UNIVERSIDADE DA BEIRA INTERIOR
Covilhã | Portugal

8º Encontro Nacional de CROMATOGRAFIA

2, 3 e 4 | Dezembro | 2013

Faculdade de Ciências da Saúde
Universidade da Beira Interior

LIVRO DE RESUMOS

Centro de Investigação em Ciências da Saúde
Health Sciences Research Centre

UBI
Covilhã
Portugal

Sociedade Portuguesa de Química

Título:
8º Encontro Nacional de Cromatografia
Coordenação:
J. A. Queiroz, E. Gallardo
Editor:
Sociedade Portuguesa de Química
Edição e Execução:
Faculdade de Ciências da Saúde
Universidade da Beira Interior
Impressão:
Serviços Gráficos da
Universidade da Beira Interior
Tiragem:
230 Exemplares
ISBN:
978-989-98541-1-6

P.015. Antioxidant activity and phenolic compounds in decoction, infusion and hydroalcoholic extract of *Origanum vulgare* L.

*Natália Martins[1,2], Lillian Barros[1], Celestino Santos-Buelga[3], Isabel C.F.R. Ferreira[1]**

[1]Centro de Investigação de Montanha, ESA, Instituto Politécnico de Bragança, Portugal
[2]Centro de Engenharia Biológica/Departamento de Engenharia Biológica, Universidade do Minho, Portugal
[3]GIP-USAL, Facultad de Farmacia, Universidad de Salamanca, Spain
**iferreira@ipb.pt*

Reactive species, including free radicals, have been implicated in ageing and various diseases [1]. The human body possesses an antioxidant defense system that acts in the detoxification and elimination of those species. Nevertheless, natural matrices can give an exogenous contribution, providing antioxidant biomolecules such is the case of phenolic compounds [2]. *Origanum vulgare* L. (oregano) could be one of those matrices since various studies already reported the antioxidant potential of its methanolic extract [for example, 3] and essential oils [for example, 4]. Nonetheless, the reports using aqueous extracts are scarce [5], mainly in decoction or infusion preparations traditionally used to their digestive, expectorant, antiseptic and antispasmodic properties.

In the present work, the antioxidant properties (reducing power- RP, free radicals scavenging activity- RSA and lipid peroxidation inhibition- LPI) and phenolic compounds of the infusion, decoction and hydroalcoholic extract of oregano (obtained from Soria Natural, Spain) were evaluated and compared. The infusion and decoction presented similar RP and RSA, showing the decoction higher LPI. Both preparations gave higher antioxidant activity than the hydroalcoholic extract. Twenty-two phenolic compounds were identified by HPLC-DAD-ESI/MS: seven phenolic acids (caffeoylquinic, syringic, protocatequic and rosmarinic acids, and derivatives), six flavonols (quercetin, kaempferol and myrecitrin derivatives), five flavones (apigenin and luteolin derivatives), one flavanonol (taxifolin) and one flavanone (eriodictyol). Rosmarinic acid and luteolin-7-*O*-glucoside were the main phenolic acid and flavonoid, respectively, in all the preparations.

Data obtained provide more scientific evidences to the traditional medicinal uses of oregano, mainly in the treatment of oxidative stress-associated diseases.

Acknowledgments
FCT and COMPETE/QREN/EU: strategic project PEst-OE/AGR/UI0690/2011 (CIMO); grant SFRH/BD/87658/2012 to N. Martins, and "Compromisso para a Ciência 2008" contract of L. Barros.

[1] Valko M, Leibfritz D, Moncol J, Cronin MTD, Mazur M, Telser J. *Int.. J. Bioch. & Cell Biol., 2007,* 39, 44–84.
[2] Carocho M, Ferreira ICFR. *Food Chem. Toxic., 2013,* 51, 15–25.
[3] Barros L, Heleno SA, Carvalho AM, Ferreira ICFR.*LWT - Food Scie. & Tech., 2010*, 43, 544–550.
[4] Alinkina ES, Misharina TA, Fatkullina LD. *Appl. Bioch. Microb., 2012,* 49, 73–78.
[5] Ličina BZ, Stefanović OD, Vasić SM, Radojević ID, Dekić MS, Čomić LR. *Food Control*, 2013, 33, 498–504.