

The antiplatelet activity of tetramethylpyrazine is mediated through activation of NO synthase.

林建煌

Sheu JR;Kan YC;Hung WC;Lin CH and Yen MH

Abstract

Tetramethylpyrazine (TMPZ) is an active ingredient of a Chinese herbal medicine (*Ligusticum wallichii* Franchat). In this study, TMPZ (50–200 μ M) significantly increased production of nitrate and cyclic GMP in human platelets within a 15-min incubation period. TMPZ concentration-dependently inhibited intracellular Ca^{2+} mobilization in human platelets stimulated by collagen (5 mg/ml). Furthermore, TMPZ concentration (50 and 200 μ M)- and time (15 and 30 min)-dependently triggered endothelial-type constitutive nitric oxide synthase (ecNOS) protein expression in human platelets. These results indicated that TMPZ at micromolar concentrations stimulated nitric oxide production in human platelets via a novel mechanism that activated ecNOS protein expression.