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SESSION 1 cont. Functional Foods and Bioactive Constituents
*Danubius Hotel Flamenco**** – Lecture Hall*
Chair: Sándor Tömösközi

11:45 - 12:00	O2	COMPARATIVE CHEMICAL COMPOSITION AND FUNCTIONAL PROPERTIES OF SELECTED COLOMBIAN FRUITS FROM SOLANACEAE FAMILY **Monica R. Loizzo,** D. Pacetti, R. Tundis, M.C. Tenuta, D. Filatova, O. Núñez, E. Moyano, M. Balzano, N.G. Frega, S. Moret, L. Conte, P. Lucci
12:00 - 12:15	O3	FUNCTIONAL PROPERTIES OF RICE/ LEGUME COMPOSITE FLOURS EXTRUDED AND NON- EXTRUDED **Claudia-Arribas Martinez,** B Cabellos, C Cuadrado, E Guillamón, M.M Pedrosa
12:15 - 12:30	O4	THE POLYSACCHARIDES FROM *PTEROSPARTUM TRIDENTATUM* (L.) WILLK. INFLORESCENCES AND THEIR CONTRIBUTION TO *in vitro* MACROPHAGE NITRIC OXIDE PRODUCTION **Vitor Manuel R. Martins**, Joana Simões, Isabel Ferreira, Maria T.Cruz, Maria R. Domingues, Manuel A. Coimbra
12:30 - 12:40	SO3	IMPROVEMENT OF THE GLUTEN-FREE SPONGE CAKE MUFFINS QUALITY USING BROCCOLI BY-PRODUCT: FOCUS ON GLUCOSINOLATES **Natalia Drabińska,** Ewa Ciska, Urszula Krupa-Kozak
12:40 - 14:20		**LUNCH** *Danubius Hotel Flamenco*****

PL2 Chair: Marco Arlorio
*Danubius Hotel Flamenco**** – Lecture Hall*

14:20 - 14:50	PL2	CHALLENGES RELATED TO FOOD FRAUD PREVENTION AND DETECTION **Elke Anklam**

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15:00 - 15:20	K3	HUMAN MILK AS A MODEL OF FUNCTIONAL FOODS: IDENTIFICATION OF THE 500 MAJOR TRIACYL-GLYCEROL REGIOISOMERS LIFTS THE VEIL **Heikki P. Kallio**
15:20 - 15:35	O5	STUDYING THE RELATIONSHIP BETWEEN GUT MICROBIOME VARIATION AND POLYPHENOL METABOLIC CONVERSIONS **László Abrankó,** Ditta Kolimár, Alessandra Riva, David Berry

THE POLYSACCHARIDES FROM *PTEROSPARTUM TRIDENTATUM* (L.) WILLK. INFLORESCENCES AND THEIR *CONTRIBUTION* TO *IN VITRO* MACROPHAGE NITRIC OXIDE PRODUCTION

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The decoctions of prickled broom (*Pterospartum tridentatum* (L.) Willk.) dried inflorescences have claimed beneficial properties for various health disorders[1,2,3]. These can be assigned to several constituents, among them, the polysacharides. In order to unveil the contribution of the polysacharides and their structural features to the modulation of the innate immune activity, the hot water extracts from *P. tridentatum* dried inflorescences were prepared and fractionated by ethanol precipitation and anion exchange chromatography. A fraction that mainly contained pectic polysaccharides and acetylated galactomannans was isolated. This fraction evidenced *in vitro* immunostimulatory activity without compromising cellular viability, as evidenced by the increase registered in the nitric oxide (NO) production by macrophages. This activity decreased 60–75% after saponification, confirming that acetylation is an important structural feature for this biological property. In addition, the treatment of pectic polysaccharides with *endo*-polygalacturonase showed that type-I and type-II arabinogalactans, as well as low molecular weight galacturonans and xyloglucans, may also contribute to macrophage NO production.

Thus, the polysaccharides present in the dried inflorescences of *P. tridentatum* may contribute to the health beneficial properties frequently attributed to the decoctions of this plant.

[1] Carvalho, A. M. (2010). Plantas y sabiduría popular del Parque Natural de Montesinho. Un estudio etnobotánico en Portugal. Madrid: Editorial CSIC.
[2] Neves, J. M.; Matos, C.; Moutinho, C.; Queiroz, G.; Gomes, L. R. *J. Ethnopharmacol.* **2009**, 124, 270–283.
[3] Vitor, R. F.; Mota-Filipe, H.; Teixeira, G.; Borges, C.; Rodrigues, A. I.; Teixeira, A.; Paulo, A. *J. Ethnopharmacol.* **2004**, 93, 363–370.