

Saikosaponin C induces endothelial cells growth, migration and capillary tube formation

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摘要

Abstract

Saikosaponin C is one of the saikosaponins that are consisted in a Chinese herb, Radix Bupleuri. Recently, saikosaponins have been reported to have properties of cell growth inhibition, inducing cancer cells differentiation and apoptosis. However, saikosaponin C had no correlation with cell growth inhibition. In this study, we investigated the role of saikosaponin C on the growth of endothelial cells and angiogenesis. We found that saikosaponin C yielded a potent effect on inducing human umbilical vein endothelial cells (HUVECs) viability and growth. In addition to inducing endothelial cells growth, saikosaponin C also induced endothelial cells migration and capillary tube formation. The gene expression or activation of matrix metalloproteinase-2 (MMP-2), vascular endothelial growth factor (VEGF) and the p42/p44 mitogen-activated protein kinase (MAPK, ERK) that correlated with endothelial cells growth, migration and angiogenesis were also induced by saikosaponin C. From these results, we suggest that saikosaponin C may have the potential for therapeutic angiogenesis but is not suitable for cancer therapy.