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| Supplementary Table 1. Primers used in this study |
| Assay | Gene | Primers |
| Promoter assay | rs17583 forward | 5’-CCGCTCGAGAACCCCTCCCTCTTGCAAGC -3’ |
|  | rs17583 reverse | 5’-CCCAAGCTTGGTCATCCTTCCGCATCTCC -3’ |
|  | *GLRX3* pro forward | 5’-CCGCTCGAGGGACTGAATTGGAAGCACCC-3’ |
|  | *GLRX3* pro reverse | 5’-CATGCCATGGCGCCAGACAGAAGCAATCCA-3’ |
|  | rs4751162 forward | 5’-CGGGATCCGTGCAAGTCTCCCCATTACC-3’ |
| 　 | rs4751162 reverse | 5’-ACGCGTCGACAGACCCAGGCTCCCTAAAAC-3’ |
| qRT-PCR | *CAPN1* forward | 5’-ATTTCCAGCTGTGGCAATTT-3’ |
|  | *CAPN1* reverse | 5’-CTCCAGAACTCGTTGCCTTC-3’ |
|  | *LINC00959* forward | 5’-TGCTCCCATCCCTGCCATGT-3’ |
|  | *LINC00959* reverse | 5’-AAGACAGGAATCTCGGGTGGGC-3’ |
|  | *GLRX3* forward | 5’-AGATGAACGAAGTTATGGCAGAG-3’ |
|  | *GLRX3* reverse | 5’-ACAGAAAAGTGGGAACAGAGC-3’ |
|  | *β-actin* forward | 5’-TTGTTACAGGAAGTCCCTTGCC-3’ |
|  | *β-actin* reverse | 5’-ATGCTATCACCTCCCCTGTGT-3’ |
| ChIP-qPCR | rs17583 forward | 5’-GATTCTCCCTAGCACCCGCT-3’ |
|  | rs17583 reverse | 5’-TGCCGGCATAGCCATTCTGG-3’ |
|  | rs4751162 forward | 5’-TACTCGTCCCCCAACACCCA-3’ |
|  | rs4751162 reverse | 5’-GGCCGAGACTCATTGCAGGA-3’ |

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| Supplementary Table 2. List of selected, genotyped SNPs and analysis for overall survival and disease-free survival in the discovery cohort.　 |
| Polymorphism |  | Genotype |  | Overall survival, *P-value* a |  | Disease Free survival, *P-value* a |
| ID No. | Alleles | 　 | MAF | HWE-*p* | 　 | Dominant | Recessive | Codominant | 　 | Dominant | Recessive | Codominant |
| rs17583 | C>T |  | 0.34 | 0.53 |  | 0.001 | 0.96 | 0.02 |  | 0.15 | 0.25 | 0.09 |
| rs4751162 | A>G |  | 0.16 | 0.47 |  | 0.23 | 0.56 | 0.21 |  | 0.04 | 0.92 | 0.06 |
| rs6688000 | G>A |  | 0.12 | 0.22 |  | 0.04 | 0.63 | 0.06 |  | 0.64 | 0.42 | 0.51 |
| rs1529959 | G>A |  | 0.49 | 0.58 |  | 0.06 | 0.71 | 0.34 |  | 0.03 | 0.61 | 0.33 |
| rs2601006 | C>T |  | 0.26 | 0.24 |  | 0.75 | 0.10 | 0.30 |  | 0.65 | 0.02 | 0.15 |
| rs757228 | G>A |  | 0.36 | 0.45 |  | 0.11 | 0.94 | 0.21 |  | 0.03 | 0.67 | 0.07 |
| rs11188272 | G>C |  | 0.39 | 0.18 |  | 0.23 | 0.03 | 0.83 |  | 0.71 | 0.002 | 0.19 |
| rs4669 | T>C |  | 0.39 | 0.05 |  | 0.03 | 0.69 | 0.19 |  | 0.07 | 0.39 | 0.45 |
| rs6049283 | A>C |  | 0.21 | 0.07 |  | 0.04 | 0.19 | 0.19 |  | 0.46 | 0.11 | 0.99 |
| rs1205366 | C>T |  | 0.15 | 0.38 |  | 0.03 | 0.88 | 0.05 |  | 0.16 | 0.28 | 0.11 |
| rs17528989 | G>A |  | 0.14 | 0.07 |  | 0.89 | 0.20 | 0.6 |  | 0.47 | 0.01 | 0.15 |
| rs2425047 | A>C |  | 0.19 | 0.28 |  | 0.78 | 0.02 | 0.56 |  | 0.87 | 0.16 | 0.75 |
| rs1136267 | C>A |  | 0.21 | 0.11 |  | 0.07 | 1.00 | 0.11 |  | 0.02 | 1.00 | 0.04 |
| rs1803956 | T>C |  | 0.41 | 0.14 |  | 0.62 | 0.02 | 0.11 |  | 0.64 | 0.03 | 0.16 |
| rs34087264 | C>T |  | 0.39 | 0.76 |  | 0.47 | 0.11 | 0.69 |  | 0.93 | 0.02 | 0.22 |
| rs3896021 | G>T |  | 0.52 | 0.13 |  | 0.10 | 0.89 | 0.30 |  | 0.01 | 0.17 | 0.01 |
| rs13817 | G>A |  | 0.35 | 0.48 |  | 0.05 | 0.11 | 0.02 |  | 0.89 | 0.68 | 0.77 |
| rs2234216 | T>C |  | 0.36 | 0.3 |  | 0.92 | 0.00 | 0.13 |  | 0.53 | 0.23 | 0.9 |
| rs6547618 | G>A |  | 0.37 | 0.67 |  | 0.33 | 0.03 | 0.06 |  | 0.99 | 0.15 | 0.43 |
| rs8316 | T>C |  | 0.10 | 0.27 |  | 0.01 | 0.99 | 0.04 |  | 0.00 | 0.88 | 0.01 |
| rs6601178 | G>A |  | 0.47 | 0.61 |  | 0.01 | 0.05 | 0.01 |  | 0.02 | 0.25 | 0.03 |
| rs2983641 | C>T |  | 0.19 | 0.58 |  | 0.48 | 0.01 | 0.75 |  | 0.88 | 0.001 | 0.26 |
| rs2270625 | C>G |  | 0.26 | 0.21 |  | 0.01 | 0.2 | 0.01 |  | 0.31 | 0.79 | 0.37 |
| rs17122154 | A>G |  | 0.44 | 0.39 |  | 0.47 | 0.59 | 0.88 |  | 0.04 | 0.43 | 0.07 |
| rs2548551 | T>G |  | 0.13 | 0.41 |  | 0.22 | 0.25 | 0.16 |  | 0.67 | 0.00 | 0.22 |
| rs10139029 | A>G |  | 0.19 | 0.09 |  | 0.03 | 0.53 | 0.05 |  | 0.78 | 0.82 | 0.75 |
| rs665306 | T>C |  | 0.34 | 0.75 |  | 0.08 | 0.08 | 0.03 |  | 0.71 | 0.84 | 0.85 |
| rs1010222 | G>A |  | 0.13 | 0.71 |  | 0.34 | 0.11 | 0.20 |  | 0.84 | 0.01 | 0.44 |
| rs2271446 | C>T |  | 0.27 | 0.46 |  | 0.04 | 0.26 | 0.05 |  | 0.07 | 0.50 | 0.10 |
| rs3825625 | C>T |  | 0.15 | 0.85 |  | 0.03 | 0.63 | 0.04 |  | 0.11 | 0.51 | 0.10 |
| rs7513326 | G>A |  | 0.43 | 0.1 |  | 0.12 | 0.01 | 0.01 |  | 0.55 | 0.04 | 0.14 |
| rs772254 | C>T |  | 0.21 | 0.14 |  | 0.02 | 0.39 | 0.03 |  | 0.09 | 0.29 | 0.08 |
| rs11668444 | G>T |  | 0.18 | 0.30 |  | 0.09 | 0.02 | 0.02 |  | 0.38 | 0.29 | 0.27 |
| rs1279738 | C>G |  | 0.46 | 0.63 |  | 0.00 | 0.00 | 0.00 |  | 0.02 | 0.04 | 0.01 |
| rs2075588 | A>C |  | 0.29 | 0.19 |  | 0.09 | 0.27 | 0.06 |  | 0.31 | 0.03 | 0.11 |
| rs3806192 | G>C |  | 0.19 | 0.05 |  | 0.46 | 0.99 | 0.57 |  | 0.01 | 0.98 | 0.03 |
| rs843346 | C>T |  | 0.37 | 0.13 |  | 0.94 | 0.01 | 0.09 |  | 0.65 | 0.01 | 0.11 |
| rs1242095 | A>C |  | 0.36 | 1.00 |  | 0.55 | 0.03 | 0.15 |  | 0.07 | 0.01 | 0.01 |
| rs2292807 | T>C |  | 0.44 | 0.94 |  | 0.7 | 0.03 | 0.29 |  | 0.31 | 0.16 | 0.88 |
| rs6032541 | A>G |  | 0.45 | 0.40 |  | 0.07 | 0.38 | 0.47 |  | 0.38 | 0.03 | 0.48 |
| rs6679 | T>C |  | 0.43 | 0.56 |  | 0.40 | 0.64 | 0.75 |  | 0.04 | 0.38 | 0.06 |
| rs11809443 | T>C |  | 0.22 | 0.28 |  | 0.50 | 0.05 | 0.15 |  | 0.87 | 0.25 | 0.56 |
| rs2271541 | T>G |  | 0.41 | 0.68 |  | 0.03 | 0.11 | 0.51 |  | 0.06 | 0.17 | 0.57 |
| rs3813521 | C>T |  | 0.29 | 0.60 |  | 0.01 | 0.08 | 0.01 |  | 0.18 | 0.21 | 0.11 |
| rs7897156 | C>T |  | 0.33 | 0.28 |  | 0.03 | 0.03 | 0.01 |  | 0.07 | 0.02 | 0.02 |
| rs4713599 | A>C |  | 0.10 | 0.63 |  | 0.79 | 0.26 | 0.63 |  | 0.79 | 0.42 | 0.92 |
| rs2295778 | C>G |  | 0.29 | 0.59 |  | 0.22 | 0.9 | 0.38 |  | 0.22 | 0.42 | 0.59 |
| rs7631002 | T>C |  | 0.11 | 0.53 |  | 0.91 | 0.27 | 0.70 |  | 0.83 | 0.18 | 0.47 |
| rs1053639 | A>T |  | 0.17 | 0.34 |  | 0.31 | 0.56 | 0.28 |  | 0.35 | 0.52 | 0.31 |
| rs3806408 | C>A |  | 0.30 | 0.15 |  | 0.46 | 0.05 | 0.14 |  | 0.73 | 0.13 | 0.32 |
| rs3767199 | G>T |  | 0.09 | 0.73 |  | 0.19 | 0.24 | 0.13 |  | 0.92 | 0.33 | 0.94 |
| rs10859966 | C>T |  | 0.42 | 0.31 |  | 0.75 | 0.68 | 0.98 |  | 0.47 | 0.84 | 0.72 |
| rs1351383 | A>C |  | 0.39 | 0.27 |  | 0.33 | 0.15 | 0.87 |  | 0.43 | 0.16 | 0.19 |
| rs3986354 | C>T |  | 0.46 | 0.16 |  | 0.68 | 0.34 | 0.77 |  | 0.12 | 0.66 | 0.47 |
| rs2958153 | G>A |  | 0.29 | 0.77 |  | 0.86 | 0.87 | 0.94 |  | 0.98 | 0.88 | 0.96 |
| rs479572 | C>G |  | 0.09 | 0.73 |  | 0.24 | 0.99 | 0.24 |  | 0.32 | 0.99 | 0.29 |
| rs2284190 | T>C |  | 0.18 | 0.49 |  | 0.86 | 0.99 | 0.56 |  | 0.53 | 0.30 | 0.88 |
| rs1064585 | T>G |  | 0.16 | 0.38 |  | 0.86 | 0.66 | 0.76 |  | 0.93 | 0.29 | 0.61 |
| rs2819360 | C>T |  | 0.44 | 0.66 |  | 0.89 | 0.46 | 0.61 |  | 0.58 | 0.44 | 0.42 |
| rs3755140 | C>T |  | 0.20 | 0.41 |  | 0.16 | 0.38 | 0.24 |  | 0.13 | 0.42 | 0.11 |
| rs6671141 | T>G |  | 0.36 | 0.37 |  | 0.66 | 0.96 | 0.73 |  | 0.72 | 0.68 | 0.97 |
| rs4324103 | G>A |  | 0.43 | 0.16 |  | 0.95 | 0.68 | 0.79 |  | 0.23 | 0.20 | 0.13 |
| rs3812445 | A>G |  | 0.10 | 0.06 |  | 0.98 | 0.59 | 0.87 |  | 0.14 | 0.71 | 0.18 |
| rs11823704 | C>A |  | 0.14 | 0.06 |  | 0.42 | 0.53 | 0.38 |  | 0.15 | 0.96 | 0.26 |
| rs2070626 | T>C |  | 0.47 | 0.91 |  | 0.37 | 0.54 | 0.36 |  | 0.14 | 0.67 | 0.24 |
| rs7942159 | A>G |  | 0.35 | 0.90 |  | 0.15 | 0.23 | 0.10 |  | 0.25 | 0.66 | 0.28 |
| rs5750508 | C>T |  | 0.44 | 0.46 |  | 0.37 | 0.26 | 0.94 |  | 0.19 | 0.94 | 0.38 |
| rs13624 | T>C |  | 0.14 | 0.41 |  | 0.09 | 0.99 | 0.36 |  | 0.58 | 0.28 | 0.94 |
| rs3821321 | G>A |  | 0.42 | 0.41 |  | 0.64 | 0.90 | 0.69 |  | 0.21 | 0.34 | 0.16 |
| rs4645287 | A>C |  | 0.57 | 0.40 |  | 0.27 | 0.81 | 0.64 |  | 0.7 | 0.97 | 0.81 |
| rs1461957 | G>T |  | 0.17 | 0.35 |  | 0.83 | 0.82 | 0.80 |  | 0.99 | 0.64 | 0.88 |
| rs3829051 | T>C |  | 0.31 | 0.34 |  | 0.39 | 0.24 | 0.94 |  | 0.20 | 0.12 | 0.88 |
| rs734380 | T>G |  | 0.40 | 0.10 |  | 0.81 | 0.72 | 0.98 |  | 0.87 | 0.50 | 0.84 |
| rs2282694 | G>A |  | 0.34 | 0.06 |  | 0.53 | 0.29 | 0.34 |  | 0.82 | 0.55 | 0.66 |
| rs2748240 | G>A |  | 0.42 | 0.06 |  | 0.32 | 0.32 | 0.92 |  | 0.33 | 0.55 | 0.75 |
| rs613924 | T>C |  | 0.42 | 0.97 |  | 0.15 | 0.99 | 0.33 |  | 0.50 | 0.79 | 0.76 |
| rs2908543 | T>A |  | 0.33 | 0.97 |  | 0.05 | 0.41 | 0.06 |  | 0.40 | 0.34 | 0.28 |
| rs2288834 | G>A |  | 0.40 | 0.56 |  | 0.55 | 0.34 | 0.35 |  | 0.76 | 0.99 | 0.84 |
| rs3760109 | G>T |  | 0.20 | 0.48 |  | 0.34 | 0.38 | 0.63 |  | 0.27 | 0.55 | 0.51 |
| rs11102516 | G>A |  | 0.42 | 0.38 |  | 0.83 | 0.30 | 0.64 |  | 0.82 | 0.41 | 0.54 |
| rs7314442 | G>A |  | 0.22 | 0.38 |  | 0.36 | 0.86 | 0.41 |  | 0.99 | 0.41 | 0.78 |
| rs9700928 | C>A |  | 0.43 | 0.27 |  | 0.73 | 0.52 | 0.57 |  | 0.66 | 0.76 | 0.65 |
| rs3827723 | A>G |  | 0.36 | 0.23 |  | 0.43 | 0.41 | 0.88 |  | 0.29 | 0.33 | 0.82 |
| rs2857681 | C>G |  | 0.33 | 0.11 |  | 0.64 | 0.17 | 0.38 |  | 0.46 | 0.61 | 0.68 |
| rs2913861 | T>C |  | 0.20 | 0.07 |  | 0.47 | 0.43 | 0.38 |  | 0.92 | 0.43 | 0.68 |
| rs2297480 | G>T |  | 0.22 | 0.06 |  | 0.62 | 0.87 | 0.75 |  | 0.81 | 0.69 | 0.98 |
| rs3738037 | C>A |  | 0.08 | 0.06 |  | 0.89 | 0.74 | 0.99 |  | 0.91 | 0.83 | 0.87 |
| rs12434539 | A>G |  | 0.34 | 0.05 |  | 0.66 | 0.63 | 0.58 |  | 0.58 | 0.57 | 0.50 |
| rs10877028 | G>T |  | 0.18 | 0.97 |  | 0.13 | 0.33 | 0.30 |  | 0.17 | 0.44 | 0.32 |
| rs866484 | C>G |  | 0.28 | 0.81 |  | 0.25 | 0.44 | 0.23 |  | 0.35 | 0.43 | 0.29 |
| rs2913856 | A>G |  | 0.43 | 0.47 |  | 0.35 | 0.91 | 0.6 |  | 0.99 | 0.73 | 0.85 |
| rs7071351 | C>A |  | 0.47 | 0.45 |  | 0.45 | 0.58 | 0.42 |  | 0.99 | 0.31 | 0.54 |
| rs7648309 | G>A |  | 0.37 | 0.37 |  | 0.76 | 0.83 | 0.90 |  | 0.27 | 0.50 | 0.26 |
| rs284573 | C>G |  | 0.14 | 0.28 |  | 0.82 | 0.90 | 0.88 |  | 0.41 | 0.47 | 0.62 |
| rs7089806 | C>G |  | 0.15 | 0.17 |  | 0.81 | 0.75 | 0.76 |  | 0.59 | 0.88 | 0.71 |
| rs2072236 | C>T |  | 0.12 | 0.10 |  | 0.23 | - | 0.23 |  | 0.64 | - | 0.64 |
| rs7948073 | T>G |  | 0.24 | 0.08 |  | 0.15 | 0.42 | 0.16 |  | 0.59 | 0.25 | 0.38 |
| rs7926547 | C>G |  | 0.39 | 0.06 |  | 0.2 | 0.3 | 0.17 |  | 0.67 | 0.63 | 0.59 |
| rs17629719 | T>G |  | 0.19 | 0.98 |  | 0.77 | 0.07 | 0.44 |  | 0.48 | 0.53 | 0.42 |
| rs7117343 | C>G |  | 0.28 | 0.83 |  | 0.58 | 0.32 | 0.38 |  | 0.84 | 0.28 | 0.52 |
| rs12452627 | G>A |  | 0.15 | 0.82 |  | 0.88 | 0.28 | 0.66 |  | 0.56 | 0.72 | 0.67 |
| rs2712429 | C>A |  | 0.14 | 0.52 |  | 0.84 | 0.51 | 0.97 |  | 0.6 | 0.44 | 0.48 |
| rs549794 | A>G |  | 0.32 | 0.19 |  | 0.59 | 0.33 | 0.40 |  | 0.17 | 1.00 | 0.31 |
| rs2403279 | C>A |  | 0.36 | 0.17 |  | 0.18 | 0.83 | 0.27 |  | 0.21 | 0.70 | 0.27 |
| rs28407517 | C>T |  | 0.34 | 0.16 |  | 0.92 | 0.62 | 0.76 |  | 0.25 | 0.95 | 0.40 |
| rs1043968 | C>G |  | 0.18 | 0.12 |  | 0.35 | 0.46 | 0.69 |  | 0.88 | 0.84 | 0.96 |
| rs10876254 | A>G |  | 0.49 | 0.07 |  | 0.88 | 0.22 | 0.41 |  | 0.73 | 0.90 | 0.90 |
| rs7073334 | C>T |  | 0.16 | 0.07 |  | 0.79 | 0.81 | 0.76 |  | 0.61 | 0.8 | 0.76 |
| rs158366 | C>G |  | 0.36 | 0.98 |  | 0.67 | 0.18 | 0.70 |  | 0.89 | 0.38 | 0.73 |
| rs6502051 | A>C |  | 0.09 | 0.69 |  | 0.95 | 0.99 | 0.71 |  | 0.93 | 0.98 | 0.76 |
| rs1122731 | G>A |  | 0.20 | 0.59 |  | 0.74 | 0.99 | 0.98 |  | 0.45 | 0.99 | 0.26 |
| rs10149569 | A>C |  | 0.11 | 0.49 |  | 0.82 | 0.99 | 0.78 |  | 0.45 | 0.99 | 0.39 |
| rs10840108 | T>C |  | 0.35 | 0.45 |  | 0.36 | 0.13 | 0.15 |  | 0.40 | 0.32 | 0.28 |
| rs2272532 | A>G |  | 0.22 | 0.43 |  | 0.68 | 0.81 | 0.67 |  | 0.96 | 0.60 | 0.87 |
| rs13167616 | G>C |  | 0.13 | 0.29 |  | 0.97 | 0.71 | 0.87 |  | 0.40 | 0.41 | 0.69 |
| rs34291864 | G>T |  | 0.18 | 0.25 |  | 0.58 | 0.87 | 0.59 |  | 0.28 | 0.35 | 0.22 |
| rs10781517 | C>T |  | 0.14 | 0.24 |  | 0.33 | 0.31 | 0.67 |  | 0.41 | 0.50 | 0.65 |
| rs2240275 | G>A |  | 0.41 | 0.23 |  | 0.65 | 0.45 | 0.96 |  | 0.71 | 0.32 | 0.44 |
| rs2227562 | G>A |  | 0.34 | 0.17 |  | 0.68 | 0.47 | 0.52 |  | 0.12 | 0.16 | 0.07 |
| rs2071391 | A>G |  | 0.47 | 0.16 |  | 0.44 | 0.40 | 0.34 |  | 0.58 | 0.63 | 0.53 |
| rs2247322 | T>A |  | 0.35 | 0.15 |  | 0.94 | 0.68 | 0.80 |  | 0.50 | 0.53 | 0.43 |
| rs3750997 | A>C |  | 0.47 | 0.14 |  | 0.70 | 0.94 | 0.77 |  | 0.31 | 0.17 | 0.14 |
| rs12609068 | A>T |  | 0.28 | 0.11 |  | 0.84 | 0.46 | 0.63 |  | 0.93 | 0.26 | 0.58 |
| rs580808 | C>T |  | 0.17 | 0.08 |  | 0.18 | 0.98 | 0.1 |  | 0.53 | 0.18 | 0.3 |
| rs1976700 | G>C |  | 0.45 | 0.07 |  | 0.11 | 0.68 | 0.43 |  | 0.07 | 0.44 | 0.11 |
| rs3809112 | C>T |  | 0.30 | 0.06 |  | 0.13 | 0.72 | 0.22 |  | 0.3 | 0.33 | 0.23 |
| rs839763 | T>C |  | 0.14 | 0.05 |  | 0.85 | 0.64 | 0.99 |  | 0.47 | 0.44 | 0.8 |
| rs625750 | C>T |  | 0.37 | 0.84 |  | 0.39 | 0.88 | 0.58 |  | 0.16 | 0.50 | 0.51 |
| rs3827550 | C>G |  | 0.33 | 0.69 |  | 0.79 | 0.86 | 0.78 |  | 0.94 | 0.34 | 0.63 |
| rs2954657 | C>T |  | 0.28 | 0.67 |  | 0.27 | 0.69 | 0.29 |  | 0.41 | 0.32 | 0.81 |
| rs3849682 | G>A |  | 0.25 | 0.53 |  | 0.99 | 0.44 | 0.77 |  | 0.4 | 0.34 | 0.29 |
| rs4645943 | C>T |  | 0.28 | 0.51 |  | 0.53 | 0.38 | 0.38 |  | 0.75 | 0.88 | 0.75 |
| rs929953 | A>G |  | 0.35 | 0.34 |  | 0.76 | 0.32 | 0.78 |  | 0.30 | 0.31 | 0.22 |
| rs10747783 | C>T |  | 0.27 | 0.26 |  | 0.61 | 0.85 | 0.78 |  | 0.64 | 0.81 | 0.81 |
| rs1889532 | G>A |  | 0.14 | 0.25 |  | 0.47 | 0.42 | 0.69 |  | 0.55 | 1.00 | 0.60 |
| rs3757672 | T>C |  | 0.11 | 0.10 |  | 0.41 | 0.74 | 0.41 |  | 0.69 | 0.16 | 0.48 |
| rs629426 | A>G |  | 0.20 | 0.07 |  | 0.31 | 0.96 | 0.42 |  | 0.97 | 0.44 | 0.77 |
| rs4135159 | A>C |  | 0.42 | 0.06 |  | 0.12 | 0.27 | 0.10 |  | 0.78 | 0.28 | 0.44 |
| rs7366009 | A>G |  | 0.21 | 0.05 |  | 0.33 | 0.60 | 0.34 |  | 0.64 | 0.49 | 0.51 |
| rs1567583 | G>T |  | 0.08 | 0.93 |  | 0.13 | 0.99 | 0.57 |  | 0.44 | 0.99 | 0.95 |
| rs31726 | A>G |  | 0.43 | 0.91 |  | 0.31 | 0.44 | 0.28 |  | 0.11 | 0.90 | 0.34 |
| rs3741440 | C>T |  | 0.07 | 0.71 |  | 0.88 | 0.99 | 0.86 |  | 0.09 | 0.99 | 0.12 |
| rs2070912 | A>G |  | 0.13 | 0.63 |  | 0.88 | 0.99 | 1.00 |  | 0.84 | 0.38 | 0.74 |
| rs3803800 | G>A |  | 0.34 | 0.48 |  | 0.91 | 0.51 | 0.69 |  | 0.31 | 0.36 | 0.75 |
| rs1723285 | G>A |  | 0.14 | 0.47 |  | 0.29 | 0.99 | 0.23 |  | 0.37 | 0.79 | 0.37 |
| rs2291617 | G>T |  | 0.27 | 0.22 |  | 0.20 | 0.75 | 0.28 |  | 0.35 | 0.63 | 0.36 |
| rs2735784 | A>G |  | 0.43 | 0.88 |  | 0.79 | 0.90 | 0.80 |  | 0.37 | 0.84 | 0.48 |
| rs2273913 | T>C |  | 0.47 | 0.84 |  | 0.70 | 0.48 | 0.85 |  | 0.96 | 0.20 | 0.42 |
| rs1002193 | C>G |  | 0.34 | 0.84 |  | 0.41 | 0.22 | 0.21 |  | 0.13 | 0.28 | 0.10 |
| rs4148879 | G>A |  | 0.17 | 0.84 |  | 0.43 | 0.24 | 0.30 |  | 0.34 | 0.24 | 0.23 |
| rs3813570 | T>C |  | 0.48 | 0.79 |  | 0.93 | 0.11 | 0.29 |  | 0.54 | 0.49 | 0.96 |
| rs2295685 | G>A |  | 0.24 | 0.71 |  | 0.29 | 0.97 | 0.38 |  | 0.62 | 0.63 | 0.56 |
| rs228272 | T>C |  | 0.41 | 0.64 |  | 0.67 | 0.98 | 0.76 |  | 0.58 | 0.63 | 0.53 |
| rs1461496 | G>A |  | 0.45 | 0.53 |  | 0.69 | 0.12 | 0.26 |  | 0.96 | 0.13 | 0.37 |
| rs2079786 | T>G |  | 0.14 | 0.49 |  | 0.88 | 0.99 | 0.89 |  | 0.74 | 0.98 | 0.46 |
| rs2070876 | T>C |  | 0.48 | 0.48 |  | 0.51 | 0.52 | 0.97 |  | 0.31 | 0.67 | 0.38 |
| rs4735054 | G>T |  | 0.42 | 0.44 |  | 0.37 | 0.81 | 0.48 |  | 0.27 | 0.45 | 0.25 |
| rs10424568 | G>A |  | 0.28 | 0.27 |  | 0.17 | 0.73 | 0.37 |  | 0.21 | 0.6 | 0.24 |
| rs2845597 | G>A |  | 0.30 | 0.24 |  | 0.61 | 0.32 | 0.95 |  | 0.14 | 0.09 | 0.07 |
| rs3806515 | C>T |  | 0.13 | 0.08 |  | 0.31 | 0.41 | 0.25 |  | 0.25 | 0.95 | 0.34 |
| rs13169435 | C>T |  | 0.15 | 0.78 |  | 0.47 | 0.88 | 0.54 |  | 0.29 | 0.62 | 0.28 |
| rs3789039 | T>C |  | 0.26 | 0.71 |  | 0.47 | 0.39 | 0.88 |  | 0.13 | 0.26 | 0.55 |
| rs3809173 | G>T |  | 0.3 | 0.69 |  | 0.24 | 0.18 | 0.13 |  | 0.45 | 0.50 | 0.37 |
| rs12901682 | C>A |  | 0.10 | 0.57 |  | 0.56 | 0.75 | 0.55 |  | 0.74 | 0.74 | 0.81 |
| rs937215 | T>C |  | 0.19 | 0.87 |  | 0.47 | 0.58 | 0.42 |  | 0.74 | 0.75 | 0.70 |
| rs2930975 | C>G |  | 0.19 | 0.79 |  | 0.27 | 0.60 | 0.26 |  | 0.08 | 0.70 | 0.10 |
| rs17305311 | T>C |  | 0.38 | 0.58 |  | 0.67 | 0.54 | 1.00 |  | 0.93 | 0.66 | 0.88 |
| rs2284992 | G>T |  | 0.32 | 0.46 |  | 0.48 | 0.72 | 0.49 |  | 0.31 | 0.36 | 0.24 |
| rs17182246 | G>C |  | 0.35 | 0.42 |  | 0.35 | 0.35 | 0.88 |  | 0.42 | 0.09 | 0.75 |
| rs7935835 | G>A |  | 0.23 | 0.31 |  | 0.07 | 0.25 | 0.21 |  | 0.08 | 0.58 | 0.18 |
| rs3820312 | A>C |  | 0.37 | 0.06 |  | 0.54 | 0.56 | 0.90 |  | 0.75 | 0.93 | 0.86 |
| rs8003631 | T>C |  | 0.38 | 0.86 |  | 0.62 | 0.85 | 0.79 |  | 0.24 | 0.30 | 0.71 |
| rs3810288 | C>G |  | 0.30 | 0.68 |  | 0.80 | 0.55 | 0.65 |  | 0.16 | 0.59 | 0.18 |
| rs2424993 | C>G |  | 0.45 | 0.60 |  | 0.18 | 0.86 | 0.45 |  | 0.08 | 0.84 | 0.22 |
| rs1127155 | G>A |  | 0.38 | 0.39 |  | 0.38 | 0.30 | 0.25 |  | 0.95 | 0.49 | 0.69 |
| rs2286620 | T>C |  | 0.22 | 0.22 |  | 0.43 | 0.58 | 0.61 |  | 0.90 | 0.34 | 0.66 |
| rs2966449 | C>T |  | 0.22 | 0.11 |  | 0.47 | 0.69 | 0.71 |  | 0.43 | 0.75 | 0.45 |
| rs2012124 | C>T |  | 0.41 | 0.97 |  | 0.18 | 0.86 | 0.41 |  | 0.30 | 0.28 | 0.90 |
| rs10902227 | C>T |  | 0.36 | 0.73 |  | 0.52 | 0.93 | 0.62 |  | 0.05 | 0.51 | 0.09 |
| rs9427715 | T>G |  | 0.51 | 0.69 |  | 0.47 | 0.70 | 0.83 |  | 0.78 | 0.21 | 0.33 |
| rs534812 | A>G |  | 0.36 | 0.55 |  | 0.17 | 0.62 | 0.21 |  | 0.09 | 0.88 | 0.20 |
| rs1467110 | G>C |  | 0.42 | 0.30 |  | 0.18 | 0.12 | 0.07 |  | 0.90 | 0.52 | 0.66 |
| rs2303040 | T>C |  | 0.43 | 0.81 |  | 0.68 | 0.36 | 0.43 |  | 0.26 | 0.48 | 0.24 |
| rs800351 | T>C |  | 0.45 | 0.70 |  | 0.71 | 0.89 | 0.88 |  | 0.92 | 0.61 | 0.72 |
| rs7132224 | A>G |  | 0.52 | 0.42 |  | 0.37 | 0.37 | 0.27 |  | 0.83 | 0.14 | 0.29 |
| rs3740883 | C>T |  | 0.17 | 0.10 |  | 0.93 | 0.21 | 0.62 |  | 0.56 | 0.33 | 0.40 |
| rs36615 | G>A |  | 0.30 | 1.00 |  | 0.03 | 0.72 | 0.11 |  | 0.21 | 0.74 | 0.25 |
| rs9981301 | G>C |  | 0.50 | 0.94 |  | 0.64 | 0.71 | 0.94 |  | 0.56 | 0.59 | 0.99 |
| rs1871043 | T>C |  | 0.21 | 0.51 |  | 0.04 | 0.86 | 0.10 |  | 0.30 | 0.36 | 0.24 |
| rs12485058 | A>G | 　 | 0.24 | 0.19 | 　 | 0.56 | 0.93 | 0.64 | 　 | 0.91 | 0.53 | 0.91 |
| Abbreviations: MAF, minor allele frequency; HWE-*P*, P for Hardy-Weinberg equilibrium test.a P-values were calculated using multivariate Cox proportional hazard models, adjusted for age, sex, smoking status, pathologic stage, and adjuvant therapy. |

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| Supplementary Table 3. Summary of 45 SNPs analyzed in the validation studies. |
|  |  |  |  | Validation cohort (n=238) |
|  |  |  |  | Overall survival, *P-value* a |  | Disease-free survival, *P-value* a |
| Polymorphism | Alleles | 　 | MAFb | Dominant | Recessive | Codominant | 　 | Dominant | Recessive | Codominant |
| rs17583 | C>T |  | 0.33 | 0.02 | 0.27 | 0.02 |  | 0.03 | 0.01 | 0.004 |
| rs4751162 | A>G |  | 0.18 | 0.91 | 0.38 | 0.78 |  | 0.07 | 0.01 | 0.01 |
| rs6688000 | G>A |  | 0.15 | 0.23 | 0.01 | 0.08 |  | 0.59 | 0.48 | 0.74 |
| rs1529959 | G>A |  | 0.47 | 0.26 | 0.69 | 0.63 |  | 0.73 | 0.78 | 0.70 |
| rs2601006 | C>T |  | 0.21 | 0.18 | 0.33 | 0.36 |  | 0.51 | 0.18 | 0.83 |
| rs757228 | G>A |  | 0.36 | 0.34 | 0.37 | 0.25 |  | 0.16 | 0.08 | 0.06 |
| rs11188272 | G>C |  | 0.37 | 0.48 | 0.92 | 0.57 |  | 0.06 | 0.21 | 0.47 |
| rs4669 | T>C |  | 0.42 | 0.98 | 0.27 | 0.50 |  | 0.96 | 0.29 | 0.57 |
| rs6049283 | A>C |  | 0.20 | 0.70 | 0.21 | 0.97 |  | 0.76 | 0.65 | 0.68 |
| rs1205366 | C>T |  | 0.19 | 0.19 | 0.99 | 0.11 |  | 0.59 | 0.40 | 0.46 |
| rs17528989 | G>A |  | 0.15 | 0.13 | 0.75 | 0.17 |  | 0.37 | 0.29 | 0.26 |
| rs2425047 | A>C |  | 0.15 | 0.30 | 0.99 | 0.26 |  | 0.76 | 0.75 | 0.71 |
| rs1136267 | C>A |  | 0.24 | 0.92 | 0.90 | 0.96 |  | 0.96 | 0.15 | 0.60 |
| rs1803956 | T>C |  | 0.42 | 0.91 | 0.65 | 0.74 |  | 0.65 | 0.14 | 0.61 |
| rs34087264 | C>T |  | 0.46 | 0.85 | 0.78 | 0.78 |  | 0.88 | 0.90 | 0.98 |
| rs3896021 | G>T |  | 0.45 | 0.57 | 0.79 | 0.83 |  | 0.40 | 0.37 | 0.28 |
| rs13817 | G>A |  | 0.35 | 0.67 | 0.14 | 0.63 |  | 0.33 | 0.71 | 0.36 |
| rs2234216 | T>C |  | 0.30 | 0.33 | 0.36 | 0.77 |  | 0.48 | 0.89 | 0.65 |
| rs6547618 | G>A |  | 0.35 | 0.38 | 0.89 | 0.52 |  | 0.41 | 0.47 | 0.77 |
| rs8316 | T>C |  | 0.10 | 0.94 | 0.74 | 0.86 |  | 0.37 | 0.01 | 0.12 |
| rs6601178 | G>A |  | 0.43 | 0.20 | 0.62 | 0.55 |  | 0.73 | 0.12 | 0.54 |
| rs2983641 | C>T |  | 0.21 | 0.10 | 0.29 | 0.09 |  | 0.07 | 0.19 | 0.05 |
| rs2270625 | C>G |  | 0.25 | 0.96 | 0.34 | 0.70 |  | 0.31 | 0.39 | 0.24 |
| rs17122154 | A>G |  | 0.46 | 0.55 | 0.01 | 0.07 |  | 0.63 | 0.86 | 0.67 |
| rs2548551 | T>G |  | 0.09 | 0.51 | 0.99 | 0.50 |  | 0.42 | 0.50 | 0.52 |
| rs10139029 | A>G |  | 0.17 | 0.90 | 0.80 | 0.86 |  | 0.84 | 0.84 | 0.81 |
| rs665306 | T>C |  | 0.35 | 0.54 | 0.16 | 0.79 |  | 0.29 | 0.74 | 0.34 |
| rs1010222 | G>A |  | 0.17 | 0.72 | 0.99 | 0.34 |  | 0.57 | 0.43 | 0.45 |
| rs2271446 | C>T |  | 0.29 | 0.72 | 0.41 | 0.91 |  | 0.63 | 0.51 | 0.95 |
| rs3825625 | C>T |  | 0.14 | 0.25 | 0.99 | 0.30 |  | 0.95 | 0.72 | 0.90 |
| rs7513326 | G>A |  | 0.44 | 0.69 | 0.59 | 0.56 |  | 0.63 | 0.08 | 0.20 |
| rs772254 | C>T |  | 0.18 | 0.43 | 0.99 | 0.31 |  | 0.11 | 0.62 | 0.19 |
| rs11668444 | G>T |  | 0.17 | 0.87 | 0.48 | 0.75 |  | 0.06 | 0.03 | 0.24 |
| rs1279738 | C>G |  | 0.39 | 0.97 | 0.14 | 0.43 |  | 0.28 | 0.16 | 0.95 |
| rs2075588 | A>C |  | 0.32 | 0.14 | 0.22 | 0.08 |  | 0.07 | 0.15 | 0.04 |
| rs3806192 | G>C |  | 0.18 | 0.97 | 0.42 | 0.82 |  | 0.23 | 0.88 | 0.31 |
| rs843346 | C>T |  | 0.34 | 0.76 | 0.49 | 0.90 |  | 0.95 | 0.82 | 0.88 |
| rs1242095 | A>C |  | 0.42 | 0.87 | 0.84 | 0.83 |  | 0.59 | 0.42 | 0.42 |
| rs2292807 | T>C |  | 0.43 | 0.99 | 0.71 | 0.83 |  | 0.01 | 0.22 | 0.02 |
| rs6032541 | A>G |  | 0.44 | 0.02 | 0.55 | 0.06 |  | 0.06 | 0.07 | 0.02 |
| rs6679 | T>C |  | 0.47 | 0.07 | 0.17 | 0.77 |  | 0.66 | 0.47 | 0.88 |
| rs11809443 | T>C |  | 0.20 | 0.89 | 0.15 | 0.59 |  | 0.84 | 0.31 | 0.65 |
| rs2271541 | T>G |  | 0.46 | 0.91 | 0.32 | 0.53 |  | 0.10 | 0.28 | 0.08 |
| rs3813521 | C>T |  | 0.29 | 0.15 | 0.18 | 0.08 |  | 0.77 | 0.71 | 0.70 |
| rs7897156 | C>T |  | 0.30 | 0.96 | 0.69 | 0.83 |  | 0.73 | 0.27 | 0.89 |
| a*P*-values were calculated using multivariate Cox proportional hazard models, adjusted for age, gender, smoking status, tumor histology, pathologic stage and adjuvant therapy. |
| bMinor Allele Frequency. |