

Open-flow respirometry was used to measure the magnitude of specific dynamic action (SDA), the maximum rate of oxygen consumption and the length of time that the rate of oxygen uptake remained elevated above pre-feeding level in MF1 female mice fed different macronutrient diets. Irrespective of diet, the metabolic rate increased immediately after feeding and reached a maximum within 1.7 hours. The composition of the diet significantly altered the magnitude of SDA. SDA was highest for high protein-fed mice (9.4%), followed by high carbohydrate-fed mice (6.1%) and lastly high and medium fat-fed mice (3.9% and 4.5%). KEY WORDS: Specific dynamic action, resting metabolic rate, macronutrient diets, open-flow respirometry, respiratory quotient, energy expenditure