

## **Descriptions of additional supplementary data files**

### **Supplementary Data S1**

Summary of the *Ad-Tmem120a*<sup>-/-</sup> phenotype in females on LFD vs. HFD.

### **Supplementary Data S2**

RNA-Seq gene expression changes in knockout inguinal WAT.

### **Supplementary Data S3**

Microarray and DamID data from 3T3-L1 knockdown and differentiation with both *Tmem120a* and *Tmem120a/b* double knockdowns.

### **Supplementary Data S4**

Largest RNA-Seq and lncRNA expression changes in knockout inguinal WAT and behaviour in other datasets.

### **Supplementary Data S5**

miRNA expression changes and corresponding gene targets.