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Polygoni Radix , the root of Polygonum cuspidatum (Polygonaceae),has been used as treatments of dermatitis, hyperlipemia, gonorrhea, favus athlete's foot, inflammation in traditional medicine.
Oxygen free radical injury and lipid peroxidation have been suggested as major causes of atherosclerosis, cancer, liver disease, and the aging process.
Oxidative modification of low density lipoprotein (LDL) has been recognized as an improtant process of atherosclerosis.
Methanol extract of Polygoni Radix showed antioxidant effect on LDL oxidation. In this study, we determined effect of ethylacetate fraction and subfractions (PE1-4) of Polygoni Radix on Cu^{++} induced oxidative modification of LDL using in vitro system such as agarose gel electrophoresis and TBA method.
The results showed that PE3 had a similar effect to ascorbic acid on oxidative modification of LDL.

[PA1-15] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

Development of the specific therapeutic drugs for atrial arrhythmias from natural products

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The therapeutic potential of currently available antiarrhythmic drugs is limited by their tendency to induce proarrhythmic and extracardiac side effects. An ideal antiarrhythmic agent would selectively prolong the action potential duration more in extraordinarily depolarized cardiac myocytes than in normal cells, and show tissue selectively. Volatge-gated K+(Kv) channels play an important role in determining the length of the cardiac action potential and are the targets for antiarrhythmic drugs. Kv1.5, is one of the more cardiovascular-specific K+ channel isoforms identified to date and forms the molecular basis for an ultra-rapid delayed rectifier K+ current (Ikur) found in human atrium. Thus, the blocker of hKv1.5 is expected to be an ideal antiarrhythmic drug for atrial fibrillation. In the present study, we examined the effect of many kinds of plants extract on the hKv1.5 current expressed in Ltk-cells using whole cell mode of patch clamp techniques. We found out that isoquinoline alkaloid plants selectively inhibited the hKv1.5 current expressing predominantly in human atrium without affecting the HERG current expressing mainly in ventricle. Thus our results suggest that isoquinoline alkaloid plants would be one of the leading compound in developing the ideal antiarrhythmic drugs for atrial fibrillation.

[PA1-16] [10/19/2000 (Thr) 10:00 - 11:00 / [Hall B]]

Caffeic acid Phenethyl Ester Inhibits Inducible Nitric Oxide Synthase Gene Expression in RAW 264.7 Macrophages

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Nitric oxide (NO), a multifunctional mediator produced by and acting on various cells, participates in inflammatory and autoimmune-mediated tissue destruction. Modulation of NO synthesis and