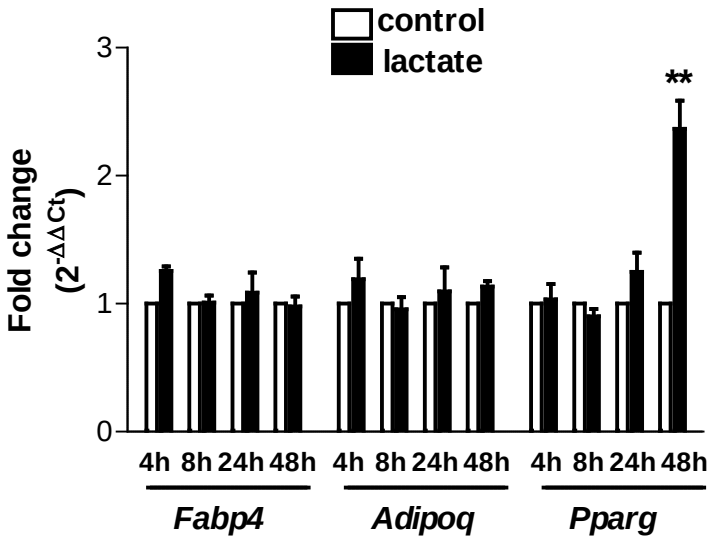
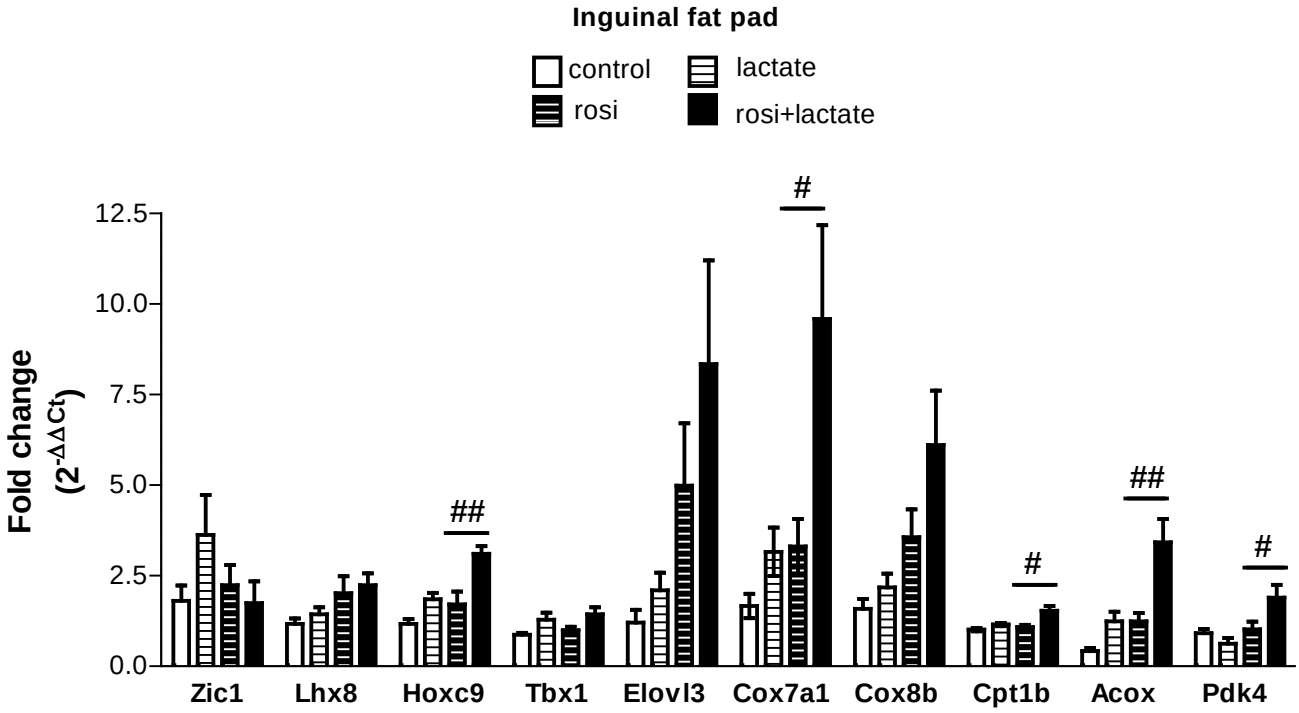
SUPPLEMENTARY DATA

Supplementary Fig.1. Expression of PPARγ targets genes. Mouse primary differentiated white adipocytes were treated with 50mM lactate for 4 h, 8 h, 24 h and 48 h. Total RNA was then isolated and assayed for mRNA levels of *Fabp4*, *Adipoq* and *Pparg* by QPCR. **p<0.01 versus control cells.



SUPPLEMENTARY DATA

Supplementary Fig.2. Expression of classical brown adipocytes, brown-like adipocytes, mitochondrial and fatty acid oxidation markers in inguinal fat pads of mice treated with lactate and rosiglitazone. C57Bl6 mice were daily and intraperitoneally injected with solvent (control, n=15), lactate (n=14), rosiglitazone (n=11) and a combination of rosiglitazone plus lactate (n=11) during 11 consecutive days (for details see the Material and Methods section of the manuscript). Inguinal fat pads were collected and total RNA was isolated and assayed for mRNA levels of markers of classical brown adipocytes (*Zic1* and *Lhx8*), brown-like adipocytes (*Hoxc9* and *Tbx1*), mitochondria (*Elovl3*, *Cox7a1*, *Cox8b*) and fatty acid oxidation (*Cpt1b*, *Acox* and *Pdk4*) by QPCR. #p<0.05 and ##p<0.01 versus rosiglitazone-injected mice.



SUPPLEMENTARY DATA

Supplementary Fig.3. GPR81 receptor is not involved in *Ucp1* expression. (A) Mouse primary differentiated white adipocytes were treated for 24 h with 50, 100 and 500µM of 3,5-Dihydroxybenzoic Acid (DHBA), an agonist of GPR81 lactate receptor. Total RNA was then isolated and assayed for mRNA levels of *Ucp1* by QPCR. (B) Mouse primary differentiated white adipocytes were treated with isoproterenol (200nM) with or without 50, 100 and 500µM DHBA for 5 h. Extracellular glycerol content was then assayed. ***p<0.001 versus control cells, ##p<0.05 versus isoproterenol-treated cells.