Inhibitory effect of trilinolein on angiotensin II-induced cardiomyocyte hypertrophy

陳保羅;李文生;劉如濟

Liu JC;Cheng TH;Lee HM;Lee WS;Shih NL;Chen YL;Chen JJ;Chan P

摘要

Abstract

The myocardial protective effects of trilinolein, isolated from the Chinese herb Sanchi (Panax notoginseng), may be related to its antioxidant effects. In the present study, we investigated the effects of trilinolein on angiotensin II- induced cardiomyocyte hypertrophy. Cultured neonatal rat cardiomyocytes were stimulated with angiotensin II, [H-3] leucine incorporation and the beta-myosin heavy chain promoter activity were examined. We also examined the effects of trilinolein on angiotensin II- induced intracellular reactive oxygen species generation. Trilinolein significantly inhibited angiotensin II-increased protein synthesis, beta- myosin heavy chain promoter activity, and intracellular reactive oxygen species generation. Antioxidant N-acetylcysteine also decreased angiotensin II-increased protein synthesis and beta-myosin heavy chain promoter activity. Furthermore, trilinolein and N-acetylcysteine decreased angiotensin II- or hydrogen peroxide (H2O2)-activated mitogen-activated protein kinases(MAPKs) phosphorylation, and activator protein-1 (AP-1)- [or nuclear factor-kappaB (NF-kappaB)]-reporter activities. These data indicate that trilinolein inhibits angiotensin II -induced cardiomyocyte hypertrophy and beta-myosin heavy chain promoter activity via attenuation of reactive oxygen species generation. (C) 2003 Elsevier B.V. All rights reserved.