

## Electronic supplementary material

### Results

*Measures of obesity* We assessed adiposity measures in a separate group of 20-week-old littermates ( $n \geq 7$  each), using magnetic resonance imaging and gonadal adipose weight. Body weight was similar ( $25.0 \pm 0.5$  vs  $24.2 \pm 0.6$  g, wild-type vs  $As^{-/-}$  respectively;  $p=0.29$ ). Lean body mass ( $19.2 \pm 0.4$  vs  $18.3 \pm 0.3$  g;  $p=0.11$ ) and body fat ( $1.8 \pm 0.2$  vs  $1.8 \pm 0.2$  g;  $p=0.91$ ) were also similar, as assessed by nuclear magnetic resonance. Gonadal adipose tissue weight ( $270 \pm 38$  vs  $287 \pm 27$  mg;  $p=0.71$ ) was also similar. There were also no differences when examining these measures indexed to body weight.