

## **Garlic compounds protect vascular endothelial cells from oxidized low density lipoprotein-induced injury.**

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### **Abstract**

Oxidation of low density lipoprotein (LDL) has been recognized as playing an important role in the initiation and progression of atherosclerosis. In this study, the effects of aged garlic extract and one of its major compounds, S-allylcysteine, on oxidized LDL-induced cell injury were studied. Pulmonary artery endothelial cells were pre-incubated with the garlic extract (1, 2.5 and 5 mg mL<sup>-1</sup>) or S-allylcysteine (0.1, 1, 10 and 20 mM) at 37 degrees C and 5% CO<sub>2</sub> for 24 h, washed, and then exposed to 0.1 mg mL<sup>-1</sup> oxidized LDL for 24 h. Lactate dehydrogenase release as an index of membrane damage, methylthiazol tetrazolium assay for cell viability and thiobarbituric acid reactive substances indicating lipid peroxidation were determined. Preincubation of endothelial cells with the extract or S-allylcysteine significantly prevented membrane damage, loss of cell viability and lipid peroxidation. The data indicate that these compounds can protect vascular endothelial cells from injury caused by oxidized LDL, and suggest that they may be useful for prevention of atherosclerosis.