

ALPRO FOUNDATION AWARD CEREMONY



9th Nutrition and Health Conference 2008

• New Research-Implications for Anti-Ageing Effects • Soya Shown to Trigger the Effect of Calorie Restriction

This year, the 9th Nutrition and Health Conference was chosen as the initial venue to present Laura Ions, BSc MRes with the first ever award for an MSc thesis, from the Alpro Foundation.

Founded in 1996, as an initiative of Alpro, the Alpro Foundation is an independent non-profit organisation which is designed to support and promote scientific knowledge and research in the field of nutrition. The main focus of their research is that of plant-based nutrition and of course, a special interest in soya.

A further aim of the foundation is to increase knowledge and awareness surrounding the impact of nutrition on human health, amongst healthcare professionals and the general public.

The Alpro Foundation Award for Masters is a new European initiative from the Foundation and is specifically designed for students who are writing their Masters dissertation on: 'the nutritional impact of plant-based food on health and wellbeing'. This is the very first year the scheme has been in place and indeed, according to Professor Ian Rowland (University of Reading), who hosted the ceremony on behalf of the Nutrition and Health Conference, it had attracted many excellent dissertations from around the UK and Ireland.

The very first UK winner of this prestigious award, who was presented with a cheque for 2500 Euros, was Laura Ions, a postgraduate student from the institute of Cell and Molecular Biosciences at Newcastle University. Laura graduated with her Masters of Research in Medical and Biomolecular Sciences in 2008. This lively, vivacious young student is currently in her first year of PhD study at Newcastle University and her winning thesis, namely 'The potential of soyabean isoflavones to mimic effects of calorie restriction by SIRT 1' underpins her current work.

It is well-documented that calorie restriction, or limiting calorie intake can prolong the lifespan¹ and may have a protective effect against the development of disease.²

This groundbreaking research tested the hypothesis, that some of the beneficial effects of calorie restriction may be mediated through an enzyme, namely SIRT 1. SIRT 1 belongs to a genus



From left to right: Professor Ian Rowland, University of Reading; Kate Arthur, Company Dietitian, Alpro UK; Laura Ions, Postgraduate, Newcastle University; Dr Dianne Ford, Senior Lecturer, Newcastle University; Dr Stephanie De Vriese, Nutrition Scientist, Alpro Foundation.

of sirtuins, which are critical regulators of many cellular processes including: insulin secretion, the cell cycle and apoptosis.³ Sirtuin genes have also been found to have an anti-ageing function.⁴ This process is suggested to be mediated through removal of the acetyl group (COOH₃) from histone proteins within the chromosome which results in DNA methylation.⁵ DNA methylation is potentially linked to longevity.⁶

Laura proposed that this anti-ageing effect of SIRT 1 may be mimicked by soya bean isoflavones such as daidzein. Laura's thesis involved taking the human intestinal cell line, Caco-2, altering them to over express SIRT 1 activity. DNA methylation was then measured in the presence and absence of the soy isoflavones genistein and daidzein.

Indeed, this study has established for the very first time that there is potential for dietary isoflavone consumption to interact with/mimic or even oppose effects of CR on DNA methylation and/or histone acetylation. This is very promising and certainly paves the way for Laura who wants

to put her award to good use by using it to investigate the effects of SIRT 1 in relation to: DNA methylation status of specific genes for which the ageing process has detrimental effects, and to establish how this may be linked with longevity.

Laura also expressed the wish to improve and develop new biomolecular techniques used within this research. This would concentrate mainly on the specificity of the soy isoflavone daidzein.

Laura was delighted to be the first winner of this prestigious award in the UK and we wish her every success in her future career.



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