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Marine Microalgae Improve Lipoproteins Lipases White Adipose Tissue in Pregnant and Offspring of Dietary Obese Rats Dams

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Maternal obesity is associated with increased adiposity and alter depression of genes in the adipose tissue of the fetus, including increased expression of LPL[1]These findings, suggestive of the protective effects of marine food sources against heart disease, have prompted the study of mechanisms for the hypotriacylglyceridaemic action of w3 fatty acid [2].The aim of the present study was to determine the time course of changes LPL adipose tissue in cafeteria-diet-fed and cafeteria diet supplemented green microalgae dams during gestation, lactation and pups at weaning. The study focuses on four groups of pregnant rats and offspring consuming the control diet or cafeteria diet supplemented or not by marine unicellular algae, LPL white adipose tissue was measurement, tissue homogenates were prepared by homogenizing 100 mg of tissue for 1 min in 4 ml of 50 mM NH4Cl/aq. Our results shown that the cafeteria plan provide an obese phenotype with alterations mainly causing an increase in TG, VLDL-TG and LPL. The supplementation of 10% of marine microalgae reduced TG, VLDL-TG and higher LPL in obese pregnant rats-algae and off spring. In conclusion, maternal over nutrition has long term metabolic consequences. The supplementation of 10% marine microalgae can reduce this disorder by a significant increaseLCPUFAn-3.

Key words: Adipose tissue, w3, LPL, obesity.