

## Description of Additional Supplementary Files

### Supplementary Data 1

Description: Associations of TG, HDL, LDL and TC to adipose DNA methylation in the discovery cohort at FDR 10%

### Supplementary Data 2

Description: Annotation of replicated lipid-linked adipose regulatory regions

### Supplementary Data 3

Description: List of significant association of methylation to gene expression within replicated regulatory regions at FDR 10%

### Supplementary Data 4

Description: Replicated lipid-linked adipose regulatory regions with three-way associations validation at FDR 10%

### Supplementary Data 5

Description: Dissection of adipose lipid-linked regulatory regions shared across to whole-blood

### Supplementary Data 6

Description: Replication of tissue-shared lipid-linked regulatory regions in an independent population-based whole-blood cohort

### Supplementary Data 7

Description: Co-regulation network between an adipose-unique TG-linked enhancer region, *GNA15* and *GNG7*

### Supplementary Data 8

Description: Genetic regulation at an adipose-specific and HDL-linked enhancer region mapping to an intron of *GALNT2*