**Descriptions of additional supplementary data files**

**Supplementary Data S1**

Summary of the *Ad-Tmem120a-/-* 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 IncRNA expression changes in knockout inguinal WAT and behaviour in other datasets.

**Supplementary Data S5**

miRNA expression changes and corresponding gene targets.