

Supplementary Table 1. Linkage disequilibrium among SNPs in the same gene or region

| Chromosome | gene | SNP ID | Linkage disequilibrium D' (r^2) |
|------------|---------------|-------------------------------------|--|
| 1 p36 | <i>MTHFR</i> | rs1801131 rs1801133 | 1.00 (0.86) |
| 1 q42 | <i>mEH</i> | rs2234922 rs1051740 | 0.48 (0.02) |
| 2 p22 | <i>CYP1B1</i> | rs1056836 rs1800440 | 1.00 (0.90) |
| 3 p25 | <i>XPC</i> | rs2228001 rs2228000 | 1.00 (0.30) |
| 8 p22 | <i>NAT2</i> | rs1801280 rs1799931 rs1799930 | 1.00 (0.85) 1.00 (0.71) } 1.00 (0.49) |
| 11 q13 | <i>GSTP1</i> | rs1695 rs1138272 | 0.92 (0.28) |
| 15 q24 | <i>CYP1A1</i> | rs1048943 rs1799814 | 1.00 (0.94) } 0.49 (0.06) |
| | <i>CYP1A2</i> | rs762551 | 1.00 (0.82) |
| 16 q22 | <i>NQO1</i> | rs1800566 rs1131341 | 1.00 (0.62) |
| 19 q13 | <i>ERCC1</i> | rs11615 rs3212948 rs3212986 | 1.00 (0.88) 0.96 (0.36) } 1.00 (0.85) |

Supplementary Table 2. Regression coefficients for the effects of haplotypes on adducts and NER

| Gene | Haplotype alleles | Frequency (%) | adduct model | | NER model | |
|------------------|-------------------|---------------|--------------|---------|-------------|-------------|
| | | | Coefficient | P value | Coefficient | P value |
| <i>MTHFR</i> | CC | 43 | reference | | reference | |
| | CA | 39 | 0.06 | 0.4 | 0.41 | 0.02 |
| | TA | 18 | 0.08 | 0.4 | 0.06 | 0.8 |
| <i>CYP1B1</i> | GA | 53 | reference | | - | - |
| | GG | 20 | -0.09 | 0.3 | - | - |
| | CA | 27 | -0.01 | 0.9 | - | - |
| <i>XPC</i> | CA | 50 | reference | | reference | |
| | CC | 27 | -0.05 | 0.6 | -0.03 | 0.9 |
| | TC | 23 | -0.03 | 0.7 | -0.01 | 0.9 |
| <i>NAT2</i> | GCG | 32 | reference | | - | - |
| | ATG | 30 | 0.03 | 0.7 | - | - |
| | GTG | 28 | 0.07 | 0.4 | - | - |
| | GTA | 10 | 0.05 | 0.7 | - | - |
| <i>GSTP1</i> | AT | 75 | reference | | - | - |
| | GT | 15 | -0.07 | 0.4 | - | - |
| | GC | 8.5 | 0.04 | 0.8 | - | - |
| <i>CYP1A1/A2</i> | ACA | 46 | reference | | - | - |
| | ACC | 41 | -0.03 | 0.6 | - | - |
| | GCA | 7 | -0.03 | 0.8 | - | - |
| | AAA | 5 | -0.04 | 0.8 | - | - |
| <i>NQO1</i> | CC | 69 | reference | | - | - |
| | CT | 27 | -0.08 | 0.3 | - | - |
| | TC | 4 | -0.04 | 0.8 | - | - |
| <i>ERCC1</i> | CGT | 45 | reference | | reference | |
| | TCG | 29 | 0.02 | 0.8 | 0.18 | 0.4 |
| | TCT | 23 | 0.01 | 0.9 | -0.07 | 0.7 |
| | TGT | 3 | 0.03 | 0.8 | -0.26 | 0.5 |

NER: Nucleotide excision repair. Only SNP's with a putative effect on DNA repair were modeled against NER capacity.