

# Accepted Manuscript

Short communication

Novel biologically active principles from spinach, goji and quinoa

Serena Fiorito, Francesca Preziuso, Francesco Epifano, Luca Scotti, Tonino Bucciarelli, Vito Alessandro Taddeo, Salvatore Genovese

PII: S0308-8146(18)31783-7

DOI: <https://doi.org/10.1016/j.foodchem.2018.10.018>

Reference: FOCH 23679

To appear in: *Food Chemistry*

Received Date: 21 May 2018

Revised Date: 8 September 2018

Accepted Date: 3 October 2018



Please cite this article as: Fiorito, S., Preziuso, F., Epifano, F., Scotti, L., Bucciarelli, T., Taddeo, V.A., Genovese, S., Novel biologically active principles from spinach, goji and quinoa, *Food Chemistry* (2018), doi: <https://doi.org/10.1016/j.foodchem.2018.10.018>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Novel biologically active principles from spinach, goji and quinoa**

Serena Fiorito<sup>a,b</sup>, Francesca Preziuso<sup>b</sup>, Francesco Epifano<sup>b\*</sup>, Luca Scotti<sup>c</sup>, Tonino Bucciarelli<sup>c</sup>, Vito Alessandro Taddeo<sup>b</sup>, Salvatore Genovese<sup>b</sup>

<sup>a</sup>*Dipartimento di Scienze del Farmaco, Università degli Studi di Perugia, Via del Liceo, 06132 Perugia, Italy*

<sup>b</sup>*Dipartimento di Farmacia, Università “G. d’Annunzio” Chieti - Pescara, Via dei Vestini 31, 66100 Chieti Scalo (CH), Italy*

<sup>c</sup>*Dipartimento di Scienze Orali, Mediche e Biotecnologiche, Università “G. d’Annunzio” Chieti-Pescara, Via dei Vestini 31, 66100 Chieti Scalo (CH), Italy*

\*Corresponding Author’ address: Dipartimento di Farmacia, Università “G.d’Annunzio” Chieti-Pescara, Via dei Vestini- 66100 Chieti-Italy, E-mail: fepifano@unich.it

**ABSTRACT**

Spinach leaves, goji berries and quinoa seeds are claimed to have a great nutraceutical potential due to their high content of compounds providing benefits for human health, such as amino acids, polyunsaturated fatty acids, carotenoids, betaine, vitamins, fibre, minerals and polyphenols.

Samples of these plants were extracted with different solvent mixtures (e.g. EtOH, H<sub>2</sub>O/EtOH 3:7 and H<sub>2</sub>O/EtOH 7:3) and extractions were accomplished using a microwave apparatus. Subsequent UHPLC analysis and photodiode array detection were employed for the quantification of biologically active compounds like 7-isopentenylcoumarin, auraptene, umbelliprenin, boropinic acid and 4'-geranyloxyferulic acid. EtOH was found to be the best solvent in terms of extractive yields and the above-mentioned phytochemicals were recorded in the concentration range 2.01 – 49.22 µg/g dry extract. The findings depicted herein revealed that spinach, goji and quinoa are good sources of oxyprenylated umbelliferone and ferulic acid derivatives.

**Keywords:**

*Chenopodium quinoa*, *Lycium barbarum*, *Spinacia oleracea*, Nutraceutical, Oxyprenylated phenylpropanoids

Download English Version:

<https://daneshyari.com/en/article/11011806>

Download Persian Version:

<https://daneshyari.com/article/11011806>

[Daneshyari.com](https://daneshyari.com)