

## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Details of lipidomic analyses in the Busselton Health Study

File Name: Supplementary Data 2

Description: Details of lipid species and measurements in the Busselton Health Study

File Name: Supplementary Data 3

Description: Association of genetic variants against serum lipid classes in the Busselton Health Study

File Name: Supplementary Data 4

Description: Association of genetic variants against serum lipid species in the Busselton Health Study

File Name: Supplementary Data 5

Description: Annotation of genome-wide significant SNPs

File Name: Supplementary Data 6

Description: Identification of independent lipid loci

File Name: Supplementary Data 7

Description: Results of conditional analysis and secondary signals in GWAS

File Name: Supplementary Data 8

Description: Validation of independent genome-wide significant associations in replication cohorts

File Name: Supplementary Data 9

Description: Discovery meta-analysis in ADNI/AIBL/BHS

File Name: Supplementary Data 10

Description: Identification of candidate causal genes using genetic prioritization and knowledge-based approaches

File Name: Supplementary Data 11

Description: Genetic-based prioritization of candidate genes

File Name: Supplementary Data 12

Description: Biological knowledge-based prioritization of candidate genes

File Name: Supplementary Data 13

Description: Overlap of lead SNPs with previous lipid/metabolite associations

File Name: Supplementary Data 14

Description: Overlap of associations in the GWAS catalog and CardiogramplusC4D

File Name: Supplementary Data 15

Description: Relationship of serum lipid species with CVD, including phenotypic associations, genetic correlations and association with PRS

File Name: Supplementary Data 16

Description: Colocalisation analysis and shared causal variants for coronary artery disease

File Name: Supplementary Data 17

Description: Association of lipid loci with coronary atherosclerosis in the UK Biobank