

Scoparone inhibits tissue factor expression in lipopolysaccharide-activated human umbilical vein endothelial cells

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摘要

Abstract

Tissue factor (TF) is an important regulator and effector molecule of coagulation in various inflammatory states. In sepsis, expression of TF by activated endothelial cells leads to disseminated intravascular coagulation. Scoparone is extracted from the traditional Chinese herb *Artemisia scoparia* and is known to have potent anti-inflammatory properties. In the current studies, we examined the effects of scoparone on inhibiting lipopolysaccharide (LPS)-induced TF expression in cultured human umbilical vein endothelial cells (HUVECs). Flow-cytometric analysis revealed LPS (10 $\mu\text{g/ml}$)-activated surface TF induction was concentration-dependently inhibited by scoparone (10-400 μM). The concentrations of scoparone used in this study did not affect cell viability. The elevation of the procoagulant activity of TF by LPS was suppressed by scoparone. The LPS-induced superoxide formation was markedly decreased by scoparone. Messenger RNA expression of TF in LPS-activated HUVECs was also reduced by scoparone. Furthermore, scoparone did not significantly affect the IB degradation. Our results demonstrate that the inhibition of scoparone on LPS-induced TF expression in HUVECs may mediate by the mechanisms suppressing superoxide anion formation and TF transcription.