

Effect of low-intensity vibration on the maturation of 3T3-L1 cells

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The aim of this study is to investigate the influence of low-intensity vibration on the adipogenic maturation of 3T3-L1 preadipocytes. 3T3-L1 preadipocytes were maintained on an apparatus which generated vibration with 10% intensity at the frequency of 10 Hz to 40 Hz for 6 days. Cell viability, TG content, Oil red O staining were measured for the evaluation. No toxic effect was observed from the cells during culture. Adipocyte maturation is mediated by a series of changes in gene expression. The expression of some genes (C/EBP α , PPAR γ , LPL, FAS, Adipsin and ADD-1) demonstrated that low-intensity vibration increased the maturation of 3T3-L1 cells to some extent.