

Linolenic acid and thiazolidinediones opens up switch on L6 myoblast to turn into adipoblast

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Lately, it has been brought to light that if white adipose tissues could possibly be turned into brown fat it would certainly play critical role in curtailing down many disease pathogenesis. To understand what really happens on muscle cells when it turns to white adipose tissue, we investigated the adipogenic differentiation of mouse L6 myoblasts by combining two adipogenic inducers i.e. Linolenic acid (LA) and Thiazolidinedione (TZD). The L6 myoblast cells near confluence were selected to initiate the treatment with adipose induction mixture. While LA (100 uM) + TZD (10 uM) treatments were given after exposure with adipogenic induction mixture at every 48 hours and the samples were collected on d 0, 5 and 10. Significant adipogenesis were revealed with Oil-Red-O staining itself. However, higher genetic expressions of PPAR γ , Adipo Q and LPL as well as the intense immunostaining of PPAR- γ and CEBP- γ further confirmed that initially when muscles gets converted it first turns into white adipose tissue. In conclusion, we realized that white adipose tissues formed during different pathological situation needs to be converted to brown adipose tissue to contain pathological process in the biological system.

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