



## Polyphenolic compounds from Clusiaceae plants modulating angiogenesis and vascular endothelium

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Mots-clés	Angiogenesis [6], chromanone [7], Clusiaceae [8], Endothelium [9], Xanthone [10]
Résumé en anglais	<p>Polyphenolic compounds have created an increasing interest for their potency about cardiovascular diseases for several years<sup>1-2</sup>. Nevertheless, most of this research had been focused on polyphenolic compound such as flavanols (e.g. catechine from tea), anthocyanin (e.g. delphinidin from blueberry) and stilbenoides (e.g. resveratrol from grape). The present study was designed to screen the potent effect of polyphenolic compounds isolated from plants belonging to Clusiaceae family on endothelium. A huge number of polyphenols such as xanthenes and coumarines have been identified from those species and some of them exhibiting various biological activities such as anti-inflammatory and antioxidant properties<sup>3-4</sup>. Their effect on endothelium, more particularly on angiogenesis, is not yet well-known.</p> <p>Firstly, we assessed the capacity of six molecules to induce endothelium-dependent relaxation in mice aortic rings involving nitric oxide production. Isocalolongic acid (A1) and 2-deprenylrheediaxanthone (A2) are able to increase NO production on endothelial cells and to induce endothelium-dependant relaxation. Then, we investigated the effects of these compounds on in vitro and ex vivo angiogenesis. We showed that A1 treatment promoted the formation of capillary-like network contrary to A2. Endothelial cell adhesion, migration and proliferation were decreased in presence of A2 whereas endothelial migration and proliferation were improved with A1 treatment. We could explain these results with the capacity of A1 to increase VEGF expression and for A2, to decrease ICAM-1 expression. Thus, the strategy used for the screening allows the detection of active molecules from Clusiaceae family that might be of therapeutic benefit in cardiovascular diseases<sup>5</sup>.</p>

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