

Figure S1: No significant difference in body weight was observed for animals in the ageing study. See also Figure 1 for changes in tissue weight.

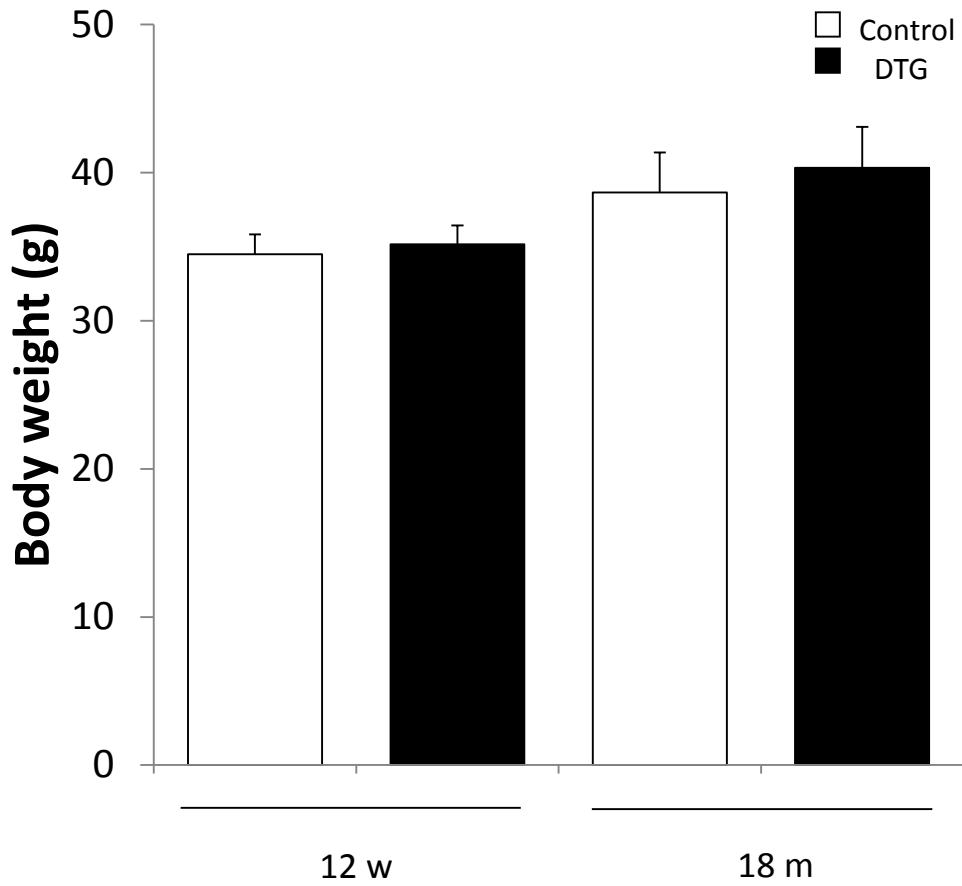


Figure S2: PCA scores plot of NMR spectra of gastrocnemius muscle tissue, which indicated Akt1 overexpression as the main source of data variation across the study (controls, 'black squares'; DTG mice, 'red dots').

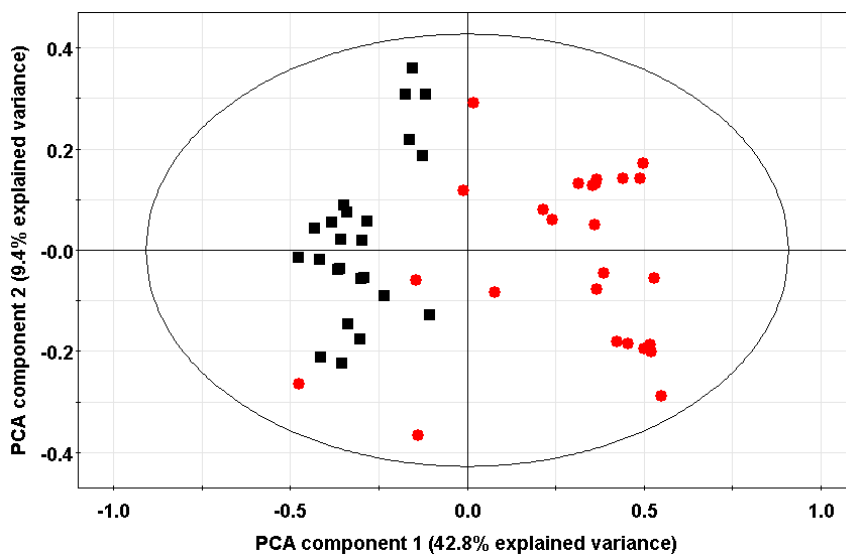


Figure S3: Sections of NMR spectra showing: **A.** anserine and carnosine standards. The spectrum of an anserine and carnosine mixture (2:1) showed that the peaks arising from both metabolites were pH sensitive and were co-resonant at multiple spectral regions. Three regions (P1, P2 and P3) were identified for further statistical analysis (see text for details). **B.** a pooled gastrocnemius muscle extract (500 μ l) mixed with 100 μ l of either D₂O (Black spectrum) or anserine standards of different concentrations (1 mM, red spectrum; 2mM, blue spectrum).

