated into three fractions using a dry flash column chromatography method. These three fractions were investigated for anti-peritoneal capillary permeability, in vitro nitric oxide scavenging activity, anti-inflammatory and nitric oxide (NO) inhibition using carrageenan-induced hind paw edema method. The flavonoid rich chloroform extract fraction (CF2) [containing sinensetin (2.86% w/w), eupatorin (5.05% w/w) and 3'-hydroxy-5,6,7,4'-tetramethoxyflavone (1.101% w/w)], significantly reduced rat hind paw edema, NO and decreased dye leakage to peritoneal cavity at $p < 0.05$. IC₅₀ of in vitro NO scavenging of CF2 was 0.3 mg/mL. These results suggest that the anti-inflammatory properties of these CF2 may possibly be due to the presence of flavonoid compounds capable of affecting the NO pathway.

Keyword: 3'-Hydroxy-5,6,7,4'-tetramethoxyflavone; Anti-inflammatory activity; Eupatorin; *Orthosiphon stamineus*; Peritoneal capillary permeability; Sinensetin.