

# **Inhibition of platelet activation and endothelial cell injury by flavan-3-ol and Saikosaponin compounds**

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## **Abstract**

The effects of flavan-3-ol and saikosaponin compounds on platelet aggregation, platelet thromboxane biosynthesis and H<sub>2</sub>O<sub>2</sub>-induced endothelial cell injury were studied. Seven flavan-3-ol compounds isolated from *Camellia sinensis* L. var *sinensis* O. Kuntze (Theaceae) and three saikosaponin compounds isolated from *Bupleurum falcatum* L. (Umbelliferae) were used. Among the 10 compounds tested, only epigallocatechin and saikosaponin a significantly inhibited human platelet aggregation induced by ADP, and the potency of inhibition was comparable with aspirin. Both of epigallocatechin and saikosaponin a dose-dependently inhibited the platelet thromboxane formation from exogenous and endogenous arachidonic acid. In the prevention of H<sub>2</sub>O<sub>2</sub>-induced endothelial cell injury in culture, only galliccatechin-3-O-gallate and epicatechin-3-O-gallate were effective. The inhibitory effect of epigallocatechin and saikosaponin a on platelet activation and the cytoprotective effect of galliccatechin-3-O-gallate and epicatechin-3-O-gallate on H<sub>2</sub>O<sub>2</sub>-induced endothelial cell injury could give evidence of explaining the possible role of flavan-3-ol and saikosaponin compounds in maintaining vascular homeostasis.