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| Supplementary Table 3-1. Enrichment analysis for PANTHER pathways with the GWAS results: all subjects |  |  |
| Gene category | Number of genes | P-value |
| Heterotrimeric G-protein signaling pathway-Gq alpha and Go alpha mediated pathway | 31 | 0.012 |
| Bupropion degradation | 1 | 0.019 |
| Flavin biosynthesis | 1 | 0.024 |
| Adenine and hypoxanthine salvage pathway | 2 | 0.029 |
| Oxidative stress response | 31 | 0.035 |
| Insulin/IGF pathway-protein kinase B signaling cascade | 41 | 0.047 |
| No gene category was significantly associated after multiple testing correction (P > 0.05/141) |  |  |
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| Supplementary Table 3-2. Enrichment analysis for PANTHER pathways with the GWAS results: older subjects (age>56) |  |  |
| Gene category | Number of genes | P-value |
| Opioid proenkephalin pathway | 3 | 0.009 |
| Ionotropic glutamate receptor pathway | 35 | 0.020 |
| Flavin biosynthesis | 1 | 0.025 |
| Bupropion degradation | 1 | 0.025 |
| Cytoskeletal regulation by Rho GTPase | 26 | 0.038 |
| Inflammation mediated by chemokine and cytokine signaling pathway | 90 | 0.040 |
| Oxidative stress response | 31 | 0.042 |
| No gene category was significantly associated after multiple testing correction (P **>** 0.05/141) |  |  |
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| Supplementary Table 3-3. Enrichment analysis for PANTHER pathways with the GWAS results: younger subjects (age≦56) |  |  |
| Gene category | Number of genes | P-value |
| Anandamide degradation | 1 | 0.024 |
| Adenine and hypoxanthine salvage pathway | 2 | 0.025 |
| Insulin/IGF pathway-protein kinase B signaling cascade | 41 | 0.034 |
| O-antigen biosynthesis | 4 | 0.036 |
| No gene category was significantly associated after multiple testing correction (P > 0.05/141) |  |  |