

[P-31]**ANTIPLATELET AND ANTITHROMBOTIC ACTIVITIES OF
VK-708, A NEWLY SYNTHESIZED VITAMIN K DERIVATIVE**

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It has been reported that vitamin K analogues have various pharmacological effects such as antiviral, antifungal, anticancer, and antiplatelet activities. It has also been reported that some synthetic naphthoquinone compounds showed antiplatelet activities. In the present study, the antithrombotic and antiplatelet activities of VK-708 (2-[N-2-bromo-4-fluoro-phenyl]amino-3-chloro-5-hydroxy-1,4-naphthoquinone), a newly synthesized vitamin K derivative, were investigated. Effects of VK-708 on the murine pulmonary thrombosis in vivo, human platelet aggregation in vitro, rat platelet aggregation ex vivo, and coagulation parameters were examined. VK-708 prevented the death due to pulmonary thrombosis in mice dose-dependently in vivo. It also inhibited ADP- and collagen-induced rat platelet aggregation ex vivo in a dose-dependent manner. Moreover, VK-708 potently inhibited collagen-, thrombin-, and A23187-induced aggregation in washed human platelet concentration dependently in vitro. VK-708, however, did not alter such coagulation parameters as activated partial thromboplastin time and prothrombin time in human plasma.

These results suggest that VK-708 may be a promising antithrombotic agent, and the antithrombotic activity of VK-708 may be due to the antiplatelet activity, but not to anticoagulation activity

keyword : antiplatelet. antithrombotic agent. 1,4-naphthoquinone. VK-708