## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: 5,883 SNP pairs which show significant interaction between the index SNPs in

chromosome 15q25.1 and their interacting candidate SNPs in the discovery cohorts

File Name: Supplementary Data 2

Description: Summary of the index SNPs within chromosome 15q25.1 and the 3,409 candidate SNPs

within whole genome

File Name: Supplementary Data 3

Description: The LD of the left 2530 SNPs after pruned from 8 index and 3409 candidated SNPs

File Name: Supplementary Data 4

Description: The eQTL results of the selected SNPs and genes in whole genome with threshold of P

value < 0.0005.

File Name: Supplementary Data 5

Description: The selected genes and their reference SNPs of our susceptibility pathways and GO

terms in GWAS enrichment analysis.

File Name: Supplementary Data 6

Description: The summary of the index SNPs within chromosome 15q25.1 and the 3,401 candidate

SNPs within whole genome for smoking-related lung cancer

File Name: Supplementary Data 7

Description: The LD of the left index and candidated SNPs after pruned for smoking-related lung

cancer.