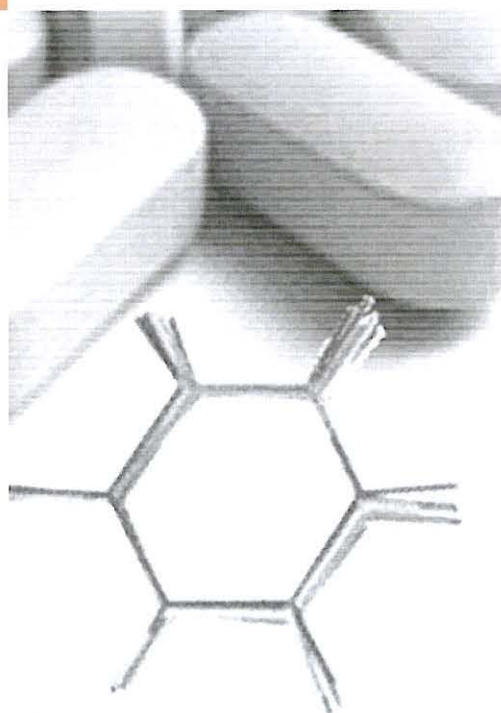


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Wild *Ginkgo biloba* L. infusion supplies a higher amount of tocopherols than dietary supplements based on the same plant

Eliana Pereira^a, Lillian Barros^a, Eugénia Batista^b, Isabel C.F.R. Ferreira^{a,*}

^aCentro de Investigação de Montanha (CIMO), ESA, Instituto Politécnico de Bragança, Campus de Santa Apolónia, 1172, 5301-855 Bragança, Portugal ^bEscola Superior de Saúde, Instituto Politécnico de Bragança, Campus de Santa Apolónia, Apartado 1172, 5301-855 Bragança, Portugal.
*iferreira@ipb.pt

The oxidative stress has a very high input in the development of neuritic abnormalities [1]. The powerful action exerted by *Ginkgo biloba* L. on cerebral vascular activity led to an increasing interest on its medicinal potential, mainly related to antioxidant properties [2]. Tocopherols are known to be powerful antioxidants through free radicals scavenging activity that allows the inhibition of lipid peroxidation. They react with peroxy radicals produced from polyunsaturated fatty acids in membrane phospholipids or lipoproteins to yield stable lipid hydroperoxides [3]. The purpose of this study was to evaluate the amount and profile of tocopherols in different dietary supplements: pills based on *G. biloba* leaves standardized extract with 24% glycosides and 6% terpenes (P1, 40 mg/pill; P2, 60 mg/pill; and P3, 100 mg/pill); oral solution (OS- 40 mg of *G. biloba* standardized extract/mL); and compare them with the infusion of *G. biloba* wild leaves (LI). Tocopherols were identified and quantified by high performance liquid chromatography coupled to a fluorescence detector (HPLC-fluorescence). All the vitamins α -, β -, γ - and δ -tocopherol were found in the infusion but not in the dietary supplements. Furthermore, the infusion gave the highest amount of total tocopherols (126.23 mg/100g dw) and of each individual vitamin; α -tocopherol was by far the most abundant tocopherol in that sample (124.88 mg/100g dw). This study showed that wild *G. biloba* infusion supplies a much higher amount of tocopherols than dietary supplements based on the same plant. Moreover, its consumption could be beneficial due to tocopherols free radicals scavenging activity and related protection to human body against degenerative abnormalities.

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References:

- [1] X. Zhu, A.K. Raina, H. Lee, G. Casabesús, M.A. Smith, D. Perry *Brain Res.*, **2004**, *1000*, 32-39.
- [2] P.F. Smith, K. MacLennan, C.L. Darlington. *J. Ethnopharmacol.*, **1996**, *50*, 131-139.
- [3] M. Carocho, I.C.F.R. Ferreira. *Food Chem. Toxicol.*, **2013**, *51*, 15-25.