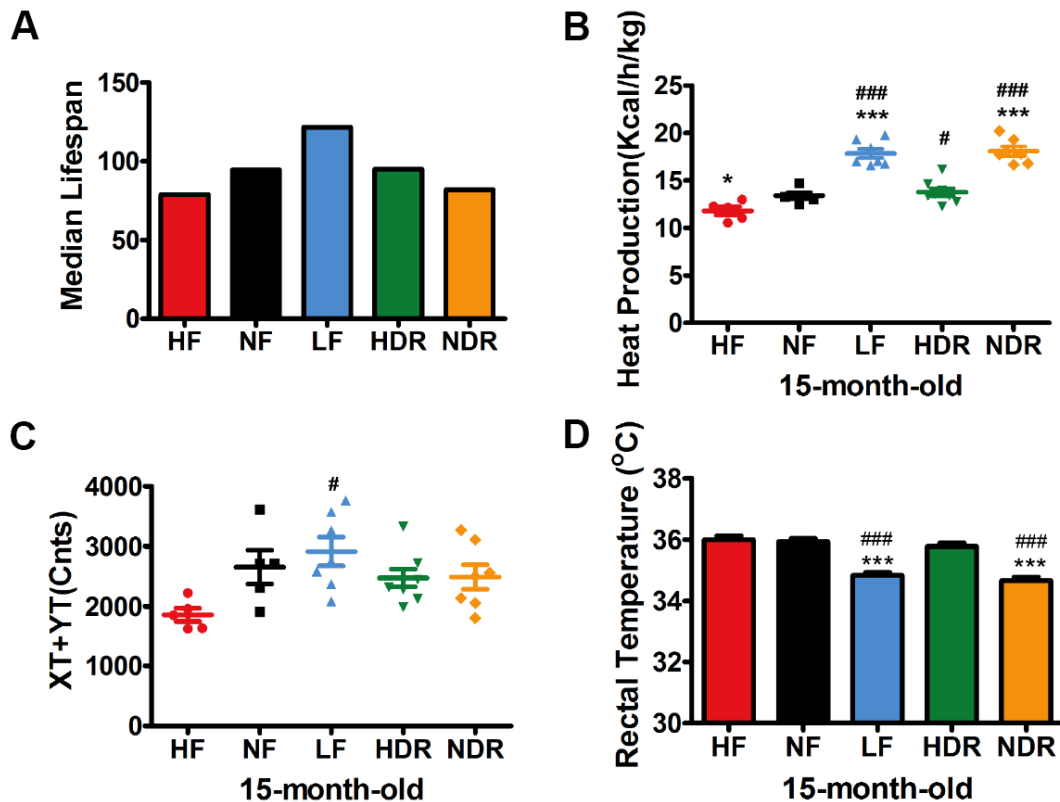
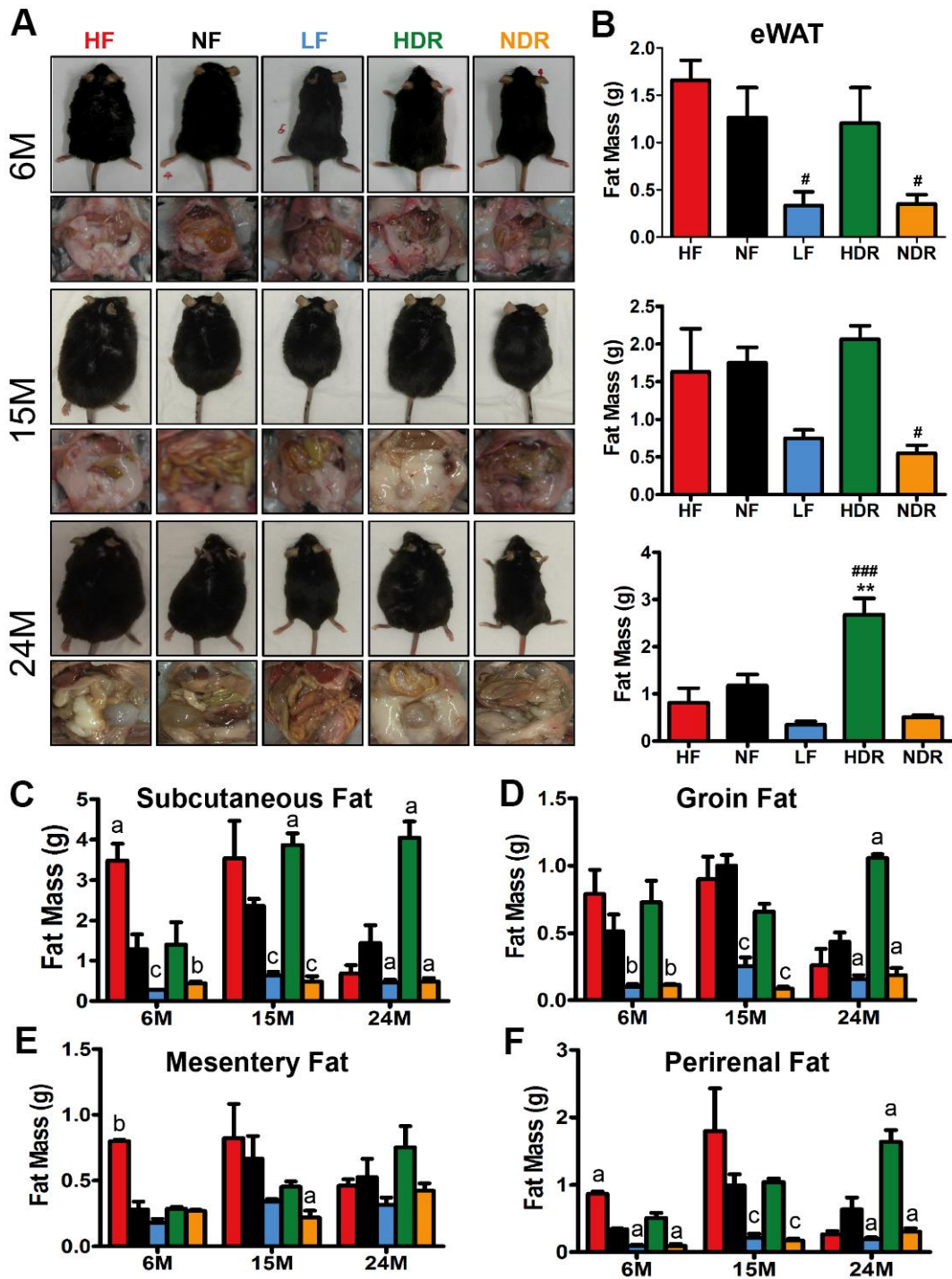


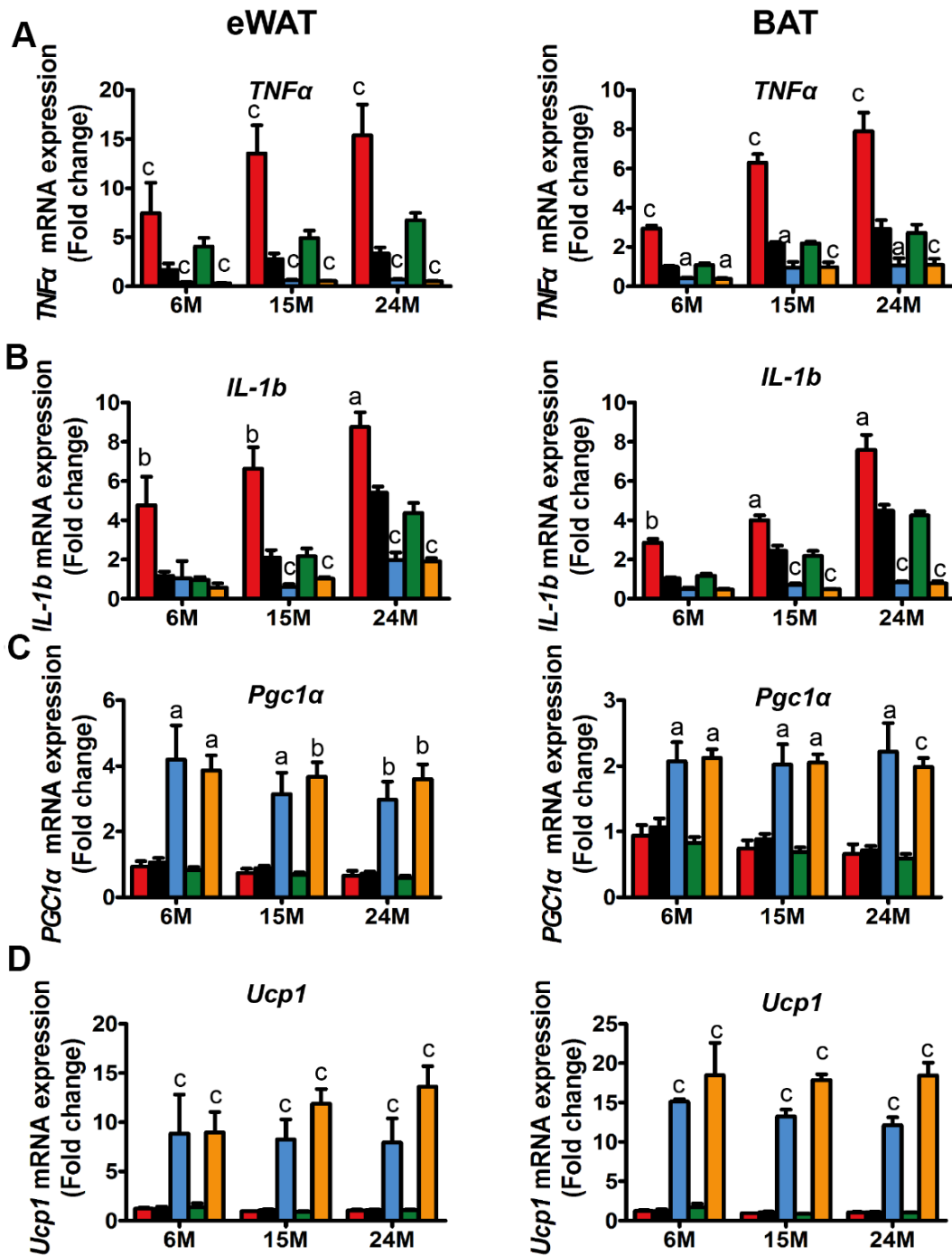
SUPPLEMENTARY FIGURES



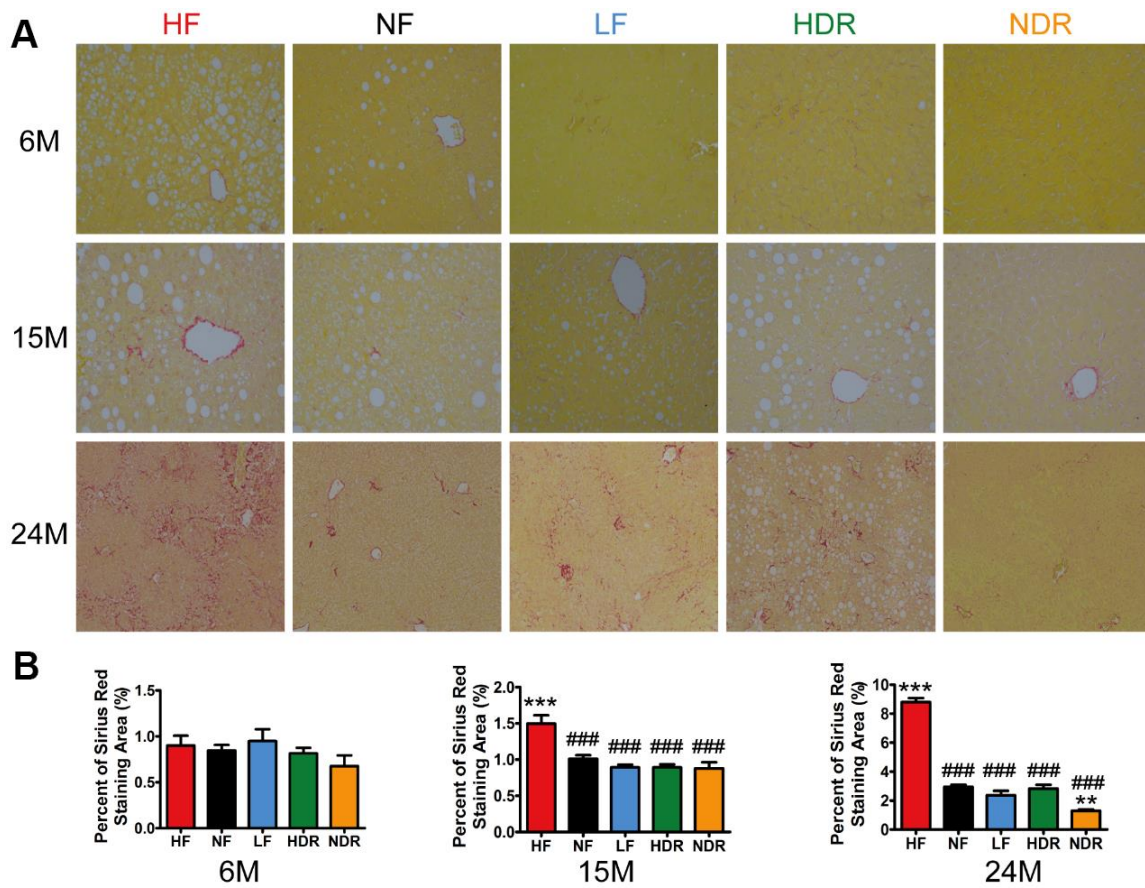
Supplementary Figure 1. Median lifespan, midlife physical activity and body temperature of mice. (A) Median lifespan of mice under five different dietary regimens. (B) Heat production of midlife mice under different dietary regimens. (C) Daily activity of midlife mice under different dietary regimens. (D) Rectal temperature of midlife mice under different dietary regimens. # $P < 0.05$, ## $P < 0.01$, ### $P < 0.001$ vs the HF group; * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$ vs the NF group.



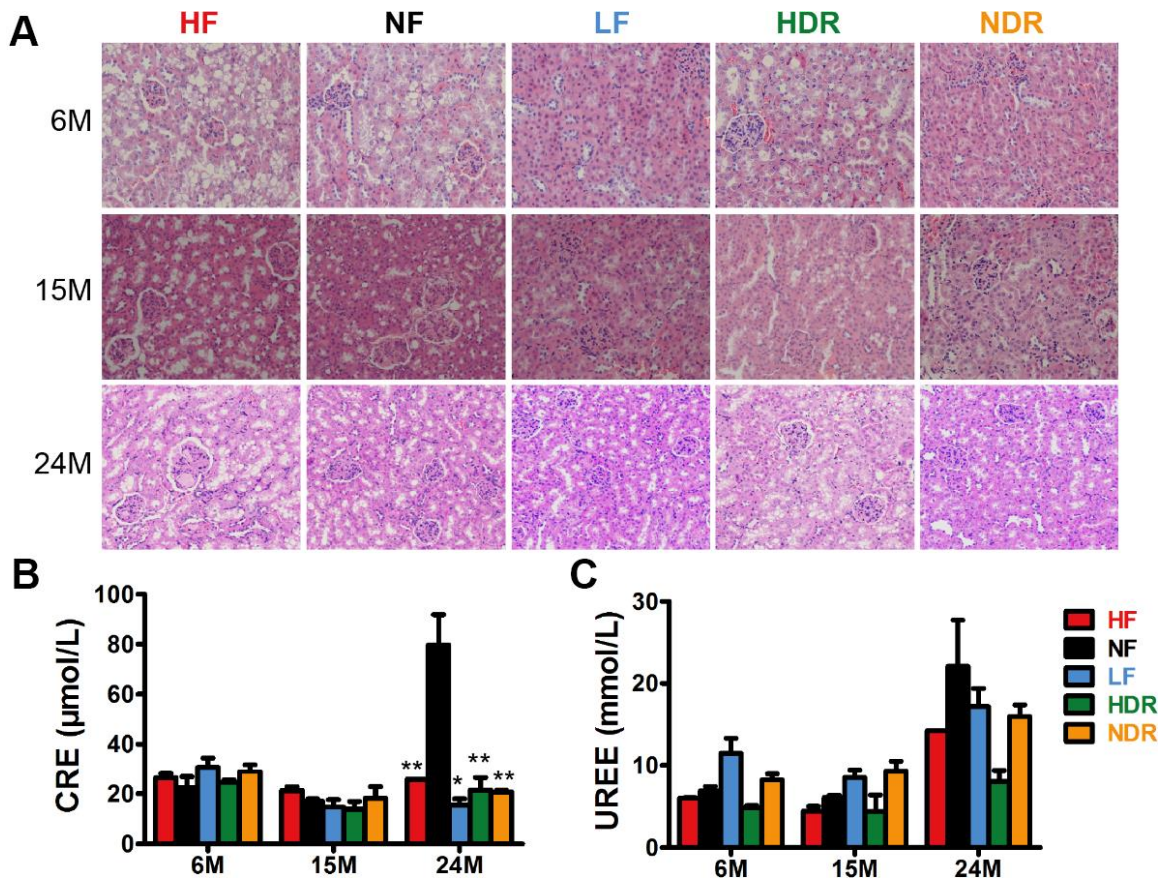
Supplementary Figure 2. Body fat distribution under different dietary regimens. (A) Pictures of randomly selected whole body (upper) and body cavity (lower) of mice under different dietary regimens. (B) Fat mass of eWAT at different ages. (C) Subcutaneous fat, (D) Groin fat, (E) mesentery fat and (F) perirenal fat mass under different dietary regimens. [#] $P < 0.05$, ^{##} $P < 0.01$, ^{###} $P < 0.001$ vs the HF group; ^{*} $P < 0.05$, ^{**} $P < 0.01$, ^{***} $P < 0.001$ vs the NF group.



Supplementary Figure 3. mRNA quantification of selected pro-inflammatory cytokines and chemokines. (A) *TNFα*, (B) *IL-1β*, (C) *Pgc1α* and (D) *Ucp1* expression in eWAT and BAT under different dietary regimens. a, $P < 0.05$; b, $P < 0.01$; c, $P < 0.001$ vs the corresponding NF groups.



Supplementary Figure 4. Sirius red staining of liver in different dietary regimens. (A) Sirius red staining. **(B)** Percent of Sirius red staining area. # $P < 0.05$, ## $P < 0.01$, ### $P < 0.001$ vs the HF group; * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$ vs the NF group.



Supplementary Figure 5. Kidney functions affected by the dietary interventions. (A) Representative images of kidney sections of mice of each indicated group (n=5 per group) after H&E staining. Original magnification: 20×. (B) The extent of kidney injury was scored by a histopathologist (who was blinded to the source condition of each sample) by a semiquantitative method. (C) Kidney function was assessed by means of serum concentrations of creatinine and urea nitrogen (n=6 per group). Data are shown as mean ± SEM, #*P*<0.05, ##*P*<0.01, ###*P*<0.001 vs the HF group; **P*<0.05, ***P*<0.01, ****P*<0.001 vs the NF group according to ANNOVAS.