GLUPOR 12

12.ª Reunião do Grupo de Glúcidos

Carboidratos em Portugal
e potencial de diferenciação internacional

Programa e livro de resumos

Universidade de Aveiro, Portugal
11 - 13 setembro 2017

18h00 18h30	PL12 - Nuno Xavier (FCUL) *New D-glucuronamide-based N-glycosyl compounds displaying anticancer potential*
18h30 19h00	**Assembleia Geral do Grupo de Glúcidos da SPQ**
20h00	**Jantar – Restaurante Olaria-EFTA, Cais da Fonte Nova, Aveiro**

Quarta-feira, 13 de setembro de 2017	
09h30 10h30	**Chairperson: Victor Freitas** Anfiteatro 30A.1.14
09h30 10h00	PL13 – Paula Pinto (RAIZ) *New applications of wood polysaccharides from a pulp-and-paper based biorefinery*
10h00 10h30	PL14 - Lisete Machado e Silva (Imperial College UK) *Glycan microarrays in biological and medical research*
10h30 11h30	**Café + Pósteres**
	Sessões Paralelas
11h30 12h20	**Carbohydrates for the Future** **Chairperson: Ana Maria Gomes** Anfiteatro 30A.1.14
11h30 11h50	K13 - Miguel Cerqueira (INL) *Edible films and coatings: opportunities and challenges*
11h50 12h05	O31 - Carolina Pandeirada (UA) *Structural characterization of polysaccharides from Nannochloropsis oculata and their use in microarrays*
12h05 12h20	O32 - Cristina Caleja (IPB) *Incorporation of an extract rich in rosmarinic acid into cupcakes: Influence on the sugars and total carbohydrates composition*
11h30 12h20	**Structure of Carbohydrates** **Chairperson: Fernando Nunes** Anfiteatro 30A.2.05
11h30 11h50	K14 - Carlos Fontes (FMVUL) *Role of Cellulosomes in the deconstruction of complex carbohydrates*
11h50 12h05	O33 - Ana Catarina Diniz (UNL) *Protein-Glycan driven quinary interactions under macromolecular crowding unveiled by NMR Spectroscopy*
12h05 12h20	O34 - Ana Moreira (UA) *Non-enzymatic transglycosylation reactions and Maillard reaction: a competition with relevance for coffee melanoidins formation*
11h30 12h20	**Immune Active Carbohydrates** **Chairperson: Leticia Estevinho** sala 30B.2.18
11h30 11h50	K15 - Vitor Martins (IPB) *Immunostimulatory polysaccharides from the hot water extracts of prickled broom (P. tridentatum (L.) Willk) dried inflorescences*
11h50 12h05	O35 - Cláudia Passos (UA) *Which arabinogalactans structural features can contribute to in vitro immunostimulatory activity of coffee?*
12h05 12h20	O36 - João Barros (UL) *Chemical synthesis of GalNAc mimetics aimming macrophage galactose C-type lectin and block viral infections*
12h20 13h00	**Sessão de Encerramento** Anfiteatro 30A.1.14
13h00	**Almoço**

K15 - Immunostimulatory polysaccharides from the hot water extracts of prickled broom (*P. tridentatum* (L.) Willk) dried inflorescences

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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]. 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.

Acknowledgements: FCT, Centro de Investigação de Montanha (CIMO), QOPNA, CNC, Prof. Drª Ana Maria Carvalho

1. J. M. Neves et al., J. Ethnopharmacol., **2009**, 124, 270–283;
2. R. F. Vitor et al., J. Ethnopharmacol., **2004**, 93, 363–370.

endemic plants from Bragança
↳ Thymus zygis, zygis