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Expression Peroxisome Proliferator Activated Receptor (PPAR) and Lipogenic enzyme activity on bovine whey and soy protein isolates fed minipig

J. Ferrari\textsuperscript{1,2}, M. Muralitharan\textsuperscript{1}, E. Ostrowska\textsuperscript{2}, B. Tatham\textsuperscript{2} and F.R. Dunshea\textsuperscript{1,2}

1. Deakin University, School of Biological and Chemical Sciences, Geelong, Victoria 3217, Australia.
2. Department of Primary Industries, Werribee, Victoria 3030, Australia.

Obesity is a disease that is associated with excess white adipose tissue. Currently obesity is a major health epidemic in developed countries worldwide. Obesity is associated with many health problems such as hypelipidemia, hypertension and diabetes. The research being conducted involves looking at the effects of high protein and modified carbohydrate diets, in controlling body composition. The minipig is an ideal human model for this work as they are genetically obese with body weights of approximately 120-140 kg which mimics the weight and composition of an obese human. The diets being used in this study contain either bovine whey protein which contains the satiety-inducing compound glycomacropeptide (GMP) or soybean protein isolate which contains the cholesterol lowering isoflavones, genestein and diadzin. Each of these diets is fed to 16 individually housed minipigs \textit{ad libitum} at 80\% and 160\% of their normal requirement. Experimental analysis will involve the use of colorimetric techniques to determine the expression of lipogenic enzymes present in adipose tissue biopsies as well as the expression of the transcription factor PPAR. Fat composition within the minipig will also be determined using dual x-ray absorptiometry (DXA).