

허브정유로부터 유래된 단일물질들의 지질개선효과
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Compounds derived from herbal essential oils
have hypocholesterolemic effects by regulation of HMG-CoA reductase expression

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Objectives

Herbal plants are commonly used as folk medicine in Eastern Asia and their essential oils have bioactive and antioxidative compounds. We previously reported that essential oils show hypocholesterolemic effect both *in vitro* and *in vivo*. We identified several potential single compounds by GC-MS analysis. Using the single compounds we further investigated hypocholesterolemic effect by regulation of HMG-CoA reductase expression..

Materials and Methods

○ Materials

Trizol, reverse transcriptase and polymerases were obtained from Invitrogen.

○ Method

HepG2 cell lines were treated with single compounds at various concentrations. (0, 0.05, 0.1, 0.2, 0.5, 1mM) for 24 hours, then total RNA and protein were extracted for RT-PCR and immunoblot analysis.

Results

Compound A,B and C consistently suppressed mRNA expression of HMG-CoA reductase by approximately 40% at various concentrations. In addition compound A, B and C suppressed mRNA expression of SREBP-2 by approximately 30% and -1a, -1c by 30%. These results suggest that these compounds may downregulate the expression of the HMG-CoA reductase by the suppression of SREBP expressions. Therefore, Compound A,B and C have hypocholesterolemic effect.

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