



Dep. Biologia

Universidade do Minho

Escola de Ciências



# Traditional Chinese Medicine (TCM) Symposium

( Universidade do Minho , Braga, Portugal, 21<sup>st</sup> July 2011)

2<sup>nd</sup> Annual General Meeting (AGM) of the GP-TCM Consortium

Good Practice in Traditional Chinese Medicine  
Research in the Post-genomic Era





Resumo de Posters / Abstracts of Posters

**P1 - The role of some folk medicinal herbs and phytochemicals on hepatic lipid metabolism**

Carla Sá<sup>1</sup>, Cristovao Lima<sup>2</sup>, Cristina Pereira-Wilson<sup>1\*</sup>

<sup>1</sup> CBMA/ <sup>2</sup> CITAB - Department of Biology, University of Minho, Braga, Portugal.

Type 2 diabetes mellitus (T2DM) is associated with elevated triglycerides (TG) and LDL levels and decreased HDL levels, a pattern also recognized as dyslipidemia. Although the molecular mechanisms underlying diabetic dyslipidemia are not completely understood, this lipoprotein pattern is associated with T2DM and increased risk of Cardiovascular diseases (CVD). Accumulation of fatty acids and lipid metabolites can inhibit insulin signaling pathway, leading to insulin resistant conditions. In a previous study, we reported the effect of *Salvia officinalis* tea in improving lipid profile in healthy female volunteers that constitute a risk to develop T2DM [1]. We also verified that the food constituents ursolic acid (UA) and luteolin-7-glucoside (L7G) had effects on plasma glucose and lipid profile improvement, whereas UA also showed increased liver glycogen deposition and plasma HDL levels [2].

The present study aims to characterize the effects of natural compounds in lipid profile and metabolism of rat hepatocytes. Studies are underway to evaluate the *in vitro* effect of these compounds in lipid synthesis and/or degradation.

[1] Sá, CM, et al., *Int. J. Mol. Sci.* **2009**, *10*, 3937-3950.

[2] Azevedo MF, et al., *Phytother. Res.* **2010**, *24*, S220–S224.

Acknowledgements: FCT supported CMS (SFRH/BD/42566/2007).

**P2- Diet and Colon Cancer - Modulation of Signaling Pathways and DNA Damage Prevention**

Dalila F. N. Pedro<sup>1\*</sup>, Alice A. Ramos<sup>1</sup>, Cristovao F. Lima<sup>2</sup>, Fatima Baltazar<sup>3</sup> Cristina Pereira-Wilson<sup>1</sup>

<sup>1</sup>CBMA, Department of Biology, University of Minho, Braga, Portugal

<sup>2</sup> CITAB, Department of Biology, University of Minho, Braga, Portugal

<sup>3</sup> ICVS - Life and Health Sciences Research Institute, University of Minho, Braga, Portugal

Colorectal cancer (CRC) is a common malignancy and significant cause of death in Western societies. It develops through an accumulation of genetic and epigenetic alterations, transforming normal cells and giving them growth advantage. Many food plants are rich in bioactive compounds and have shown to possess anticancer properties.

We proposed to explore the effects of sage (*Salvia officinalis* (SO)) water extract (herbal tea) drinking on CRC prevention. F344 rats were used to study the effects of sage tea drinking on pre-initiation (SO treatment before AOM exposure) and post-initiation (SO after AOM exposure) phases of carcinogenesis. We found a chemopreventive effect of SO in the pre-initiation group, but not in the post-initiation. We then investigated if SO affected AOM metabolism, searching for effects on CYP2E1 expression and activity. We found that AOM decreased CYP2E1 activity when compared with control, but SO treatment before AOM prevented this effect. The capacity of SO *in vivo* treatment to protect colonocytes from H<sub>2</sub>O<sub>2</sub> damage induced *in vitro* was also investigated. SO decreased significantly the oxidative H<sub>2</sub>O<sub>2</sub>-induced DNA damage. We also searched for alterations in cell proliferation and found that SO reduced the number of Ki67-positive cells in the colon after increase induced by AOM.

Sage water extract seems to have the ability to prevent CRC and studies to further explore this potential are ongoing

