

Antithrombotic and Antiplatelet Activities of Korean Red Ginseng Extract

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The antithrombotic and antiplatelet activities of Korean Red Ginseng Extract (KRGE) were examined on rat carotid artery thrombosis *in vivo*, and platelet aggregation *in vitro* and *ex vivo*. KRGE significantly prevented rat carotid arterial thrombosis *in vivo* in a dose-dependent manner. Administration of KRGE to rat significantly inhibited ADP- and collagen-induced platelet aggregation *ex vivo*, while failed to prolong coagulation times such as activated partial thromboplastin (APTT) and prothrombin time (PT), indicating that the antithrombotic effect of KRGE may be due to its antiplatelet aggregation rather than anticoagulation effect. In line with the above observations, KRGE inhibited the U46619-, arachidonic acid-, collagen-, and thrombin-induced rabbit platelet aggregation *in vitro* in a concentration-dependent manner, with IC_{50} values of 390 ± 15 , 485 ± 19 , 387 ± 11 and 335 ± 15 $\mu\text{g/ml}$, respectively. Consistently, serotonin secretion was also inhibited by KRGE in the same pattern. These results suggest that KRGE has a potent antithrombotic effect *in vivo*, which may be due to the antiplatelet rather than anticoagulation activity, and KRGE intake may be beneficial for the individuals with high risks of thrombotic and cardiovascular diseases. Further investigation of various components of KRGE on thrombosis and platelet aggregation is still in preparation.