# Inhibitory effects of glycosides from the leaves of Melaleuca quinquenervia on vascular constraction of rats.

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**Abstract**

Two new glycosides, 3-hydroxy-5-methoxy-4-methylphenyl beta-D-glucopyranoside (1) and 4-benzoyl-2-C-beta-glucopyranosyl-3,5-dihydroxy-6-methylphenyl beta-D-glucopyranoside (2), together with four known glycosides, 2-endo-beta-D-glucopyranosyloxy-1,8-cineole (3a), 2-exo-beta-D-glucopyranosyloxy-1,8-cineole (3b), roseoside (4), and citroside A (5), were isolated from the methanolic extract of leaves of Melaleuca quinquenervia. Their structures were elucidated on the basis of spectroscopic analysis. Compounds 1, 2a and 3 inhibited contractile response induced by phenylephrine in aortic rings from Sprague-Dawley rats. This inhibition was independent of the endothelium. Compounds 2 and 4 significantly relaxed precontracted aortic rings, in an endothelium-dependent manner. Pretreatment of N(omega)-nitro-L-arginine (L-NNA), a nitric oxide synthase inhibitor, partially attenuated the vasorelaxation induced by both compounds, suggesting that nitric oxide was likely the responsible mediator. Therank-order potency (EC 50 value) of vasorelaxing activities of these compounds is 4 > 2 > 2a > 3 > 1.