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| Supplemental Table 1. Summary of angiogenesis-related genes |  |
|  |  | **Chromosome** | **Major/Minor** | **MAF** |  | **FDR HWE P** |
| **Gene** | **Aliases** | **Location** | **dbSNP ID** | **Allele** | **NHW** | **HISP/NA** | **NHW** | **HISP/NA** |
| *DDIT4*  | *Dig2, FLJ20500,* | 10pter-q26.12  | rs4747241  | C/T  | 0.38 | 0.54 | 0.96 | 0.14 |
|  | *REDD-1, REDD1* |  |  |  |  |  |  |
|  | *RP11-442H21.1* |  |  |  |  |  |  |
|  | *RTP81* |  |  |  |  |  |  |  |
| *FLT1*  | *FLT, VEGFR1*  | 13q12  | rs2296189  | A/G  | 0.19 | 0.12 | 0.96 | 0.14 |
|  |  |   | rs9554314  | A/C  | 0.10 | 0.06 | 0.96 | 0.76 |
|  |  |   | rs12429309  | T/C  | 0.20 | 0.41 | 0.88 | 0.15 |
|  |  |   | rs9513070  | A/G  | 0.39 | 0.29 | 0.96 | 0.94 |
|  |  |   | rs9582036  | A/C  | 0.28 | 0.19 | 0.96 | 0.42 |
|  |  |   | rs9554320  | C/A  | 0.42 | 0.25 | 0.96 | 0.03 |
|  |  |   | rs9319425  | T/C  | 0.46 | 0.46 | 0.99 | 0.39 |
|  |  |   | rs2296188  | C/T  | 0.14 | 0.18 | 0.96 | 0.73 |
|  |  |   | rs7987291  | A/G  | 0.20 | 0.13 | 0.62 | 0.71 |
|  |  |   | rs7987649  | A/G  | 0.33 | 0.34 | 0.96 | 0.95 |
|  |  |   | rs942364  | G/A  | 0.11 | 0.07 | 0.57 | 0.86 |
|  |  |   | rs3794400  | C/T  | 0.16 | 0.32 | 0.68 | 0.34 |
|  |  |   | rs1408245  | C/G  | 0.17 | 0.09 | 0.99 | 0.75 |
|  |  |   | rs2387632  | C/T  | 0.33 | 0.40 | 0.93 | 0.09 |
|  |  |   | rs3936415  | G/A  | 0.30 | 0.38 | 0.97 | 0.14 |
|  |  |   | rs9513085  | T/C  | 0.18 | 0.12 | 0.86 | 0.98 |
|  |  |   | rs1324057  | C/T  | 0.29 | 0.40 | 0.96 | 0.56 |
|  |  |   | rs7324547  | G/A  | 0.22 | 0.36 | 0.86 | 0.32 |
|  |  |   | rs17086609  | A/G  | 0.33 | 0.32 | 1.00 | 0.72 |
|  |  |   | rs9513088  | A/G  | 0.35 | 0.42 | 0.93 | 0.70 |
|  |  |   | rs7995976  | C/A  | 0.25 | 0.16 | 0.93 | 0.73 |
|  |  |   | rs3751395  | A/C  | 0.55 | 0.29 | 0.90 | 0.15 |
|  |  |   | rs3751397  | A/T  | 0.47 | 0.49 | 0.78 | 0.52 |
|  |  |   | rs7337610  | C/T  | 0.40 | 0.49 | 0.96 | 0.81 |
|  |  |   | rs2296283  | C/T  | 0.53 | 0.46 | 0.98 | 0.87 |
|  |  |   | rs9513095  | T/C  | 0.32 | 0.19 | 0.93 | 0.51 |
|  |  |   | rs17537653  | G/A  | 0.15 | 0.32 | 0.96 | 0.78 |
|  |  |   | rs11149523  | G/A  | 0.34 | 0.25 | 1.00 | 0.94 |
|  |  |   | rs9551471  | A/G  | 0.31 | 0.26 | 0.98 | 0.75 |
|  |  |   | rs2296285  | A/T  | 0.34 | 0.21 | 0.96 | 0.62 |
|  |  |   | rs4771249  | C/G  | 0.22 | 0.25 | 0.98 | 0.85 |
|  |  |   | rs2256849  | A/G  | 0.14 | 0.31 | 0.89 | 0.87 |
|  |  |   | rs12858139  | C/A  | 0.44 | 0.50 | 0.96 | 0.83 |
|  |  |   | rs600640  | T/C  | 0.36 | 0.34 | 0.93 | 0.97 |
|  |  |   | rs678714  | T/A  | 0.10 | 0.09 | 0.89 | 0.98 |
| *HIF1A*  | *HIF-1alpha,*  | 14q21-q24  | rs1951795  | C/A  | 0.18 | 0.16 | 0.82 | 0.29 |
|  | *HIF1* |   | rs2301113  | A/C  | 0.23 | 0.21 | 0.96 | 0.50 |
|  | *MOP1* |   | rs11549465  | C/T  | 0.10 | 0.07 | 0.93 | 0.97 |
|  | *PASD8* |   | rs6573399  | G/T  | 0.14 | 0.11 | 0.92 | 0.91 |
| *KDR*  | *CD309,* | 4q11-q12  | rs2305948  | C/T  | 0.10 | 0.07 | 0.86 | 0.99 |
|  | *FLK1* |   | rs2219471  | A/G  | 0.24 | 0.13 | 0.86 | 0.61 |
|  | *VEGFR* |   | rs11732292  | A/C  | 0.36 | 0.54 | 0.97 | 0.01 |
|  | *VEGFR2* |   | rs12498529  | A/T  | 0.18 | 0.19 | 0.98 | 0.57 |
|  |  |   | rs6828477  | T/C  | 0.40 | 0.33 | 0.96 | 0.24 |
|  |  |   | rs2125489  | C/T  | 0.12 | 0.06 | 0.98 | 0.59 |
|  |  |   | rs17709898  | A/G  | 0.36 | 0.19 | 0.96 | 0.54 |
|  |  |   | rs7692791  | C/T  | 0.54 | 0.41 | 0.96 | 0.91 |
|  |  |   | rs2071559  | T/C  | 0.50 | 0.33 | 0.96 | 0.95 |
|  |  |   | rs12642307  | T/C  | 0.27 | 0.24 | 0.97 | 0.89 |
|  |  |   | rs1531289  | G/A  | 0.28 | 0.26 | 0.89 | 0.58 |
|  |  |   | rs12505758  | T/C  | 0.11 | 0.16 | 1.00 | 0.94 |
|  |  |   | rs2034965  | G/A  | 0.26 | 0.26 | 0.97 | 0.52 |
|  |  |   | rs11941492  | C/T  | 0.22 | 0.25 | 0.98 | 0.45 |
|  |  |   | rs10020464  | C/T  | 0.30 | 0.28 | 0.82 | 0.98 |
|  |  |   | rs2305949  | C/T  | 0.21 | 0.11 | 0.97 | 0.59 |
|  |  |   | rs6837735  | C/T  | 0.18 | 0.22 | 0.97 | 0.75 |
|  |  |   | rs1531290  | A/G  | 0.49 | 0.30 | 0.93 | 0.11 |
|  |  |   | rs12502008  | G/T  | 0.37 | 0.54 | 0.96 | 0.32 |
| *NOS2A*  | *HEP-NOS,*  | 17q11.2-q12  | rs7406657  | G/C  | 0.25 | 0.32 | 1.00 | 0.82 |
|  | *INOS* |   | rs9906835  | A/G  | 0.41 | 0.45 | 0.93 | 0.41 |
|  | *NOS* |   | rs2297516  | A/C  | 0.40 | 0.40 | 0.96 | 0.46 |
|  | *NOS2* |   | rs2297518  | G/A  | 0.19 | 0.14 | 0.96 | 0.83 |
|  |  |   | rs2274894  | G/T  | 0.40 | 0.38 | 0.99 | 0.91 |
|  |  |   | rs2248814  | G/A  | 0.40 | 0.38 | 0.98 | 0.83 |
|  |  |   | rs4795067  | A/G  | 0.34 | 0.31 | 0.99 | 0.45 |
|  |  |   | rs3729508  | G/A  | 0.41 | 0.30 | 0.89 | 0.09 |
|  |  |   | rs944725  | C/T  | 0.41 | 0.40 | 0.96 | 0.30 |
|  |  |   | rs3794763  | G/A  | 0.23 | 0.31 | 0.89 | 0.59 |
|  |  |   | rs8072199  | C/T  | 0.45 | 0.24 | 0.99 | 0.06 |
|  |  |   | rs16949  | T/C  | 0.24 | 0.15 | 0.96 | 0.59 |
|  |  |   | rs3730013  | C/T  | 0.33 | 0.45 | 0.96 | 0.01 |
|  |  |   | rs10459953  | G/C  | 0.36 | 0.28 | 0.97 | 0.86 |
|  |  |   | rs2779248  | T/C  | 0.40 | 0.32 | 0.96 | 0.86 |
| *TEK*  | *CD202B,* | 9p21  | rs4242698  | A/C  | 0.32 | 0.37 | 0.98 | 0.26 |
|  | *TIE-2, TIE2* |   | rs7871178  | G/A  | 0.46 | 0.48 | 0.54 | 0.97 |
|  | *VMCM* |   | rs10967750  | T/C  | 0.33 | 0.40 | 0.96 | 0.52 |
|  | *VMCM1* |   | rs3818283  | C/T  | 0.21 | 0.21 | 0.97 | 0.72 |
|  |  |   | rs669102  | G/A  | 0.40 | 0.51 | 0.96 | 0.98 |
|  |  |   | rs7027647  | A/G  | 0.24 | 0.40 | 0.84 | 0.73 |
|  |  |   | rs686256  | G/A  | 0.45 | 0.45 | 0.96 | 0.52 |
|  |  |   | rs633903  | A/C  | 0.24 | 0.11 | 0.98 | 0.11 |
|  |  |   | rs2152067  | A/C  | 0.19 | 0.20 | 0.96 | 0.52 |
|  |  |   | rs10738763  | T/C  | 0.22 | 0.30 | 0.23 | 0.97 |
|  |  |   | rs514643  | C/T  | 0.22 | 0.21 | 0.96 | 0.42 |
|  |  |   | rs2273715  | A/G  | 0.15 | 0.12 | 0.96 | 0.68 |
|  |  |   | rs12350649  | A/T  | 0.13 | 0.29 | 0.94 | 0.24 |
|  |  |   | rs652010  | C/T  | 0.15 | 0.16 | 0.96 | 0.82 |
|  |  |   | rs511586  | T/G  | 0.23 | 0.20 | 0.97 | 0.75 |
|  |  |   | rs1178258  | A/T  | 0.11 | 0.05 | 0.96 | 0.64 |
|  |  |   | rs17834811  | T/G  | 0.30 | 0.24 | 0.62 | 0.51 |
|  |  |   | rs622232  | C/T  | 0.43 | 0.34 | 0.96 | 0.79 |
|  |  |   | rs10967740  | G/A  | 0.28 | 0.18 | 0.57 | 0.97 |
|  |  |   | rs664461  | T/C  | 0.43 | 0.52 | 0.96 | 0.45 |
|  |  |   | rs12552228  | C/T  | 0.13 | 0.16 | 0.97 | 0.79 |
|  |  |   | rs586441  | A/G  | 0.13 | 0.11 | 0.96 | 0.77 |
|  |  |   | rs7042119  | C/T  | 0.24 | 0.16 | 0.89 | 0.75 |
|  |  |   | rs2077317  | C/G  | 0.15 | 0.27 | 0.96 | 0.95 |
|  |  |   | rs1413825  | G/A  | 0.36 | 0.24 | 1.00 | 0.19 |
|  |  |   | rs10967753  | T/C  | 0.49 | 0.40 | 0.96 | 0.92 |
|  |  |   | rs3824410  | C/A  | 0.21 | 0.22 | 1.00 | 0.41 |
|  |  |   | rs666478  | A/G  | 0.48 | 0.43 | 0.96 | 0.71 |
|  |  |   | rs7047856  | A/G  | 0.34 | 0.32 | 0.70 | 0.79 |
|  |  |   | rs581724  | A/C  | 0.56 | 0.45 | 0.96 | 0.93 |
|  |  |   | rs3780317  | G/A  | 0.16 | 0.13 | 0.72 | 0.88 |
|  |  |   | rs2224529  | T/C  | 0.36 | 0.47 | 0.98 | 0.43 |
|  |  |   | rs4879250  | C/T  | 0.29 | 0.50 | 0.96 | 0.74 |
|  |  |   | rs3737188  | A/G  | 0.23 | 0.16 | 0.96 | 0.62 |
|  |  |   | rs3737187  | G/A  | 0.37 | 0.41 | 0.96 | 0.15 |
|  |  |   | rs534129  | A/G  | 0.40 | 0.46 | 0.96 | 0.93 |
|  |  |   | rs617333  | G/T  | 0.14 | 0.18 | 0.96 | 0.94 |
|  |  |   | rs7024846  | T/G  | 0.55 | 0.43 | 0.96 | 0.70 |
|  |  |   | rs10812540  | G/A  | 0.07 | 0.25 | 0.96 | 0.32 |
|  |  |   | rs1555454  | A/G  | 0.19 | 0.17 | 0.86 | 0.62 |
| *VEGFA*  | *MGC70609*  | 6p12  | rs25648  | C/T  | 0.16 | 0.17 | 0.96 | 0.58 |
|  | *VEGF* |   | rs833070  | G/A  | 0.50 | 0.41 | 0.98 | 0.88 |
|  | *VEGF-A* |   | rs2146323  | C/A  | 0.35 | 0.35 | 0.96 | 0.73 |
|  | *VPF* |   | rs3025010  | T/C  | 0.37 | 0.37 | 0.97 | 0.25 |
|   |   |   | rs3025030  | G/C  | 0.15 | 0.26 | 1.00 | 0.06 |
|   |   |   | rs3025033  | A/G  | 0.17 | 0.29 | 0.99 | 0.32 |
|   |   |   | rs3025039  | C/T  | 0.15 | 0.26 | 0.99 | 0.04 |
|   |   |   | rs3025040  | C/T  | 0.15 | 0.26 | 1.00 | 0.04 |

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| Supplemental Table 2. Associations between *FLT1* and breast cancer risk by genetic admixture with significant SNPs but not-significant overall as determined by ARTP |
|  |  | Everyone | 0 - 28% Native American Ancestry | 29 - 70% Native American Ancestry | 71 - 100% Native American Ancestry |
|   |   | Controls | Cases | OR | (95% CI) | Controls | Cases | OR | (95% CI) | Controls | Cases | OR | (95% CI) | Controls | Cases | OR | (95% CI) |
| *FLT1* PARTP |  |  |  | 0.40 |  |  |  |  | 0.18 |  |  |  |  | 0.52 |  |  |  |  | 0.17 |  |
|  (rs9582036) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | AA/AC | 3914 | 3388 | 1.00 |  |  | 1684 | 1612 | 1.00 |  |  | 1602 | 1340 | 1.00 |  |  | 628 | 436 | 1.00 |  |  |
|  | CC | 235 | 179 | 0.82 | (0.67, | 1.00) | 157 | 129 | 0.84 | (0.66, | 1.07) | 77 | 49 | 0.74 | (0.51, | 1.07) | 1 | 1 | 1.26 | (0.08, | 20.73) |
|  (rs9554320) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | CC/CA | 3681 | 3189 | 1.00 |  |  | 1508 | 1475 | 1.00 |  |  | 1548 | 1280 | 1.00 |  |  | 625 | 434 | 1.00 |  |  |
|  | AA | 469 | 380 | 0.85 | (0.73, | 0.99) | 334 | 267 | 0.80 | (0.67, | 0.96) | 131 | 110 | 0.98 | (0.75, | 1.29) | 4 | 3 | 0.95 | (0.20, | 4.59) |
|  (rs9319425) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | TT | 1144 | 917 | 1.00 |  |  | 526 | 494 | 1.00 |  |  | 462 | 310 | 1.00 |  |  | 156 | 113 | 1.00 |  |  |
|  | TC/CC | 2708 | 2289 | 1.06 | (0.96, | 1.18) | 1235 | 1146 | 0.99 | (0.85, | 1.15) | 1036 | 855 | 1.25 | (1.05, | 1.49) | 437 | 288 | 0.91 | (0.68, | 1.22) |
|  (rs3936415) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | GG/GA | 3605 | 3173 | 1.00 |  |  | 1663 | 1586 | 1.00 |  |  | 1432 | 1223 | 1.00 |  |  | 510 | 364 | 1.00 |  |  |
|  | AA | 545 | 396 | 0.85 | (0.74, | 0.98) | 179 | 156 | 0.91 | (0.72, | 1.14) | 247 | 167 | 0.81 | (0.66, | 1.01) | 119 | 73 | 0.86 | (0.62, | 1.19) |
|  (rs2296283) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | CC/CT | 3146 | 2660 | 1.00 |  |  | 1333 | 1234 | 1.00 |  |  | 1313 | 1054 | 1.00 |  |  | 500 | 372 | 1.00 |  |  |
|  | TT | 997 | 904 | 1.05 | (0.94, | 1.16) | 507 | 504 | 1.08 | (0.93, | 1.25) | 363 | 335 | 1.14 | (0.96, | 1.35) | 127 | 65 | 0.68 | (0.49, | 0.95) |
|  (rs4771249) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | CC/CG | 3908 | 3365 | 1.00 |  |  | 1753 | 1659 | 1.00 |  |  | 1572 | 1284 | 1.00 |  |  | 583 | 422 | 1.00 |  |  |
|  | GG | 242 | 203 | 1.00 | (0.83, | 1.22) | 89 | 82 | 0.97 | (0.71, | 1.33) | 107 | 106 | 1.25 | (0.94, | 1.65) | 46 | 15 | 0.47 | (0.26, | 0.87) |
|  (rs2256849) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | AA/AG | 3871 | 3378 | 1.00 |  |  | 1791 | 1716 | 1.00 |  |  | 1557 | 1291 | 1.00 |  |  | 523 | 371 | 1.00 |  |  |
|  | GG | 279 | 191 | 0.85 | (0.70, | 1.04) | 51 | 26 | 0.54 | (0.33, | 0.87) | 122 | 99 | 1.01 | (0.76, | 1.34) | 106 | 66 | 0.91 | (0.64, | 1.28) |

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|  |  |  |  |  |  |  |  |  |  |  |  |
|   |   | Controls | ER + / PR + | ER + / PR - | ER - / PR + | ER - / PR - |
|   |   | N | N | OR | (95% CI) | N | OR | (95% CI) | N | OR | (95% CI) | N | OR | (95% CI) |
| *FLT1* PARTP: |  |  |  |  | 0.50 |  |  |  | 0.17 |  |  |  | 0.22 |  |  | 0.17 |
|  (rs2296189) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | AA | 2220 | 874 | 1.00 |  |  | 165 | 1.00 |  |  | 31 | 1.00 |  |  | 319 | 1.00 |  |  |  |
|  | AG/GG | 944 | 422 | 1.09 | (0.95, | 1.26) | 70 | 0.96 | (0.71, | 1.29) | 12 | 0.95 | (0.48, | 1.87) | 96 | 0.71 | (0.56, | 0.91) |
|  (rs9513070) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | AA | 1318 | 528 | 1.00 |  |  | 77 | 1.00 |  |  | 13 | 1.00 |  |  | 172 | 1.00 |  |  |  |
|  | AG | 1431 | 574 | 0.97 | (0.84, | 1.12) | 117 | 1.37 | (1.02, | 1.85) | 22 | 1.65 | (0.82, | 3.30) | 183 | 0.99 | (0.80, | 1.24) |
|  | GG | 416 | 196 | 1.11 | (0.91, | 1.36) | 41 | 1.61 | (1.08, | 2.40) | 8 | 2.10 | (0.85, | 5.18) | 60 | 1.12 | (0.81, | 1.54) |
|  (rs3794400) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | CC | 1910 | 758 | 1.00 |  |  | 153 | 1.00 |  |  | 17 | 1.00 |  |  | 256 | 1.00 |  |  |  |
|  | CT/TT | 1255 | 540 | 1.15 | (1.00, | 1.31) | 82 | 0.83 | (0.62, | 1.10) | 26 | 2.29 | (1.22, | 4.30) | 159 | 0.93 | (0.75, | 1.16) |

Adjusted for age, study, reference year BMI, parity, and genetic admixture.