Bioassay-guided isolation of a potent platelet-activating factor antagonist alkenylresorcinol from Ardisia elliptica

ABSTRACT

In the course of our search for novel platelet-activating factor (PAF) antagonists from medicinal plants, the methanol extract of the leaves of Ardisia elliptica Thunb. was investigated for its inhibitory effects on PAF receptor binding to rabbit platelets using 3H-PAF as a ligand. The methanol extract showed inhibitory activity of 53.9% and its ethyl acetate, n-butanol, and methanol fractions exhibited 48.6%, 39.0%, and 22.0% inhibition, respectively. Bioassay-guided fractionation of the ethyl acetate fraction led to the isolation of a new alkenylresorcinol, 5-(Z-heptadec-4′-enyl)resorcinol, together with 5-pentadecylresorcinol. The alkenylresorcinol showed a strong inhibition with an IC50 value of 7.1 μM. The structures of the compounds were elucidated by spectroscopic techniques.

Keyword: Alkenylresorcinol; Ardisia elliptica; Bioassay-guided; Platelets; Platelet-activating factor antagonists