



Anti-inflammatory and immunomodulatory properties of polyphenolic compounds from Clusiaceae/Calophyllaceae: A focus on coumarins

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Mots-clés	Calophyllaceae [7], Clusiaceae [8], Coumarins [9], immunomodulation [10], Inflammation [11]
Résumé en anglais	Vascular endothelium plays a central role in the development of inflammatory and immune processes, which are involved in graft rejection [1]. Many Clusiaceae/Calophyllaceae species (pantropical plants) biosynthesize original polyphenolic compounds exhibiting antioxidant and anti-inflammatory properties [2 - 3]. Therefore, different Clusiaceae/Calophyllaceae polyphenols were selected in order to evaluate in vitro their anti-inflammatory and immunomodulatory potential towards Human Umbilical Vein Endothelial Cells (HUVECs). The VCAM-1, ICAM-1, E-selectin, HLA-I, HLA-II, HLA-E and MICA surface-expressions of HUVECs were evaluated by flow cytometry. It appeared that a few coumarins and one benzophenone at 10µM significantly inhibited the expression of several markers previously induced by TNF-α or IFN-γ cytokines, being more active than the immunosuppressive reference compound - zoledronic acid - at the same concentration. Among these active compounds, one phenylcoumarin isolated from the Malaysian <i>Mesua lepidota</i> T. Anderson (Calophyllaceae) was identified as a new one. By comparing biological effects with substitution patterns, preliminary structure-activity relationship was also established.

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