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PINNARAT PENGKOOM : THE PHARMACOLOGICAL EFFECT OF GAMBOGIC ACID FROM Garcinia hanburyi Hooker filices ON SMOOTH MUSCLE. THESIS ADVISOR : ASSO.PROF. CHANDHANEE ITTIPANICHPONG, PRASAN DHUMMAUPAKORN, Ph.D., NIJSIRI RUANGRUNGSI, 100 PP.
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Gambogic acid is the pure compound isolated from gamboge, a gum-resin extruded from Garcinia hanburyi Hooker filices. The pharmacological effects of this compound have been investigated in isolated rabbit, rat and mice organ preparations and the conscious mice. The results showed that gambogic acid at the concentration of 1.3×10^{-5} M-3.9×10^{-5} M increased spontaneous contraction whereas concentration of 5.2×10^{-5} M diminished the spontaneous contraction of isolated rabbit jejunum. Gambogic acid at the concentration of 6.5×10^{-6} M-1.3×10^{-5} M increased force and tone of contraction of isolated rat ileum and the concentration of 6.5×10^{-6} M-3.25×10^{-5} M increased contraction of isolated whole mice stomach. Atropine, verapamil and chlorpheniramine significantly reduced the contraction of rabbit jejunum, rat ileum and mice stomach induced by gambogic acid respectively, cyproheptadine also reduced the contraction of isolated in rat ileum significantly. Gavage feeding of 50 mg/kg of gambogic acid to the conscious mice significantly increased the charcoal movement from the stomach to small intestine. These results show that the low concentration of gambogic acid posseses spasmodic activity which is not mediated via specific receptors.

The effects of gambogic acid on contractile response of isolated rat vas deferens were investigated and compared with verapamil. The results demonstrated that both gambogic acid (1.3×10^{-5} M-1.3×10^{-4} M) and verapamil (8×10^{-7} M-4×10^{-6} M) reduced the contraction induced by KCl, BaCl2, noradrenaline and serotonin in a dose dependent manner. This inhibitory effect is presumably due to interference with Ca^{2+} movement through the calcium channels.