



## Chemical Composition and Antioxidant Activity of French BFA Propolis extracts

Submitted by Séverine Boisard on Thu, 07/09/2015 - 17:46

Titre Chemical Composition and Antioxidant Activity of French BFA Propolis extracts

Type de publication Communication

Type Communication sans actes dans un congrès

Année 2013

Langue Anglais

Date du colloque 29/09-04/10 2013

Titre du colloque Apimondia XXXXIII International Apicultural Congress

Auteur Boisard, Séverine [1], Le Ray, Anne-Marie [2], Aumond, Marie-Christine [3], Péruchès, Isabelle [4], Flurin, Catherine [5], Richomme, Pascal [6]

Pays Ukraine

Ville Kiev

Mots-clés Antioxidant activity [7], chemical composition [8], French Propolis [9]

Résumé en anglais

Introduction: Propolis is a resinous natural substance collected by honeybees from buds and exudates of various trees and plants, mixed with beeswax and salivary enzymes. Bees generally use it as a sealer, to smooth out the internal walls of the hive as well as a protective barrier against intruders. Several pharmacological activities have been attributed to propolis extracts, mainly antibacterial, antiviral, antifungal, antitumoral but also antioxidant properties we will focus on here. Research methods: A mixture of 24 batches of French propolis, supplied by "Ballot-Flurin Apiculteurs" (BFA), a company located in the South-West of France, was extracted with five different solvents: water, 70% ethanol, methanol, methylene chloride and a mixture of solvents (methylene chloride/methanol/water). Their chemical composition was determined by High Performance Liquid Chromatography coupled with Diode Array Detector (HPLC/DAD) and with Mass Spectrometry (HPLC/MS) profilings followed, when necessary, by Nuclear Magnetic Resonance (NMR) 1D and 2D studies. Total polyphenol content and antioxidant activities were evaluated for these five BFA propolis extracts using respectively Folin-Ciocalteu, 2,2-diPhenyl-1-PicrylHydrazyl (DPPH) and Oxygen Radical Absorbance Capacity (ORAC) assays. Results and discussion: All extracts of BFA French propolis exhibited phenolic acids and esters as well as flavonoids, except for the aqueous one which predominantly contained phenolic acids. They also showed high antioxidant activities, about 2-5 times higher than an ethanolic rosemary extract which was recently approved as a food additive in Europe (E392). Therefore, among these extracts, the aqueous one offers the advantage of a strong antioxidant activity combined with a "green extraction", when toxic residual solvents are a real issue in pharmaceutical, cosmetic and food additive products.

URL de la notice <http://okina.univ-angers.fr/publications/ua13552> [10]

---

## Liens

- [1] <http://okina.univ-angers.fr/severine.boisard/publications>
- [2] <http://okina.univ-angers.fr/a.richomme/publications>
- [3] <http://okina.univ-angers.fr/mariechristine.aumond/publications>
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=23418](http://okina.univ-angers.fr/publications?f[author]=23418)
- [5] [http://okina.univ-angers.fr/publications?f\[author\]=17324](http://okina.univ-angers.fr/publications?f[author]=17324)
- [6] <http://okina.univ-angers.fr/p.richomme/publications>
- [7] [http://okina.univ-angers.fr/publications?f\[keyword\]=17029](http://okina.univ-angers.fr/publications?f[keyword]=17029)
- [8] [http://okina.univ-angers.fr/publications?f\[keyword\]=19716](http://okina.univ-angers.fr/publications?f[keyword]=19716)
- [9] [http://okina.univ-angers.fr/publications?f\[keyword\]=15241](http://okina.univ-angers.fr/publications?f[keyword]=15241)
- [10] <http://okina.univ-angers.fr/publications/ua13552>

Publié sur *Okina* (<http://okina.univ-angers.fr>)