Summaries

English summary

NR4A is a subgroup of nuclear receptors (NRs) consisting of 3 members, one of them is Nur77. The expression of the three NR4A members has been identified in a wide variety of metabolically demanding and energy dependent tissues. The nature of the NR4A subfamily as immediate early response genes induced by multiple signal transduction pathways seems to be a unique feature, separating these receptors from other NRs.

In this study the expression profile of Nur77 in adipogenesis and its effects if forced expressed have been investigated, showing that the normal lipid accumulation during adipogenesis can be inhibited by Nur77 when constitutively expressed and that a transcriptionally dominant negative Nur77 version does not contain this inhibiting feature.

Furthermore, a high fat feeding weight gain pilot study in bl6 mice showed a significant difference in expression levels of Nur77 in 6 month old mice on a high fat diet compared to normal chow.

Applying microarray expression analysis 292 differentially expressed profiles were found in NIH 3T3-L1 cells with forced Nur77 expression compared to expression profiles in NIH 3T3-L1 cells without forced expression of Nur77.

The cell cycle profiles between NIH 3T3-L1 and NIH 3T3-L1 cells with constitutive Nur77 were compared. This showed very little difference within the first 2 days of adipogenesis.

In this study an initial primary characterization of the transcriptional changes effected by Nur77 forced expression also provides a clue to the differences in the overall picture together with a Gene Ontology clustering.