

(A) Breast Tissue Expression

Gene	Location ^a	# SNPs in Prediction	Imputation Quality ^b	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
				Beta (SE)	<i>p</i> -value	Beta (SE)	<i>p</i> -value	Beta (SE)	<i>p</i> -value
<i>RCCD1</i>	15q26.1	24	0.16	-0.11 (0.038)	5.8x10 ⁻⁰³	-0.24 (0.057)	2.6x10 ⁻⁰⁵	-0.15 (0.032)	3.6x10 ⁻⁰⁶
<i>DHODH</i>	16q22.2	7	0.026	-0.52 (0.12)	2.4x10 ⁻⁰⁵	-0.29 (0.15)	5.6x10 ⁻⁰²	-0.43 (0.095)	7.1x10 ⁻⁰⁶
<i>ANKLE1</i>	19p13.11	6	0.081	0.19 (0.093)	4.4x10 ⁻⁰²	0.43 (0.12)	1.9x10 ⁻⁰⁴	0.28 (0.072)	9.3x10 ⁻⁰⁵
<i>CASP8</i>	2q33.1	12	0.24	-0.16 (0.042)	1.9x10 ⁻⁰⁴	-0.069 (0.058)	2.3x10 ⁻⁰¹	-0.13 (0.034)	1.9x10 ⁻⁰⁴
<i>ZNF155</i>	19q13.31	41	0.11	0.15 (0.055)	7.6x10 ⁻⁰³	0.13 (0.069)	5.1x10 ⁻⁰²	0.14 (0.043)	9.5x10 ⁻⁰⁴
<i>SLC27A2</i>	15q21.2	43	0.063	0.15 (0.050)	2.2x10 ⁻⁰³	0.080 (0.056)	1.5x10 ⁻⁰¹	0.12 (0.037)	1.2x10 ⁻⁰³
<i>TSNARE1</i>	8q24.3	26	0.14	0.12 (0.037)	1.2x10 ⁻⁰³	0.044 (0.058)	4.5x10 ⁻⁰¹	0.098 (0.031)	1.6x10 ⁻⁰³
<i>XRCC2</i>	7q36.1	8	0.11	0.24 (0.084)	4.3x10 ⁻⁰³	0.14 (0.088)	1.2x10 ⁻⁰¹	0.19 (0.061)	1.7x10 ⁻⁰³
<i>DDX43</i>	6q13	40	0.023	-0.17 (0.049)	4.5x10 ⁻⁰⁴	0.010 (0.10)	9.2x10 ⁻⁰¹	-0.14 (0.044)	1.8x10 ⁻⁰³
<i>WDSUB1</i>	2q24.2	10	0.1	0.16 (0.067)	1.7x10 ⁻⁰²	0.15 (0.080)	5.8x10 ⁻⁰²	0.16 (0.052)	2.4x10 ⁻⁰³
<i>SV2A</i>	1q21.2	4	0.022	-1.2 (0.37)	1.7x10 ⁻⁰³	-0.38 (0.58)	5.1x10 ⁻⁰¹	-0.94 (0.31)	2.7x10 ⁻⁰³
<i>ZNF83</i>	19q13.41	43	0.39	0.079 (0.027)	3.6x10 ⁻⁰³	0.038 (0.038)	3.2x10 ⁻⁰¹	0.065 (0.022)	3.2x10 ⁻⁰³
<i>RABGEF1</i>	7q11.21	37	0.16	-0.11 (0.043)	1.3x10 ⁻⁰²	-0.093 (0.058)	1.1x10 ⁻⁰¹	-0.1 (0.035)	3.2x10 ⁻⁰³
<i>CAMTA2</i>	17p13.2	17	0.022	-0.34 (0.10)	5.5x10 ⁻⁰⁴	-0.046 (0.12)	7.1x10 ⁻⁰¹	-0.23 (0.077)	3.5x10 ⁻⁰³
<i>STRC</i>	15q15.3	18	0.06	-0.24 (0.086)	4.7x10 ⁻⁰³	-0.11 (0.095)	2.4x10 ⁻⁰¹	-0.18 (0.064)	3.9x10 ⁻⁰³
<i>SMAD9</i>	13q13.3	5	0.037	-0.24 (0.098)	1.3x10 ⁻⁰²	-0.2 (0.14)	1.5x10 ⁻⁰¹	-0.23 (0.080)	4.2x10 ⁻⁰³
<i>DCAF4</i>	14q24.2	12	0.19	0.11 (0.049)	2.2x10 ⁻⁰²	0.10 (0.061)	9.0x10 ⁻⁰²	0.11 (0.038)	4.4x10 ⁻⁰³
<i>GYPE</i>	4q31.21	34	0.036	0.20 (0.065)	2.6x10 ⁻⁰³	0.063 (0.084)	4.5x10 ⁻⁰¹	0.15 (0.051)	4.5x10 ⁻⁰³
<i>JAKMIP3</i>	10q26.3	89	0.065	-0.068 (0.031)	3.1x10 ⁻⁰²	-0.078 (0.042)	6.3x10 ⁻⁰²	-0.071 (0.025)	4.5x10 ⁻⁰³
<i>SCARF1</i>	17p13.3	53	0.12	-0.11 (0.048)	1.8x10 ⁻⁰²	-0.091 (0.059)	1.2x10 ⁻⁰¹	-0.1 (0.037)	4.9x10 ⁻⁰³
<i>XCL2</i>	1q24.2	18	0.056	-0.24 (0.10)	1.4x10 ⁻⁰²	-0.16 (0.11)	1.4x10 ⁻⁰¹	-0.21 (0.073)	5.2x10 ⁻⁰³
<i>SDPR</i>	2q32.3	9	0.024	-0.28 (0.11)	1.6x10 ⁻⁰²	-0.2 (0.13)	1.4x10 ⁻⁰¹	-0.24 (0.087)	5.2x10 ⁻⁰³
<i>DVL1</i>	1p36.33	26	0.019	0.17 (0.068)	1.1x10 ⁻⁰²	0.11 (0.086)	2.2x10 ⁻⁰¹	0.15 (0.053)	5.7x10 ⁻⁰³
<i>SMDT1</i>	22q13.2	22	0.61	-0.051 (0.022)	2.2x10 ⁻⁰²	-0.043 (0.028)	1.2x10 ⁻⁰¹	-0.048 (0.017)	5.7x10 ⁻⁰³

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>ZNF181</i>	19q13.11	9	0.23	-0.11 (0.040)	4.8x10 ⁻⁰³	-0.045 (0.053)	4.0x10 ⁻⁰¹	-0.088 (0.032)	5.8x10 ⁻⁰³
<i>P2RY11</i>	19p13.2	7	0.049	0.21 (0.074)	4.0x10 ⁻⁰³	0.067 (0.12)	5.6x10 ⁻⁰¹	0.17 (0.062)	6.1x10 ⁻⁰³
<i>PIK3C3</i>	18q12.3	28	0.028	-0.13 (0.057)	2.3x10 ⁻⁰²	-0.14 (0.092)	1.3x10 ⁻⁰¹	-0.13 (0.048)	6.2x10 ⁻⁰³
<i>FAM170A</i>	5q23.1	30	0.066	0.12 (0.055)	3.5x10 ⁻⁰²	0.10 (0.060)	8.5x10 ⁻⁰²	0.11 (0.041)	6.5x10 ⁻⁰³
<i>KCTD18</i>	2q33.1	21	0.047	-0.12 (0.058)	4.2x10 ⁻⁰²	-0.14 (0.076)	7.6x10 ⁻⁰²	-0.12 (0.046)	7.1x10 ⁻⁰³
<i>MAN2C1</i>	15q24.2	26	0.56	-0.067 (0.023)	4.1x10 ⁻⁰³	-0.021 (0.027)	4.3x10 ⁻⁰¹	-0.047 (0.018)	7.3x10 ⁻⁰³
<i>FAM86C1</i>	11q13.4	27	0.21	0.086 (0.039)	2.9x10 ⁻⁰²	0.070 (0.045)	1.2x10 ⁻⁰¹	0.079 (0.030)	7.7x10 ⁻⁰³
<i>WRAP73</i>	1p36.32	12	0.18	-0.11 (0.052)	3.6x10 ⁻⁰²	-0.096 (0.059)	1.0x10 ⁻⁰¹	-0.1 (0.039)	8.0x10 ⁻⁰³
<i>TTC18</i>	10q22.2	36	0.13	0.058 (0.028)	3.7x10 ⁻⁰²	0.10 (0.057)	7.4x10 ⁻⁰²	0.066 (0.025)	8.0x10 ⁻⁰³
<i>CHMP7</i>	8p21.3	80	0.17	-0.09 (0.032)	4.4x10 ⁻⁰³	-0.022 (0.046)	6.3x10 ⁻⁰¹	-0.068 (0.026)	8.8x10 ⁻⁰³
<i>OTUB1</i>	11q13.1	11	0.066	-0.17 (0.057)	3.1x10 ⁻⁰³	-0.011 (0.098)	9.1x10 ⁻⁰¹	-0.13 (0.050)	9.1x10 ⁻⁰³
<i>TRPC4AP</i>	20q11.22	31	0.04	0.15 (0.049)	2.4x10 ⁻⁰³	0.012 (0.070)	8.6x10 ⁻⁰¹	0.10 (0.040)	9.5x10 ⁻⁰³
<i>WBSCR27</i>	7q11.23	29	0.62	0.055 (0.019)	3.1x10 ⁻⁰³	0.0070 (0.027)	8.0x10 ⁻⁰¹	0.040 (0.015)	9.8x10 ⁻⁰³
<i>NELFE</i>	6p21.33	14	0.032	-0.19 (0.077)	1.5x10 ⁻⁰²	-0.11 (0.11)	3.1x10 ⁻⁰¹	-0.16 (0.064)	1.0x10 ⁻⁰²
<i>TMEM185B</i>	2q14.2	23	0.097	0.12 (0.054)	2.8x10 ⁻⁰²	0.091 (0.067)	1.7x10 ⁻⁰¹	0.11 (0.042)	1.0x10 ⁻⁰²
<i>POLDIP3</i>	22q13.2	3	0.032	3.2 (1.6)	4.4x10 ⁻⁰²	3.6 (2.3)	1.1x10 ⁻⁰¹	3.3 (1.3)	1.0x10 ⁻⁰²
<i>TECPR1</i>	7q21.3	1	0.02	-1.5 (0.55)	5.6x10 ⁻⁰³	-0.4 (0.70)	5.6x10 ⁻⁰¹	-1.1 (0.43)	1.1x10 ⁻⁰²
<i>KIFC2</i>	8q24.3	19	0.055	0.14 (0.062)	2.0x10 ⁻⁰²	0.091 (0.078)	2.4x10 ⁻⁰¹	0.12 (0.048)	1.1x10 ⁻⁰²
<i>FOXN1</i>	17q11.2	4	0.033	-0.29 (0.12)	2.1x10 ⁻⁰²	-0.16 (0.13)	2.3x10 ⁻⁰¹	-0.22 (0.090)	1.2x10 ⁻⁰²
<i>LILRB3</i>	19q13.42	71	0.032	-0.12 (0.040)	2.5x10 ⁻⁰³	-0.012 (0.047)	8.0x10 ⁻⁰¹	-0.075 (0.030)	1.3x10 ⁻⁰²
<i>LY6G5C</i>	6p21.33	27	0.054	-0.13 (0.060)	2.9x10 ⁻⁰²	-0.089 (0.069)	2.0x10 ⁻⁰¹	-0.11 (0.046)	1.3x10 ⁻⁰²
<i>CBX8</i>	17q25.3	10	0.068	0.25 (0.082)	2.4x10 ⁻⁰³	0.019 (0.098)	8.4x10 ⁻⁰¹	0.15 (0.063)	1.4x10 ⁻⁰²
<i>CCDC114</i>	19q13.33	14	0.096	0.24 (0.079)	2.5x10 ⁻⁰³	0.019 (0.096)	8.4x10 ⁻⁰¹	0.15 (0.061)	1.4x10 ⁻⁰²
<i>GPR19</i>	12p13.1	19	0.054	-0.16 (0.069)	2.0x10 ⁻⁰²	-0.093 (0.093)	3.2x10 ⁻⁰¹	-0.14 (0.055)	1.4x10 ⁻⁰²
<i>STRA13</i>	17q25.3	10	0.25	-0.084 (0.040)	3.5x10 ⁻⁰²	-0.061 (0.047)	1.9x10 ⁻⁰¹	-0.074 (0.030)	1.4x10 ⁻⁰²
<i>ITCH</i>	20q11.22	21	0.045	0.31 (0.086)	2.8x10 ⁻⁰⁴	-0.024 (0.090)	7.9x10 ⁻⁰¹	0.15 (0.062)	1.5x10 ⁻⁰²
<i>GLYATL2</i>	11q12.1	74	0.089	0.13 (0.040)	1.9x10 ⁻⁰³	-0.024 (0.064)	7.1x10 ⁻⁰¹	0.083 (0.034)	1.5x10 ⁻⁰²

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<i>CCDC53</i>	12q23.2	13	0.098	0.14 (0.069)	4.0x10 ⁻⁰²	0.14 (0.11)	1.9x10 ⁻⁰¹	0.14 (0.058)	1.5x10 ⁻⁰²
<i>FRG1B</i>	20q11.21	32	0.062	-0.11 (0.042)	7.6x10 ⁻⁰³	-0.028 (0.049)	5.6x10 ⁻⁰¹	-0.076 (0.032)	1.6x10 ⁻⁰²
<i>JAKMIP2</i>	5q32	30	0.059	0.14 (0.055)	8.9x10 ⁻⁰³	0.039 (0.071)	5.8x10 ⁻⁰¹	0.10 (0.043)	1.6x10 ⁻⁰²
<i>DNAH1</i>	3p21.1	58	0.045	0.072 (0.036)	4.7x10 ⁻⁰²	0.064 (0.046)	1.7x10 ⁻⁰¹	0.069 (0.029)	1.6x10 ⁻⁰²
<i>IL1RN</i>	2q13	15	0.068	0.16 (0.071)	2.9x10 ⁻⁰²	0.10 (0.094)	2.8x10 ⁻⁰¹	0.14 (0.057)	1.7x10 ⁻⁰²
<i>GTF2H1</i>	11p15.1	12	0.17	-0.11 (0.056)	4.3x10 ⁻⁰²	-0.086 (0.065)	1.9x10 ⁻⁰¹	-0.1 (0.043)	1.7x10 ⁻⁰²
<i>DCAF5</i>	14q24.1	31	0.034	0.13 (0.064)	4.9x10 ⁻⁰²	0.12 (0.088)	1.9x10 ⁻⁰¹	0.12 (0.052)	1.8x10 ⁻⁰²
<i>STEAP3</i>	2q14.2	18	0.094	0.17 (0.060)	4.9x10 ⁻⁰³	0.015 (0.077)	8.5x10 ⁻⁰¹	0.11 (0.047)	2.0x10 ⁻⁰²
<i>LRRK1</i>	15q26.3	30	0.034	0.15 (0.055)	5.6x10 ⁻⁰³	-0.043 (0.11)	7.0x10 ⁻⁰¹	0.11 (0.049)	2.0x10 ⁻⁰²
<i>AP3M2</i>	8p11.21	16	0.095	-0.12 (0.053)	2.2x10 ⁻⁰²	-0.056 (0.067)	4.0x10 ⁻⁰¹	-0.096 (0.041)	2.0x10 ⁻⁰²
<i>ZSCAN29</i>	15q15.3	33	0.24	0.11 (0.049)	2.2x10 ⁻⁰²	0.050 (0.050)	3.1x10 ⁻⁰¹	0.082 (0.035)	2.0x10 ⁻⁰²
<i>TACSTD2</i>	1p32.1	11	0.038	0.21 (0.10)	4.1x10 ⁻⁰²	0.15 (0.12)	2.3x10 ⁻⁰¹	0.18 (0.079)	2.0x10 ⁻⁰²
<i>PHOSPHO2</i>	2q31.1	10	0.14	-0.12 (0.059)	4.3x10 ⁻⁰²	-0.086 (0.072)	2.3x10 ⁻⁰¹	-0.11 (0.046)	2.0x10 ⁻⁰²
<i>WIZ</i>	19p13.12	17	0.022	0.34 (0.10)	7.9x10 ⁻⁰⁴	-0.05 (0.12)	6.8x10 ⁻⁰¹	0.18 (0.078)	2.1x10 ⁻⁰²
<i>PAN3</i>	13q12.2	27	0.023	-0.21 (0.076)	5.7x10 ⁻⁰³	-0.012 (0.10)	9.1x10 ⁻⁰¹	-0.14 (0.061)	2.1x10 ⁻⁰²
<i>CTD-2054N24.2</i>	15q26.3	23	0.22	-0.094 (0.041)	2.1x10 ⁻⁰²	-0.041 (0.047)	3.9x10 ⁻⁰¹	-0.071 (0.031)	2.1x10 ⁻⁰²
<i>BIRC5</i>	17q25.3	21	0.084	0.12 (0.055)	3.3x10 ⁻⁰²	0.083 (0.085)	3.3x10 ⁻⁰¹	0.11 (0.046)	2.1x10 ⁻⁰²
<i>OXTR</i>	3p25.3	13	0.042	0.22 (0.11)	4.2x10 ⁻⁰²	0.13 (0.11)	2.2x10 ⁻⁰¹	0.17 (0.075)	2.1x10 ⁻⁰²
<i>CNOT6L</i>	4q21.1	67	0.11	-0.11 (0.042)	6.0x10 ⁻⁰³	-0.0093 (0.055)	8.7x10 ⁻⁰¹	-0.076 (0.033)	2.2x10 ⁻⁰²
<i>LDB3</i>	10q23.2	20	0.18	0.095 (0.036)	8.1x10 ⁻⁰³	0.0059 (0.056)	9.2x10 ⁻⁰¹	0.069 (0.030)	2.2x10 ⁻⁰²
<i>CKAP5</i>	11p11.2	9	0.039	0.18 (0.085)	2.9x10 ⁻⁰²	0.10 (0.12)	3.8x10 ⁻⁰¹	0.16 (0.069)	2.2x10 ⁻⁰²
<i>CUL9</i>	6p21.1	63	0.077	0.068 (0.035)	4.9x10 ⁻⁰²	0.059 (0.050)	2.4x10 ⁻⁰¹	0.065 (0.028)	2.2x10 ⁻⁰²
<i>RIF1</i>	2q23.3	35	0.16	0.11 (0.045)	1.3x10 ⁻⁰²	0.029 (0.059)	6.3x10 ⁻⁰¹	0.081 (0.036)	2.3x10 ⁻⁰²
<i>OOEP</i>	6q13	33	0.037	-0.12 (0.059)	4.1x10 ⁻⁰²	-0.092 (0.087)	2.9x10 ⁻⁰¹	-0.11 (0.049)	2.3x10 ⁻⁰²
<i>IL10RB</i>	21q22.11	9	0.085	0.18 (0.078)	1.9x10 ⁻⁰²	0.065 (0.11)	5.4x10 ⁻⁰¹	0.14 (0.063)	2.4x10 ⁻⁰²
<i>CARHSP1</i>	16p13.2	35	0.077	-0.11 (0.051)	2.7x10 ⁻⁰²	-0.056 (0.073)	4.4x10 ⁻⁰¹	-0.094 (0.042)	2.4x10 ⁻⁰²
<i>ZNF112</i>	19q13.31	24	0.025	-0.13 (0.062)	3.5x10 ⁻⁰²	-0.078 (0.085)	3.6x10 ⁻⁰¹	-0.11 (0.050)	2.4x10 ⁻⁰²

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<i>TXNL4B</i>	16q22.2	18	0.033	0.11 (0.052)	3.6x10 ⁻⁰²	0.11 (0.13)	4.0x10 ⁻⁰¹	0.11 (0.048)	2.4x10 ⁻⁰²
<i>MET</i>	7q31.2	81	0.071	0.072 (0.030)	1.8x10 ⁻⁰²	0.022 (0.042)	6.0x10 ⁻⁰¹	0.055 (0.025)	2.5x10 ⁻⁰²
<i>ZNF544</i>	19q13.43	10	0.022	-0.21 (0.11)	4.7x10 ⁻⁰²	-0.13 (0.11)	2.4x10 ⁻⁰¹	-0.17 (0.077)	2.5x10 ⁻⁰²
<i>PCDHA10</i>	5q31.3	10	0.12	0.12 (0.054)	2.8x10 ⁻⁰²	0.052 (0.058)	3.7x10 ⁻⁰¹	0.088 (0.040)	2.6x10 ⁻⁰²
<i>TREM1</i>	6p21.1	26	0.025	0.17 (0.077)	3.2x10 ⁻⁰²	0.091 (0.11)	4.2x10 ⁻⁰¹	0.14 (0.064)	2.6x10 ⁻⁰²
<i>CCNF</i>	16p13.3	15	0.022	0.21 (0.11)	4.8x10 ⁻⁰²	0.14 (0.13)	2.7x10 ⁻⁰¹	0.18 (0.083)	2.6x10 ⁻⁰²
<i>PRR12</i>	19q13.33	6	0.12	0.19 (0.073)	9.8x10 ⁻⁰³	0.029 (0.090)	7.4x10 ⁻⁰¹	0.13 (0.057)	2.7x10 ⁻⁰²
<i>ZNF606</i>	19q13.43	2	0.027	1.1 (0.57)	4.3x10 ⁻⁰²	1.1 (1.2)	3.6x10 ⁻⁰¹	1.1 (0.51)	2.7x10 ⁻⁰²
<i>Z98049.1</i>	6q27	2	0.034	0.32 (0.14)	2.2x10 ⁻⁰²	0.11 (0.20)	5.6x10 ⁻⁰¹	0.25 (0.11)	2.8x10 ⁻⁰²
<i>GABRB3</i>	15q12	12	0.19	-0.11 (0.051)	3.7x10 ⁻⁰²	-0.058 (0.063)	3.6x10 ⁻⁰¹	-0.087 (0.040)	2.8x10 ⁻⁰²
<i>MPP4</i>	2q33.1	44	0.03	-0.13 (0.047)	6.5x10 ⁻⁰³	-0.0077 (0.057)	8.9x10 ⁻⁰¹	-0.079 (0.036)	2.9x10 ⁻⁰²
<i>MYO15B</i>	17q25.1	22	0.11	0.14 (0.054)	1.0x10 ⁻⁰²	0.018 (0.070)	8.0x10 ⁻⁰¹	0.094 (0.043)	2.9x10 ⁻⁰²
<i>TTL</i>	2q13	62	0.037	-0.097 (0.049)	4.8x10 ⁻⁰²	-0.066 (0.066)	3.2x10 ⁻⁰¹	-0.086 (0.039)	2.9x10 ⁻⁰²
<i>RNMT</i>	18p11.21	25	0.028	0.16 (0.077)	3.9x10 ⁻⁰²	0.096 (0.12)	4.0x10 ⁻⁰¹	0.14 (0.064)	3.0x10 ⁻⁰²
<i>GLRB</i>	4q32.1	23	0.031	-0.14 (0.067)	4.2x10 ⁻⁰²	-0.085 (0.099)	3.9x10 ⁻⁰¹	-0.12 (0.056)	3.0x10 ⁻⁰²
<i>CYP27C1</i>	2q14.3	13	0.089	-0.15 (0.067)	2.7x10 ⁻⁰²	-0.057 (0.095)	5.5x10 ⁻⁰¹	-0.12 (0.055)	3.1x10 ⁻⁰²
<i>GAPT</i>	5q11.2	31	0.026	-0.16 (0.078)	4.3x10 ⁻⁰²	-0.091 (0.10)	3.7x10 ⁻⁰¹	-0.13 (0.062)	3.1x10 ⁻⁰²
<i>STXBP4</i>	17q22	43	0.091	0.14 (0.050)	4.6x10 ⁻⁰³	-0.0047 (0.061)	9.4x10 ⁻⁰¹	0.083 (0.038)	3.2x10 ⁻⁰²
<i>ALS2CR12</i>	2q33.1	30	0.067	0.14 (0.065)	3.7x10 ⁻⁰²	0.069 (0.085)	4.2x10 ⁻⁰¹	0.11 (0.052)	3.2x10 ⁻⁰²
<i>DNAH6</i>	2p11.2	7	0.23	-0.16 (0.054)	2.6x10 ⁻⁰³	0.0073 (0.058)	9.0x10 ⁻⁰¹	-0.084 (0.039)	3.3x10 ⁻⁰²
<i>IFT46</i>	11q23.3	22	0.25	-0.086 (0.034)	1.1x10 ⁻⁰²	0.0048 (0.056)	9.3x10 ⁻⁰¹	-0.062 (0.029)	3.3x10 ⁻⁰²
<i>MIS18BP1</i>	14q21.2	23	0.086	0.086 (0.041)	3.6x10 ⁻⁰²	0.046 (0.074)	5.3x10 ⁻⁰¹	0.077 (0.036)	3.3x10 ⁻⁰²
<i>CXCL9</i>	4q21.1	3	0.027	-1.3 (0.66)	4.6x10 ⁻⁰²	-0.86 (1.1)	4.2x10 ⁻⁰¹	-1.2 (0.56)	3.4x10 ⁻⁰²
<i>ATF3</i>	1q32.3	26	0.033	-0.24 (0.095)	1.3x10 ⁻⁰²	-0.043 (0.10)	6.8x10 ⁻⁰¹	-0.15 (0.070)	3.5x10 ⁻⁰²
<i>NT5C3B</i>	17q21.2	20	0.58	0.047 (0.021)	2.5x10 ⁻⁰²	0.015 (0.026)	5.7x10 ⁻⁰¹	0.034 (0.016)	3.6x10 ⁻⁰²
<i>CYP2J2</i>	1p32.1	14	0.097	-0.19 (0.086)	2.8x10 ⁻⁰²	-0.065 (0.090)	4.7x10 ⁻⁰¹	-0.13 (0.062)	3.6x10 ⁻⁰²
<i>MCHR1</i>	22q13.2	15	0.048	-0.13 (0.066)	4.8x10 ⁻⁰²	-0.078 (0.094)	4.1x10 ⁻⁰¹	-0.11 (0.054)	3.6x10 ⁻⁰²

Gene	Location ^a	# SNPs in Prediction	Imputation Quality ^b	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
				Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>RPS10</i>	6p21.31	8	0.057	0.14 (0.061)	2.1x10 ⁻⁰²	0.012 (0.11)	9.2x10 ⁻⁰¹	0.11 (0.054)	3.7x10 ⁻⁰²
<i>ZNF500</i>	16p13.3	65	0.28	-0.062 (0.027)	2.4x10 ⁻⁰²	-0.017 (0.035)	6.3x10 ⁻⁰¹	-0.045 (0.022)	3.8x10 ⁻⁰²
<i>KIAA1279</i>	10q22.1	12	0.039	-0.31 (0.11)	4.4x10 ⁻⁰³	0.0073 (0.12)	9.5x10 ⁻⁰¹	-0.17 (0.081)	3.9x10 ⁻⁰²
<i>MVB12B</i>	9q33.3	16	0.022	-0.16 (0.082)	4.4x10 ⁻⁰²	-0.08 (0.10)	4.3x10 ⁻⁰¹	-0.13 (0.064)	3.9x10 ⁻⁰²
<i>XRN2</i>	20p11.23	90	0.071	0.069 (0.029)	1.7x10 ⁻⁰²	0.0073 (0.041)	8.6x10 ⁻⁰¹	0.049 (0.024)	4.0x10 ⁻⁰²
<i>LRRC27</i>	10q26.3	8	0.12	0.11 (0.049)	2.8x10 ⁻⁰²	0.028 (0.079)	7.2x10 ⁻⁰¹	0.086 (0.042)	4.0x10 ⁻⁰²
<i>SLC5A11</i>	16p12.1	35	0.44	-0.056 (0.026)	3.1x10 ⁻⁰²	-0.019 (0.030)	5.2x10 ⁻⁰¹	-0.04 (0.020)	4.0x10 ⁻⁰²
<i>NDUFA10</i>	2q37.3	61	0.44	0.050 (0.024)	3.4x10 ⁻⁰²	0.019 (0.027)	4.9x10 ⁻⁰¹	0.037 (0.018)	4.0x10 ⁻⁰²
<i>IGSF6</i>	16p12.2	22	0.073	-0.14 (0.065)	3.4x10 ⁻⁰²	-0.049 (0.11)	6.5x10 ⁻⁰¹	-0.11 (0.055)	4.1x10 ⁻⁰²
<i>FLCN</i>	17p11.2	34	0.54	0.043 (0.021)	4.1x10 ⁻⁰²	0.019 (0.028)	5.0x10 ⁻⁰¹	0.035 (0.017)	4.1x10 ⁻⁰²
<i>CHRM1</i>	11q12.3	27	0.039	-0.12 (0.053)	2.9x10 ⁻⁰²	-0.032 (0.077)	6.8x10 ⁻⁰¹	-0.089 (0.044)	4.2x10 ⁻⁰²
<i>ZBTB12</i>	6p21.33	8	0.027	-0.28 (0.093)	2.7x10 ⁻⁰³	0.29 (0.19)	1.3x10 ⁻⁰¹	-0.17 (0.084)	4.4x10 ⁻⁰²
<i>C2CD4C</i>	19p13.3	11	0.15	0.16 (0.063)	1.1x10 ⁻⁰²	0.012 (0.070)	8.6x10 ⁻⁰¹	0.094 (0.047)	4.4x10 ⁻⁰²
<i>CABLES2</i>	20q13.33	13	0.1	-0.18 (0.075)	1.6x10 ⁻⁰²	-0.032 (0.077)	6.8x10 ⁻⁰¹	-0.11 (0.054)	4.4x10 ⁻⁰²
<i>AP000769.1</i>	11q13.1	9	0.035	0.22 (0.097)	2.2x10 ⁻⁰²	0.035 (0.14)	8.0x10 ⁻⁰¹	0.16 (0.079)	4.4x10 ⁻⁰²
<i>CCL23</i>	17q12	17	0.26	-0.066 (0.032)	3.9x10 ⁻⁰²	-0.024 (0.046)	5.9x10 ⁻⁰¹	-0.052 (0.026)	4.6x10 ⁻⁰²
<i>MAPK8IP2</i>	22q13.33	13	0.076	0.19 (0.069)	6.7x10 ⁻⁰³	-0.011 (0.082)	9.0x10 ⁻⁰¹	0.10 (0.053)	4.7x10 ⁻⁰²
<i>ABCA5</i>	17q24.3	2	0.033	3.3 (1.4)	2.0x10 ⁻⁰²	0.46 (1.8)	8.0x10 ⁻⁰¹	2.2 (1.1)	4.8x10 ⁻⁰²
<i>GABRP</i>	5q35.1	9	0.029	0.28 (0.12)	2.5x10 ⁻⁰²	0.050 (0.17)	7.7x10 ⁻⁰¹	0.20 (0.10)	4.8x10 ⁻⁰²
<i>GLTP</i>	12q24.11	10	0.093	-0.16 (0.064)	1.0x10 ⁻⁰²	0.0034 (0.078)	9.7x10 ⁻⁰¹	-0.097 (0.049)	4.9x10 ⁻⁰²
<i>CRHR2</i>	7p14.3	25	0.42	-0.062 (0.029)	3.4x10 ⁻⁰²	-0.019 (0.037)	6.1x10 ⁻⁰¹	-0.045 (0.023)	4.9x10 ⁻⁰²
<i>TCTN2</i>	12q24.31	36	0.26	-0.069 (0.033)	3.7x10 ⁻⁰²	-0.021 (0.048)	6.6x10 ⁻⁰¹	-0.054 (0.027)	5.0x10 ⁻⁰²
<i>CYP4A22</i>	1p33	18	0.019	-0.21 (0.076)	4.5x10 ⁻⁰³	0.064 (0.10)	5.5x10 ⁻⁰¹	-0.12 (0.061)	5.1x10 ⁻⁰²
<i>JMJD1C</i>	10q21.3	1	0.041	5.1 (2.4)	3.3x10 ⁻⁰²	1.5 (2.2)	4.9x10 ⁻⁰¹	3.2 (1.6)	5.1x10 ⁻⁰²
<i>AAAS</i>	12q13.13	36	0.043	0.10 (0.052)	4.3x10 ⁻⁰²	0.022 (0.14)	8.7x10 ⁻⁰¹	0.094 (0.048)	5.1x10 ⁻⁰²
<i>RHNO1</i>	12p13.33	13	0.052	-0.18 (0.088)	3.8x10 ⁻⁰²	-0.054 (0.12)	6.6x10 ⁻⁰¹	-0.14 (0.071)	5.2x10 ⁻⁰²
<i>WDR81</i>	17p13.3	11	0.034	-0.32 (0.10)	1.3x10 ⁻⁰³	0.14 (0.13)	2.9x10 ⁻⁰¹	-0.16 (0.081)	5.3x10 ⁻⁰²

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>TAS2R43</i>	12p13.2	21	0.29	-0.085 (0.036)	1.7x10 ⁻⁰²	-0.0066 (0.043)	8.8x10 ⁻⁰¹	-0.053 (0.027)	5.3x10 ⁻⁰²
<i>SH3BGR</i>	21q22.2	12	0.078	-0.18 (0.090)	4.3x10 ⁻⁰²	-0.065 (0.098)	5.1x10 ⁻⁰¹	-0.13 (0.066)	5.3x10 ⁻⁰²
<i>NOMO3</i>	16p13.11	36	0.17	-0.098 (0.048)	4.2x10 ⁻⁰²	-0.033 (0.053)	5.3x10 ⁻⁰¹	-0.069 (0.036)	5.4x10 ⁻⁰²
<i>KIF11</i>	10q23.33	1	0.055	4.9 (2.2)	2.5x10 ⁻⁰²	1.00 (2.3)	6.6x10 ⁻⁰¹	3.0 (1.6)	5.5x10 ⁻⁰²
<i>PLCG2</i>	16q23.3	18	0.044	0.17 (0.077)	3.1x10 ⁻⁰²	0.034 (0.098)	7.3x10 ⁻⁰¹	0.12 (0.060)	5.6x10 ⁻⁰²
<i>NDUFB1</i>	14q32.12	16	0.041	-0.22 (0.092)	1.5x10 ⁻⁰²	0.0044 (0.12)	9.7x10 ⁻⁰¹	-0.14 (0.072)	5.7x10 ⁻⁰²
<i>MDGA1</i>	6p21.2	65	0.3	-0.063 (0.029)	3.0x10 ⁻⁰²	-0.012 (0.037)	7.5x10 ⁻⁰¹	-0.044 (0.023)	5.7x10 ⁻⁰²
<i>MAGEF1</i>	3q27.1	38	0.088	0.093 (0.045)	3.6x10 ⁻⁰²	0.022 (0.061)	7.2x10 ⁻⁰¹	0.068 (0.036)	5.7x10 ⁻⁰²
<i>ADRB1</i>	10q25.3	17	0.021	-0.16 (0.078)	3.8x10 ⁻⁰²	-0.035 (0.12)	7.7x10 ⁻⁰¹	-0.12 (0.065)	5.9x10 ⁻⁰²
<i>WDR25</i>	14q32.2	15	0.047	-0.13 (0.063)	3.9x10 ⁻⁰²	-0.035 (0.080)	6.6x10 ⁻⁰¹	-0.094 (0.050)	5.9x10 ⁻⁰²
<i>RPA1</i>	17p13.3	95	0.098	-0.056 (0.027)	3.8x10 ⁻⁰²	-0.013 (0.037)	7.3x10 ⁻⁰¹	-0.041 (0.022)	6.0x10 ⁻⁰²
<i>HLA-DOB</i>	6p21.32	43	0.48	-0.051 (0.024)	3.4x10 ⁻⁰²	-0.01 (0.030)	7.3x10 ⁻⁰¹	-0.035 (0.019)	6.1x10 ⁻⁰²
<i>DHX16</i>	6p21.33	17	0.025	-0.13 (0.066)	4.3x10 ⁻⁰²	-0.037 (0.087)	6.7x10 ⁻⁰¹	-0.098 (0.052)	6.1x10 ⁻⁰²
<i>MYLK4</i>	6p25.2	31	0.26	0.095 (0.038)	1.3x10 ⁻⁰²	-0.0033 (0.047)	9.4x10 ⁻⁰¹	0.055 (0.030)	6.2x10 ⁻⁰²
<i>MSMO1</i>	4q32.3	8	0.045	0.20 (0.090)	2.2x10 ⁻⁰²	0.013 (0.11)	9.1x10 ⁻⁰¹	0.13 (0.071)	6.2x10 ⁻⁰²
<i>PSMG1</i>	21q22.2	26	0.36	0.077 (0.036)	3.2x10 ⁻⁰²	0.016 (0.041)	7.0x10 ⁻⁰¹	0.050 (0.027)	6.3x10 ⁻⁰²
<i>STRADA</i>	17q23.3	47	0.052	0.13 (0.051)	8.9x10 ⁻⁰³	-0.011 (0.058)	8.5x10 ⁻⁰¹	0.070 (0.038)	6.5x10 ⁻⁰²
<i>PTER</i>	10p13	81	0.085	0.069 (0.032)	3.1x10 ⁻⁰²	0.0073 (0.044)	8.7x10 ⁻⁰¹	0.048 (0.026)	6.5x10 ⁻⁰²
<i>AC022498.1</i>	3q27.3	10	0.044	-0.15 (0.074)	3.9x10 ⁻⁰²	-0.03 (0.10)	7.8x10 ⁻⁰¹	-0.11 (0.061)	6.5x10 ⁻⁰²
<i>SYNGR3</i>	16p13.3	47	0.027	0.13 (0.049)	8.2x10 ⁻⁰³	-0.032 (0.066)	6.3x10 ⁻⁰¹	0.072 (0.039)	6.6x10 ⁻⁰²
<i>LSR</i>	19q13.12	21	0.21	0.12 (0.049)	1.1x10 ⁻⁰²	0.0027 (0.049)	9.6x10 ⁻⁰¹	0.063 (0.035)	6.6x10 ⁻⁰²
<i>SNTA1</i>	20q11.21	23	0.026	0.22 (0.076)	4.5x10 ⁻⁰³	-0.043 (0.087)	6.2x10 ⁻⁰¹	0.10 (0.057)	6.8x10 ⁻⁰²
<i>IPO8</i>	12p11.21	13	0.1	-0.22 (0.081)	7.0x10 ⁻⁰³	0.034 (0.096)	7.2x10 ⁻⁰¹	-0.11 (0.062)	6.8x10 ⁻⁰²
<i>UROD</i>	1p34.1	25	0.14	-0.11 (0.049)	2.0x10 ⁻⁰²	-0.0011 (0.060)	9.9x10 ⁻⁰¹	-0.069 (0.038)	6.8x10 ⁻⁰²
<i>SULT2B1</i>	19q13.33	35	0.036	0.13 (0.060)	3.3x10 ⁻⁰²	0.018 (0.078)	8.1x10 ⁻⁰¹	0.087 (0.048)	6.8x10 ⁻⁰²
<i>FKBP7</i>	2q31.2	6	0.064	0.23 (0.079)	3.8x10 ⁻⁰³	-0.12 (0.12)	3.1x10 ⁻⁰¹	0.12 (0.065)	6.9x10 ⁻⁰²
<i>EBNA1BP2</i>	1p34.2	22	0.019	-0.2 (0.081)	1.1x10 ⁻⁰²	0.041 (0.11)	7.0x10 ⁻⁰¹	-0.12 (0.065)	7.1x10 ⁻⁰²

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>SETD9</i>	5q11.2	21	0.27	0.073 (0.030)	1.7x10 ⁻⁰²	-0.015 (0.046)	7.4x10 ⁻⁰¹	0.046 (0.025)	7.1x10 ⁻⁰²
<i>EVI5</i>	1p22.1	24	0.073	-0.24 (0.10)	1.9x10 ⁻⁰²	-0.025 (0.096)	8.0x10 ⁻⁰¹	-0.13 (0.070)	7.1x10 ⁻⁰²
<i>TCP11</i>	6p21.31	8	0.042	0.24 (0.091)	9.4x10 ⁻⁰³	-0.038 (0.11)	7.3x10 ⁻⁰¹	0.13 (0.070)	7.2x10 ⁻⁰²
<i>WDR20</i>	14q32.31	53	0.028	-0.094 (0.040)	1.8x10 ⁻⁰²	0.016 (0.058)	7.8x10 ⁻⁰¹	-0.059 (0.033)	7.3x10 ⁻⁰²
<i>ABHD8</i>	19p13.11	11	0.092	0.17 (0.079)	3.3x10 ⁻⁰²	0.027 (0.090)	7.6x10 ⁻⁰¹	0.11 (0.059)	7.3x10 ⁻⁰²
<i>CBX1</i>	17q21.32	17	0.019	-0.15 (0.076)	4.4x10 ⁻⁰²	-0.03 (0.10)	7.6x10 ⁻⁰¹	-0.11 (0.060)	7.3x10 ⁻⁰²
<i>SLC25A44</i>	1q22	24	0.12	-0.19 (0.076)	1.5x10 ⁻⁰²	-0.00025 (0.082)	1.00E+00	-0.1 (0.056)	7.5x10 ⁻⁰²
<i>TRAIP</i>	3p21.31	2	0.037	-2.3 (0.97)	1.7x10 ⁻⁰²	-0.25 (0.85)	7.7x10 ⁻⁰¹	-1.1 (0.64)	7.5x10 ⁻⁰²
<i>TXNL4A</i>	18q23	11	0.067	0.17 (0.081)	4.1x10 ⁻⁰²	0.022 (0.11)	8.5x10 ⁻⁰¹	0.12 (0.066)	7.5x10 ⁻⁰²
<i>MS4A14</i>	11q12.2	12	0.28	0.088 (0.036)	1.5x10 ⁻⁰²	-0.01 (0.046)	8.2x10 ⁻⁰¹	0.051 (0.029)	7.6x10 ⁻⁰²
<i>NNAT</i>	20q11.23	24	0.048	-0.14 (0.058)	2.0x10 ⁻⁰²	0.031 (0.090)	7.3x10 ⁻⁰¹	-0.087 (0.049)	7.6x10 ⁻⁰²
<i>WDR11</i>	10q26.12	25	0.45	0.047 (0.023)	4.1x10 ⁻⁰²	0.0060 (0.032)	8.5x10 ⁻⁰¹	0.033 (0.019)	7.6x10 ⁻⁰²
<i>IMPDH1</i>	7q32.1	9	0.086	0.15 (0.063)	1.6x10 ⁻⁰²	-0.026 (0.085)	7.6x10 ⁻⁰¹	0.088 (0.051)	8.0x10 ⁻⁰²
<i>ANKS6</i>	9q22.33	12	0.024	-0.21 (0.10)	4.2x10 ⁻⁰²	-0.016 (0.16)	9.2x10 ⁻⁰¹	-0.15 (0.086)	8.0x10 ⁻⁰²
<i>TAS2R10</i>	12p13.2	9	0.021	0.31 (0.12)	1.2x10 ⁻⁰²	-0.017 (0.13)	8.9x10 ⁻⁰¹	0.15 (0.089)	8.1x10 ⁻⁰²
<i>DHRS3</i>	1p36.22	36	0.054	0.16 (0.069)	1.9x10 ⁻⁰²	0.0025 (0.074)	9.7x10 ⁻⁰¹	0.088 (0.050)	8.1x10 ⁻⁰²
<i>SLFN12L</i>	17q12	6	0.03	-0.21 (0.11)	4.2x10 ⁻⁰²	-0.034 (0.13)	7.9x10 ⁻⁰¹	-0.14 (0.081)	8.3x10 ⁻⁰²
<i>ZNF350</i>	19q13.41	33	0.042	-0.1 (0.052)	4.7x10 ⁻⁰²	-0.017 (0.070)	8.1x10 ⁻⁰¹	-0.072 (0.042)	8.3x10 ⁻⁰²
<i>C17orf62</i>	17q25.3	2	0.067	-0.16 (0.081)	4.4x10 ⁻⁰²	-0.0035 (0.13)	9.8x10 ⁻⁰¹	-0.12 (0.069)	8.4x10 ⁻⁰²
<i>MARVELD1</i>	10q24.2	27	0.029	-0.17 (0.082)	3.9x10 ⁻⁰²	-0.01 (0.11)	9.2x10 ⁻⁰¹	-0.11 (0.066)	8.8x10 ⁻⁰²
<i>MMP16</i>	8q21.3	24	0.02	0.16 (0.064)	1.4x10 ⁻⁰²	-0.041 (0.086)	6.3x10 ⁻⁰¹	0.087 (0.051)	9.1x10 ⁻⁰²
<i>GPATCH4</i>	1q23.1	3	0.019	0.69 (0.34)	4.7x10 ⁻⁰²	0.063 (0.46)	8.9x10 ⁻⁰¹	0.46 (0.28)	9.4x10 ⁻⁰²
<i>ABHD11</i>	7q11.23	17	0.026	-0.19 (0.093)	4.1x10 ⁻⁰²	-0.017 (0.11)	8.8x10 ⁻⁰¹	-0.12 (0.071)	9.6x10 ⁻⁰²
<i>RPL9</i>	4p14	6	0.68	-0.043 (0.021)	4.0x10 ⁻⁰²	0.020 (0.042)	6.3x10 ⁻⁰¹	-0.03 (0.019)	1.0x10 ⁻⁰¹
<i>MTMR4</i>	17q22	4	0.034	-0.22 (0.11)	4.2x10 ⁻⁰²	-0.017 (0.13)	8.9x10 ⁻⁰¹	-0.13 (0.081)	1.0x10 ⁻⁰¹
<i>C1orf229</i>	1q44	11	0.028	0.18 (0.083)	2.8x10 ⁻⁰²	-0.027 (0.11)	8.0x10 ⁻⁰¹	0.10 (0.066)	1.1x10 ⁻⁰¹
<i>ACTR3C</i>	7q36.1	12	0.054	0.16 (0.076)	3.4x10 ⁻⁰²	-0.031 (0.11)	7.8x10 ⁻⁰¹	0.10 (0.063)	1.1x10 ⁻⁰¹

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>HP1BP3</i>	1p36.12	33	0.02	0.17 (0.072)	1.8x10 ⁻⁰²	-0.044 (0.091)	6.3x10 ⁻⁰¹	0.088 (0.056)	1.2x10 ⁻⁰¹
<i>RPS8</i>	1p34.1	13	0.061	-0.16 (0.072)	2.3x10 ⁻⁰²	0.045 (0.099)	6.5x10 ⁻⁰¹	-0.092 (0.058)	1.2x10 ⁻⁰¹
<i>COMMD7</i>	20q11.21	23	0.036	0.17 (0.077)	2.4x10 ⁻⁰²	-0.0066 (0.080)	9.3x10 ⁻⁰¹	0.087 (0.056)	1.2x10 ⁻⁰¹
<i>PPOX</i>	1q23.3	112	0.094	-0.057 (0.025)	2.5x10 ⁻⁰²	0.018 (0.036)	6.2x10 ⁻⁰¹	-0.032 (0.021)	1.2x10 ⁻⁰¹
<i>RPN1</i>	3q21.3	24	0.044	-0.13 (0.058)	2.6x10 ⁻⁰²	0.023 (0.074)	7.6x10 ⁻⁰¹	-0.071 (0.045)	1.2x10 ⁻⁰¹
<i>EPB41L4A</i>	5q22.2	20	0.12	-0.17 (0.076)	2.6x10 ⁻⁰²	0.0013 (0.075)	9.9x10 ⁻⁰¹	-0.083 (0.053)	1.2x10 ⁻⁰¹
<i>TAP1</i>	6p21.32	9	0.021	0.24 (0.10)	2.0x10 ⁻⁰²	-0.13 (0.16)	4.1x10 ⁻⁰¹	0.13 (0.087)	1.3x10 ⁻⁰¹
<i>TMEM201</i>	1p36.22	27	0.087	-0.091 (0.041)	2.7x10 ⁻⁰²	0.038 (0.061)	5.4x10 ⁻⁰¹	-0.051 (0.034)	1.3x10 ⁻⁰¹
<i>AGAP8</i>	10q11.23	29	0.54	0.051 (0.025)	4.1x10 ⁻⁰²	0.00011 (0.028)	1.00E+00	0.028 (0.019)	1.3x10 ⁻⁰¹
<i>HMGB1</i>	13q12.3	17	0.18	-0.071 (0.035)	4.5x10 ⁻⁰²	0.13 (0.11)	2.1x10 ⁻⁰¹	-0.05 (0.034)	1.3x10 ⁻⁰¹
<i>CHKB</i>	22q13.33	15	0.052	-0.22 (0.082)	7.0x10 ⁻⁰³	0.061 (0.087)	4.8x10 ⁻⁰¹	-0.088 (0.059)	1.4x10 ⁻⁰¹
<i>MAP1LC3A</i>	20q11.22	22	0.18	-0.09 (0.040)	2.6x10 ⁻⁰²	0.019 (0.049)	7.0x10 ⁻⁰¹	-0.045 (0.031)	1.4x10 ⁻⁰¹
<i>NDUFAF7</i>	2p22.2	11	0.029	0.27 (0.13)	3.5x10 ⁻⁰²	-0.031 (0.15)	8.4x10 ⁻⁰¹	0.14 (0.097)	1.4x10 ⁻⁰¹
<i>MOGS</i>	2p13.1	11	0.076	0.20 (0.070)	4.8x10 ⁻⁰³	-0.18 (0.11)	8.6x10 ⁻⁰²	0.084 (0.058)	1.5x10 ⁻⁰¹
<i>ZBTB25</i>	14q23.3	32	0.079	0.14 (0.056)	1.2x10 ⁻⁰²	-0.066 (0.073)	3.6x10 ⁻⁰¹	0.064 (0.044)	1.5x10 ⁻⁰¹
<i>CLN8</i>	8p23.3	17	0.11	0.18 (0.073)	1.5x10 ⁻⁰²	-0.033 (0.075)	6.6x10 ⁻⁰¹	0.075 (0.052)	1.5x10 ⁻⁰¹
<i>PLEKHA1</i>	10q26.13	7	0.046	0.32 (0.13)	1.6x10 ⁻⁰²	-0.1 (0.16)	5.3x10 ⁻⁰¹	0.15 (0.10)	1.5x10 ⁻⁰¹
<i>SYT17</i>	16p12.3	19	0.031	0.20 (0.085)	1.7x10 ⁻⁰²	-0.15 (0.13)	2.8x10 ⁻⁰¹	0.10 (0.072)	1.5x10 ⁻⁰¹
<i>ZNF302</i>	19q13.11	47	0.29	0.081 (0.040)	4.1x10 ⁻⁰²	-0.0057 (0.045)	9.0x10 ⁻⁰¹	0.044 (0.030)	1.5x10 ⁻⁰¹
<i>MAPRE3</i>	2p23.3	8	0.021	-0.25 (0.11)	2.7x10 ⁻⁰²	0.12 (0.16)	4.6x10 ⁻⁰¹	-0.13 (0.092)	1.6x10 ⁻⁰¹
<i>SPEF2</i>	5p13.2	73	0.033	-0.077 (0.035)	2.8x10 ⁻⁰²	0.043 (0.054)	4.2x10 ⁻⁰¹	-0.041 (0.029)	1.6x10 ⁻⁰¹
<i>PPME1</i>	11q13.4	37	0.041	0.14 (0.062)	2.0x10 ⁻⁰²	-0.042 (0.072)	5.6x10 ⁻⁰¹	0.065 (0.047)	1.7x10 ⁻⁰¹
<i>ING5</i>	2q37.3	20	0.084	-0.13 (0.061)	2.8x10 ⁻⁰²	0.028 (0.068)	6.8x10 ⁻⁰¹	-0.062 (0.045)	1.7x10 ⁻⁰¹
<i>SLC38A4</i>	12q13.11	14	0.027	0.22 (0.10)	3.3x10 ⁻⁰²	-0.034 (0.11)	7.6x10 ⁻⁰¹	0.10 (0.076)	1.7x10 ⁻⁰¹
<i>GOLGA3</i>	12q24.33	44	0.034	0.10 (0.049)	3.4x10 ⁻⁰²	-0.038 (0.067)	5.8x10 ⁻⁰¹	0.055 (0.040)	1.7x10 ⁻⁰¹
<i>CCDC149</i>	4p15.2	53	0.05	0.11 (0.052)	4.0x10 ⁻⁰²	-0.021 (0.063)	7.4x10 ⁻⁰¹	0.055 (0.040)	1.7x10 ⁻⁰¹
<i>TEX29</i>	13q34	31	0.091	0.11 (0.057)	4.6x10 ⁻⁰²	-0.013 (0.067)	8.5x10 ⁻⁰¹	0.060 (0.043)	1.7x10 ⁻⁰¹

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>ARVCF</i>	22q11.21	3	0.022	0.68 (0.34)	4.7x10 ⁻⁰²	-0.65 (0.71)	3.6x10 ⁻⁰¹	0.43 (0.31)	1.7x10 ⁻⁰¹
<i>HAUS6</i>	9p22.1	12	0.042	-0.17 (0.077)	2.5x10 ⁻⁰²	0.051 (0.091)	5.7x10 ⁻⁰¹	-0.079 (0.058)	1.8x10 ⁻⁰¹
<i>AP3B2</i>	15q25.2	17	0.29	0.076 (0.037)	4.0x10 ⁻⁰²	-0.0083 (0.039)	8.3x10 ⁻⁰¹	0.036 (0.027)	1.8x10 ⁻⁰¹
<i>ZNF575</i>	19q13.31	13	0.38	-0.11 (0.038)	5.4x10 ⁻⁰³	0.049 (0.042)	2.5x10 ⁻⁰¹	-0.037 (0.028)	1.9x10 ⁻⁰¹
<i>NLK</i>	17q11.2	62	0.065	-0.067 (0.027)	1.3x10 ⁻⁰²	0.039 (0.036)	2.7x10 ⁻⁰¹	-0.028 (0.022)	1.9x10 ⁻⁰¹
<i>SPATA2L</i>	16q24.3	12	0.048	0.19 (0.077)	1.4x10 ⁻⁰²	-0.086 (0.094)	3.6x10 ⁻⁰¹	0.078 (0.060)	1.9x10 ⁻⁰¹
<i>NUDT19</i>	19q13.11	24	0.25	-0.079 (0.035)	2.3x10 ⁻⁰²	0.040 (0.047)	3.9x10 ⁻⁰¹	-0.037 (0.028)	1.9x10 ⁻⁰¹
<i>RHBDL1</i>	16p13.3	24	0.058	-0.15 (0.061)	1.5x10 ⁻⁰²	0.081 (0.078)	3.0x10 ⁻⁰¹	-0.061 (0.048)	2.0x10 ⁻⁰¹
<i>VCPKMT</i>	14q21.3	1	0.035	-0.26 (0.12)	2.4x10 ⁻⁰²	0.24 (0.19)	2.2x10 ⁻⁰¹	-0.13 (0.099)	2.0x10 ⁻⁰¹
<i>ZNF592</i>	15q25.3	12	0.034	-0.23 (0.10)	2.8x10 ⁻⁰²	0.065 (0.12)	5.9x10 ⁻⁰¹	-0.1 (0.079)	2.0x10 ⁻⁰¹
<i>ANKRD36</i>	2q11.2	52	0.1	0.098 (0.041)	1.7x10 ⁻⁰²	-0.033 (0.045)	4.6x10 ⁻⁰¹	0.038 (0.030)	2.1x10 ⁻⁰¹
<i>LPGAT1</i>	1q32.3	1	0.023	-3.6 (1.6)	2.9x10 ⁻⁰²	1.5 (2.1)	4.5x10 ⁻⁰¹	-1.6 (1.3)	2.1x10 ⁻⁰¹
<i>RRAS</i>	19q13.33	6	0.074	-0.17 (0.083)	3.7x10 ⁻⁰²	0.068 (0.10)	5.2x10 ⁻⁰¹	-0.081 (0.065)	2.1x10 ⁻⁰¹
<i>ZMAT3</i>	3q26.32	27	0.029	0.14 (0.070)	4.2x10 ⁻⁰²	-0.044 (0.086)	6.1x10 ⁻⁰¹	0.068 (0.054)	2.1x10 ⁻⁰¹
<i>ZNF461</i>	19q13.12	46	0.021	-0.17 (0.055)	2.2x10 ⁻⁰³	0.16 (0.074)	3.5x10 ⁻⁰²	-0.054 (0.044)	2.2x10 ⁻⁰¹
<i>CCK</i>	3p22.1	24	0.02	0.17 (0.078)	3.4x10 ⁻⁰²	-0.069 (0.098)	4.8x10 ⁻⁰¹	0.074 (0.061)	2.2x10 ⁻⁰¹
<i>STX4</i>	16p11.2	25	0.032	-0.17 (0.069)	1.5x10 ⁻⁰²	0.080 (0.080)	3.2x10 ⁻⁰¹	-0.062 (0.052)	2.3x10 ⁻⁰¹
<i>STARD10</i>	11q13.4	1	0.028	0.98 (0.47)	3.9x10 ⁻⁰²	-0.34 (0.56)	5.5x10 ⁻⁰¹	0.43 (0.36)	2.3x10 ⁻⁰¹
<i>SMPD2</i>	6q21	15	0.083	0.17 (0.065)	7.7x10 ⁻⁰³	-0.13 (0.085)	1.2x10 ⁻⁰¹	0.060 (0.051)	2.4x10 ⁻⁰¹
<i>ERI1</i>	8p23.1	22	0.059	0.13 (0.064)	3.4x10 ⁻⁰²	-0.063 (0.079)	4.3x10 ⁻⁰¹	0.058 (0.050)	2.5x10 ⁻⁰¹
<i>HRCT1</i>	9p13.3	23	0.08	0.13 (0.063)	3.8x10 ⁻⁰²	-0.043 (0.070)	5.3x10 ⁻⁰¹	0.053 (0.047)	2.6x10 ⁻⁰¹
<i>TTC30A</i>	2q31.2	66	0.16	0.074 (0.032)	1.9x10 ⁻⁰²	-0.084 (0.050)	9.5x10 ⁻⁰²	0.030 (0.027)	2.7x10 ⁻⁰¹
<i>MT1A</i>	16q12.2	25	0.057	-0.14 (0.061)	2.0x10 ⁻⁰²	0.14 (0.092)	1.3x10 ⁻⁰¹	-0.056 (0.051)	2.7x10 ⁻⁰¹
<i>C1QTNF4</i>	11p11.2	17	0.083	0.14 (0.062)	2.6x10 ⁻⁰²	-0.079 (0.078)	3.1x10 ⁻⁰¹	0.054 (0.049)	2.7x10 ⁻⁰¹
<i>PACRGL</i>	4p15.31	37	0.14	0.086 (0.042)	4.0x10 ⁻⁰²	-0.034 (0.049)	4.8x10 ⁻⁰¹	0.035 (0.032)	2.7x10 ⁻⁰¹
<i>CALML6</i>	1p36.33	11	0.2	0.10 (0.049)	3.3x10 ⁻⁰²	-0.056 (0.061)	3.5x10 ⁻⁰¹	0.041 (0.038)	2.8x10 ⁻⁰¹
<i>GNPDA2</i>	4p12	47	0.22	-0.057 (0.027)	3.7x10 ⁻⁰²	0.048 (0.040)	2.3x10 ⁻⁰¹	-0.024 (0.022)	2.9x10 ⁻⁰¹

Gene	Location ^a	# SNPs in Prediction	Imputation Quality ^b	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
				Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>FZD9</i>	7q11.23	2	0.037	0.31 (0.15)	3.3x10 ⁻⁰²	-0.16 (0.18)	3.6x10 ⁻⁰¹	0.12 (0.11)	3.0x10 ⁻⁰¹
<i>MTBP</i>	8q24.12	15	0.055	-0.15 (0.076)	4.2x10 ⁻⁰²	0.19 (0.13)	1.4x10 ⁻⁰¹	-0.068 (0.066)	3.0x10 ⁻⁰¹
<i>B3GAT2</i>	6q13	64	0.14	0.083 (0.033)	1.2x10 ⁻⁰²	-0.063 (0.041)	1.3x10 ⁻⁰¹	0.026 (0.026)	3.1x10 ⁻⁰¹
<i>MCM3AP</i>	21q22.3	5	0.09	-0.18 (0.074)	1.7x10 ⁻⁰²	0.11 (0.088)	2.0x10 ⁻⁰¹	-0.058 (0.057)	3.1x10 ⁻⁰¹
<i>TLL13</i>	15q26.1	24	0.029	0.14 (0.066)	3.6x10 ⁻⁰²	-0.11 (0.094)	2.3x10 ⁻⁰¹	0.056 (0.054)	3.1x10 ⁻⁰¹
<i>SULF2</i>	20q13.13	9	0.037	-0.2 (0.098)	4.0x10 ⁻⁰²	0.13 (0.13)	3.1x10 ⁻⁰¹	-0.077 (0.077)	3.1x10 ⁻⁰¹
<i>TNNI3K</i>	1p31.1	28	0.11	-0.097 (0.044)	2.9x10 ⁻⁰²	0.11 (0.069)	1.1x10 ⁻⁰¹	-0.037 (0.037)	3.2x10 ⁻⁰¹
<i>MYOZ3</i>	5q33.1	53	0.019	-0.13 (0.062)	3.5x10 ⁻⁰²	0.068 (0.073)	3.5x10 ⁻⁰¹	-0.048 (0.048)	3.2x10 ⁻⁰¹
<i>EDC4</i>	16q22.1	18	0.052	-0.15 (0.071)	4.0x10 ⁻⁰²	0.082 (0.087)	3.5x10 ⁻⁰¹	-0.055 (0.055)	3.2x10 ⁻⁰¹
<i>ZNF660</i>	3p21.31	54	0.34	0.056 (0.026)	3.3x10 ⁻⁰²	-0.031 (0.031)	3.2x10 ⁻⁰¹	0.020 (0.020)	3.3x10 ⁻⁰¹
<i>MSR1</i>	8p22	9	0.024	0.32 (0.12)	8.7x10 ⁻⁰³	-0.2 (0.13)	1.5x10 ⁻⁰¹	0.086 (0.091)	3.4x10 ⁻⁰¹
<i>MYLK2</i>	20q11.21	8	0.031	0.31 (0.14)	2.8x10 ⁻⁰²	-0.061 (0.11)	5.8x10 ⁻⁰¹	0.081 (0.086)	3.5x10 ⁻⁰¹
<i>TMEM206</i>	1q32.3	22	0.049	0.13 (0.054)	1.6x10 ⁻⁰²	-0.26 (0.10)	9.7x10 ⁻⁰³	0.044 (0.048)	3.6x10 ⁻⁰¹
<i>NARF</i>	17q25.3	12	0.17	-0.13 (0.053)	1.7x10 ⁻⁰²	0.093 (0.064)	1.5x10 ⁻⁰¹	-0.037 (0.041)	3.6x10 ⁻⁰¹
<i>ZNF502</i>	3p21.31	13	0.21	-0.14 (0.060)	1.9x10 ⁻⁰²	0.060 (0.059)	3.1x10 ⁻⁰¹	-0.038 (0.042)	3.6x10 ⁻⁰¹
<i>DOCK8</i>	9p24.3	22	0.11	-0.11 (0.057)	4.9x10 ⁻⁰²	0.024 (0.049)	6.3x10 ⁻⁰¹	-0.034 (0.037)	3.6x10 ⁻⁰¹
<i>PXK</i>	3p14.3	8	0.069	0.22 (0.076)	4.5x10 ⁻⁰³	-0.21 (0.097)	3.1x10 ⁻⁰²	0.054 (0.060)	3.7x10 ⁻⁰¹
<i>EPHB1</i>	3q22.2	37	0.055	-0.16 (0.065)	1.5x10 ⁻⁰²	0.082 (0.067)	2.2x10 ⁻⁰¹	-0.042 (0.047)	3.7x10 ⁻⁰¹
<i>ZNF131</i>	5p12	19	0.047	-0.14 (0.067)	4.3x10 ⁻⁰²	0.073 (0.076)	3.3x10 ⁻⁰¹	-0.044 (0.050)	3.8x10 ⁻⁰¹
<i>PRIMPOL</i>	4q35.1	51	0.13	-0.083 (0.040)	4.1x10 ⁻⁰²	0.053 (0.048)	2.7x10 ⁻⁰¹	-0.027 (0.031)	3.9x10 ⁻⁰¹
<i>AGAP9</i>	10q11.22	10	0.065	-0.15 (0.070)	3.6x10 ⁻⁰²	0.13 (0.092)	1.6x10 ⁻⁰¹	-0.046 (0.056)	4.1x10 ⁻⁰¹
<i>BCAT1</i>	12p12.1	14	0.027	-0.17 (0.083)	3.7x10 ⁻⁰²	0.17 (0.11)	1.4x10 ⁻⁰¹	-0.056 (0.067)	4.1x10 ⁻⁰¹
<i>SVIP</i>	11p14.3	17	0.16	0.15 (0.066)	2.7x10 ⁻⁰²	-0.064 (0.063)	3.1x10 ⁻⁰¹	0.035 (0.046)	4.4x10 ⁻⁰¹
<i>MYH1</i>	17p13.1	54	0.032	-0.12 (0.052)	2.8x10 ⁻⁰²	0.11 (0.066)	1.1x10 ⁻⁰¹	-0.03 (0.041)	4.7x10 ⁻⁰¹
<i>TOX2</i>	20q13.12	32	0.33	0.068 (0.033)	3.9x10 ⁻⁰²	-0.058 (0.041)	1.6x10 ⁻⁰¹	0.018 (0.026)	4.7x10 ⁻⁰¹
<i>RP11-295P9.3</i>	10p13	17	0.15	0.11 (0.055)	4.5x10 ⁻⁰²	-0.092 (0.068)	1.7x10 ⁻⁰¹	0.030 (0.042)	4.8x10 ⁻⁰¹
<i>SGCG</i>	13q12.12	1	0.049	-2.9 (1.2)	1.7x10 ⁻⁰²	1.3 (1.1)	2.2x10 ⁻⁰¹	-0.55 (0.80)	4.9x10 ⁻⁰¹

Gene	Location ^a	# SNPs in Imputation		Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>TRMT61B</i>	2p23.2	20	0.2	-0.088 (0.044)	4.4x10 ⁻⁰²	0.069 (0.052)	1.8x10 ⁻⁰¹	-0.022 (0.033)	5.0x10 ⁻⁰¹
<i>PHYHIPL</i>	10q21.1	31	0.022	0.16 (0.060)	8.4x10 ⁻⁰³	-0.22 (0.085)	9.0x10 ⁻⁰³	0.032 (0.049)	5.1x10 ⁻⁰¹
<i>TMEM98</i>	17q11.2	14	0.047	-0.23 (0.089)	1.0x10 ⁻⁰²	0.28 (0.11)	1.4x10 ⁻⁰²	-0.036 (0.070)	6.0x10 ⁻⁰¹
<i>ZNF501</i>	3p21.31	2	0.12	-0.21 (0.095)	2.6x10 ⁻⁰²	0.14 (0.093)	1.5x10 ⁻⁰¹	-0.035 (0.067)	6.0x10 ⁻⁰¹
<i>COLEC11</i>	2p25.3	33	0.026	0.17 (0.068)	1.5x10 ⁻⁰²	-0.22 (0.092)	1.5x10 ⁻⁰²	0.027 (0.055)	6.2x10 ⁻⁰¹
<i>HAGH</i>	16p13.3	14	0.098	0.13 (0.060)	3.3x10 ⁻⁰²	-0.14 (0.074)	5.9x10 ⁻⁰²	0.022 (0.047)	6.4x10 ⁻⁰¹
<i>HELLS</i>	10q23.33	32	0.049	0.18 (0.079)	1.9x10 ⁻⁰²	-0.23 (0.10)	2.4x10 ⁻⁰²	0.028 (0.062)	6.5x10 ⁻⁰¹
<i>KAT8</i>	16p11.2	38	0.24	-0.068 (0.033)	3.8x10 ⁻⁰²	0.047 (0.033)	1.5x10 ⁻⁰¹	-0.011 (0.023)	6.5x10 ⁻⁰¹
<i>LRRFIP1</i>	2q37.3	15	0.024	-0.23 (0.11)	3.3x10 ⁻⁰²	0.31 (0.14)	3.4x10 ⁻⁰²	-0.038 (0.086)	6.6x10 ⁻⁰¹
<i>ZNF709</i>	19p13.2	20	0.027	0.21 (0.096)	2.9x10 ⁻⁰²	-0.18 (0.10)	7.7x10 ⁻⁰²	0.029 (0.071)	6.8x10 ⁻⁰¹
<i>RGS17</i>	6q25.2	1	0.038	2.2 (1.1)	4.6x10 ⁻⁰²	-1.2 (0.97)	2.3x10 ⁻⁰¹	0.30 (0.73)	6.8x10 ⁻⁰¹
<i>MSH4</i>	1p31.1	27	0.12	0.10 (0.050)	4.4x10 ⁻⁰²	-0.085 (0.052)	1.1x10 ⁻⁰¹	0.013 (0.036)	7.2x10 ⁻⁰¹
<i>COMMD10</i>	5q23.1	57	0.1	0.085 (0.042)	4.3x10 ⁻⁰²	-0.13 (0.055)	1.6x10 ⁻⁰²	0.0053 (0.033)	8.7x10 ⁻⁰¹

(B) Whole Blood Expression

Gene	Location ^a	# SNPs in Prediction	Imputation Quality ^b	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
				Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>RCCD1</i>	15q26.1	20	0.35	-0.074 (0.026)	4.7x10 ⁻⁰³	-0.14 (0.039)	2.7x10 ⁻⁰⁴	-0.095 (0.022)	1.2x10 ⁻⁰⁵
<i>ACAP1</i>	17p13.1	19	0.39	0.098 (0.037)	7.9x10 ⁻⁰³	0.11 (0.033)	7.9x10 ⁻⁰⁴	0.11 (0.025)	1.9x10 ⁻⁰⁵
<i>LRRC25</i>	19p13.11	33	0.35	0.086 (0.029)	2.7x10 ⁻⁰³	0.094 (0.034)	6.5x10 ⁻⁰³	0.089 (0.022)	5.2x10 ⁻⁰⁵
<i>TMEM150C</i>	4q21.22	18	0.12	0.16 (0.058)	4.7x10 ⁻⁰³	0.17 (0.065)	9.9x10 ⁻⁰³	0.17 (0.043)	1.3x10 ⁻⁰⁴
<i>TNNT3</i>	11p15.5	11	0.38	0.080 (0.028)	3.9x10 ⁻⁰³	0.084 (0.035)	1.7x10 ⁻⁰²	0.082 (0.022)	1.8x10 ⁻⁰⁴
<i>HP</i>	16q22.2	20	0.49	0.11 (0.024)	7.2x10 ⁻⁰⁶	0.011 (0.029)	7.0x10 ⁻⁰¹	0.069 (0.019)	2.1x10 ⁻⁰⁴
<i>CTDNEP1</i>	17p13.1	22	0.14	0.15 (0.050)	3.0x10 ⁻⁰³	0.13 (0.058)	3.1x10 ⁻⁰²	0.14 (0.038)	2.5x10 ⁻⁰⁴
<i>DHODH</i>	16q22.2	59	0.1	-0.14 (0.041)	4.2x10 ⁻⁰⁴	-0.074 (0.053)	1.6x10 ⁻⁰¹	-0.12 (0.032)	2.6x10 ⁻⁰⁴
<i>DPY19L1</i>	7p14.2	24	0.3	0.11 (0.029)	7.9x10 ⁻⁰⁵	0.030 (0.038)	4.3x10 ⁻⁰¹	0.084 (0.023)	2.8x10 ⁻⁰⁴
<i>KIN</i>	10p14	23	0.11	0.12 (0.054)	2.6x10 ⁻⁰²	0.19 (0.066)	4.6x10 ⁻⁰³	0.15 (0.042)	4.3x10 ⁻⁰⁴
<i>APOBEC3A</i>	22q13.1	78	0.16	-0.10 (0.036)	5.7x10 ⁻⁰³	-0.094 (0.045)	3.9x10 ⁻⁰²	-0.098 (0.028)	5.6x10 ⁻⁰⁴
<i>KCTD11</i>	17p13.1	37	0.25	-0.093 (0.047)	4.8x10 ⁻⁰²	-0.12 (0.041)	4.7x10 ⁻⁰³	-0.11 (0.031)	6.0x10 ⁻⁰⁴
<i>VEZT</i>	12q22	4	0.0077	-0.41 (0.18)	2.1x10 ⁻⁰²	-0.97 (0.33)	3.8x10 ⁻⁰³	-0.54 (0.16)	6.7x10 ⁻⁰⁴
<i>CCNE1</i>	19q12	6	0.015	-0.59 (0.29)	4.1x10 ⁻⁰²	-0.65 (0.24)	7.6x10 ⁻⁰³	-0.63 (0.19)	7.9x10 ⁻⁰⁴
<i>SCN4B</i>	11q23.3	33	0.05	-0.15 (0.078)	5.0x10 ⁻⁰²	-0.27 (0.095)	4.5x10 ⁻⁰³	-0.20 (0.060)	9.0x10 ⁻⁰⁴
<i>ALDH5A1</i>	6p22.3	45	0.11	-0.098 (0.046)	3.3x10 ⁻⁰²	-0.17 (0.063)	7.4x10 ⁻⁰³	-0.12 (0.037)	9.7x10 ⁻⁰⁴
<i>GIT1</i>	17q11.2	31	0.4	-0.053 (0.026)	4.0x10 ⁻⁰²	-0.086 (0.032)	7.0x10 ⁻⁰³	-0.066 (0.020)	9.9x10 ⁻⁰⁴
<i>KCNAB3</i>	17p13.1	34	0.093	-0.17 (0.063)	5.5x10 ⁻⁰³	-0.13 (0.073)	7.8x10 ⁻⁰²	-0.16 (0.048)	1.1x10 ⁻⁰³
<i>ELL</i>	19p13.11	37	0.34	-0.071 (0.029)	1.6x10 ⁻⁰²	-0.076 (0.035)	2.8x10 ⁻⁰²	-0.073 (0.022)	1.1x10 ⁻⁰³
<i>ZNF23</i>	16q22.2	25	0.15	0.11 (0.050)	2.1x10 ⁻⁰²	0.13 (0.054)	2.0x10 ⁻⁰²	0.12 (0.037)	1.1x10 ⁻⁰³
<i>ACADVL</i>	17p13.1	23	0.12	-0.14 (0.055)	1.3x10 ⁻⁰²	-0.13 (0.065)	4.0x10 ⁻⁰²	-0.14 (0.042)	1.2x10 ⁻⁰³
<i>ITGB7</i>	12q13.13	25	0.17	-0.080 (0.026)	2.3x10 ⁻⁰³	-0.057 (0.052)	2.8x10 ⁻⁰¹	-0.076 (0.024)	1.3x10 ⁻⁰³
<i>DPYD</i>	1p21.3	108	0.13	-0.073 (0.037)	4.8x10 ⁻⁰²	-0.14 (0.051)	6.0x10 ⁻⁰³	-0.096 (0.030)	1.3x10 ⁻⁰³
<i>AP1B1</i>	22q12.2	12	0.04	-0.21 (0.082)	9.9x10 ⁻⁰³	-0.21 (0.11)	6.2x10 ⁻⁰²	-0.21 (0.066)	1.4x10 ⁻⁰³

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>SASS6</i>	1p21.2	24	0.019	-0.24 (0.11)	2.3x10 ⁻⁰²	-0.32 (0.14)	2.6x10 ⁻⁰²	-0.27 (0.086)	1.6x10 ⁻⁰³
<i>TTLL5</i>	14q24.3	27	0.16	0.13 (0.048)	6.4x10 ⁻⁰³	0.092 (0.058)	1.1x10 ⁻⁰¹	0.11 (0.037)	1.8x10 ⁻⁰³
<i>ZNF564</i>	19p13.2	24	0.011	-0.27 (0.10)	8.5x10 ⁻⁰³	-0.26 (0.15)	9.4x10 ⁻⁰²	-0.27 (0.085)	1.8x10 ⁻⁰³
<i>GPM6A</i>	4q34.2	20	0.39	-0.043 (0.021)	4.4x10 ⁻⁰²	-0.087 (0.033)	8.6x10 ⁻⁰³	-0.056 (0.018)	1.8x10 ⁻⁰³
<i>KLHL28</i>	14q21.2	55	0.022	0.16 (0.069)	1.7x10 ⁻⁰²	0.21 (0.10)	4.3x10 ⁻⁰²	0.18 (0.057)	1.9x10 ⁻⁰³
<i>POLN</i>	4p16.3	41	0.079	-0.097 (0.033)	2.9x10 ⁻⁰³	-0.066 (0.075)	3.7x10 ⁻⁰¹	-0.092 (0.030)	2.0x10 ⁻⁰³
<i>CCT5</i>	5p15.2	21	0.042	-0.22 (0.085)	8.4x10 ⁻⁰³	-0.22 (0.14)	1.1x10 ⁻⁰¹	-0.22 (0.072)	2.0x10 ⁻⁰³
<i>CC2D1A</i>	19p13.12	19	0.037	-0.27 (0.098)	6.1x10 ⁻⁰³	-0.17 (0.11)	1.3x10 ⁻⁰¹	-0.23 (0.074)	2.1x10 ⁻⁰³
<i>SSBP4</i>	19p13.11	29	0.067	0.15 (0.061)	1.6x10 ⁻⁰²	0.15 (0.079)	5.4x10 ⁻⁰²	0.15 (0.048)	2.1x10 ⁻⁰³
<i>KBTBD3</i>	11q22.3	32	0.051	0.15 (0.075)	4.5x10 ⁻⁰²	0.24 (0.097)	1.4x10 ⁻⁰²	0.18 (0.059)	2.1x10 ⁻⁰³
<i>MAN2C1</i>	15q24.2	45	0.77	-0.051 (0.017)	2.1x10 ⁻⁰³	-0.022 (0.022)	3.2x10 ⁻⁰¹	-0.040 (0.013)	2.2x10 ⁻⁰³
<i>FAM103A1</i>	15q25.2	29	0.013	-0.23 (0.085)	5.6x10 ⁻⁰³	-0.15 (0.11)	1.6x10 ⁻⁰¹	-0.20 (0.067)	2.3x10 ⁻⁰³
<i>SLC35E2B</i>	1p36.33	18	0.081	-0.20 (0.085)	1.8x10 ⁻⁰²	-0.17 (0.085)	5.2x10 ⁻⁰²	-0.18 (0.060)	2.4x10 ⁻⁰³
<i>TP53INP2</i>	20q11.22	6	0.02	-0.50 (0.13)	1.0x10 ⁻⁰⁴	0.004 (0.16)	9.8x10 ⁻⁰¹	-0.30 (0.10)	2.5x10 ⁻⁰³
<i>ZNF578</i>	19q13.41	9	0.028	0.26 (0.11)	1.4x10 ⁻⁰²	0.30 (0.17)	8.0x10 ⁻⁰²	0.27 (0.090)	2.6x10 ⁻⁰³
<i>THUMPD1</i>	16p12.3	57	0.23	0.12 (0.043)	3.5x10 ⁻⁰³	0.059 (0.048)	2.2x10 ⁻⁰¹	0.095 (0.032)	2.7x10 ⁻⁰³
<i>STX16</i>	20q13.32	22	0.066	-0.18 (0.069)	9.2x10 ⁻⁰³	-0.13 (0.084)	1.4x10 ⁻⁰¹	-0.16 (0.054)	3.1x10 ⁻⁰³
<i>CA12</i>	15q22.2	42	0.026	-0.21 (0.086)	1.2x10 ⁻⁰²	-0.19 (0.12)	1.1x10 ⁻⁰¹	-0.20 (0.069)	3.1x10 ⁻⁰³
<i>UBE4A</i>	11q23.3	29	0.057	-0.16 (0.075)	3.9x10 ⁻⁰²	-0.19 (0.093)	3.6x10 ⁻⁰²	-0.17 (0.058)	3.4x10 ⁻⁰³
<i>PLEKHJ1</i>	19p13.3	10	0.044	0.20 (0.064)	1.4x10 ⁻⁰³	0.016 (0.12)	8.9x10 ⁻⁰¹	0.17 (0.057)	3.6x10 ⁻⁰³
<i>TMIGD2</i>	19p13.3	18	0.085	-0.17 (0.060)	5.2x10 ⁻⁰³	-0.088 (0.080)	2.7x10 ⁻⁰¹	-0.14 (0.048)	3.7x10 ⁻⁰³
<i>ABHD8</i>	19p13.11	11	0.11	0.16 (0.054)	4.2x10 ⁻⁰³	0.071 (0.070)	3.1x10 ⁻⁰¹	0.12 (0.043)	3.9x10 ⁻⁰³
<i>ITGA2</i>	5q11.2	49	0.12	0.10 (0.043)	1.6x10 ⁻⁰²	0.093 (0.059)	1.2x10 ⁻⁰¹	0.10 (0.035)	4.0x10 ⁻⁰³
<i>DONSON</i>	21q22.11	23	0.014	0.40 (0.14)	3.1x10 ⁻⁰³	0.15 (0.16)	3.5x10 ⁻⁰¹	0.30 (0.10)	4.1x10 ⁻⁰³
<i>SLFN11</i>	17q12	35	0.079	0.093 (0.045)	3.8x10 ⁻⁰²	0.15 (0.073)	3.4x10 ⁻⁰²	0.11 (0.038)	4.1x10 ⁻⁰³
<i>XRCC2</i>	7q36.1	18	0.15	0.13 (0.051)	9.5x10 ⁻⁰³	0.078 (0.054)	1.5x10 ⁻⁰¹	0.11 (0.037)	4.2x10 ⁻⁰³
<i>HRSP12</i>	8q22.2	38	0.09	-0.16 (0.058)	6.5x10 ⁻⁰³	-0.082 (0.071)	2.5x10 ⁻⁰¹	-0.13 (0.045)	4.5x10 ⁻⁰³

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>PRKG2</i>	4q21.21	32	0.15	-0.097 (0.040)	1.7x10 ⁻⁰²	-0.088 (0.057)	1.2x10 ⁻⁰¹	-0.094 (0.033)	4.5x10 ⁻⁰³
<i>EEA1</i>	12q22	22	0.008	-0.38 (0.17)	2.5x10 ⁻⁰²	-0.36 (0.21)	8.2x10 ⁻⁰²	-0.37 (0.13)	4.5x10 ⁻⁰³
<i>NYNRIN</i>	14q12	76	0.052	-0.12 (0.049)	1.6x10 ⁻⁰²	-0.10 (0.066)	1.4x10 ⁻⁰¹	-0.11 (0.039)	4.7x10 ⁻⁰³
<i>RPS10</i>	6p21.31	29	0.035	0.17 (0.059)	4.3x10 ⁻⁰³	0.070 (0.11)	5.4x10 ⁻⁰¹	0.15 (0.053)	4.8x10 ⁻⁰³
<i>TMEM143</i>	19q13.33	9	0.059	0.21 (0.092)	2.1x10 ⁻⁰²	0.17 (0.100)	9.7x10 ⁻⁰²	0.19 (0.068)	4.8x10 ⁻⁰³
<i>GLI3</i>	7p14.1	16	0.043	0.22 (0.100)	2.7x10 ⁻⁰²	0.21 (0.12)	7.8x10 ⁻⁰²	0.22 (0.077)	4.8x10 ⁻⁰³
<i>ZNF879</i>	5q35.3	16	0.18	-0.086 (0.035)	1.4x10 ⁻⁰²	-0.072 (0.052)	1.6x10 ⁻⁰¹	-0.081 (0.029)	4.9x10 ⁻⁰³
<i>UGGT2</i>	13q32.1	47	0.15	-0.091 (0.043)	3.2x10 ⁻⁰²	-0.096 (0.053)	6.8x10 ⁻⁰²	-0.093 (0.033)	4.9x10 ⁻⁰³
<i>MYCL1</i>	1p34.2	25	0.014	-0.25 (0.12)	3.9x10 ⁻⁰²	-0.26 (0.14)	5.8x10 ⁻⁰²	-0.26 (0.092)	5.1x10 ⁻⁰³
<i>ELF3</i>	1q32.1	53	0.28	-0.093 (0.029)	1.3x10 ⁻⁰³	-0.015 (0.037)	6.9x10 ⁻⁰¹	-0.064 (0.023)	5.4x10 ⁻⁰³
<i>CCDC117</i>	22q12.1	24	0.02	0.29 (0.10)	4.1x10 ⁻⁰³	0.11 (0.15)	4.6x10 ⁻⁰¹	0.23 (0.084)	5.4x10 ⁻⁰³
<i>CRCP</i>	7q11.21	47	0.12	-0.082 (0.034)	1.6x10 ⁻⁰²	-0.070 (0.049)	1.5x10 ⁻⁰¹	-0.078 (0.028)	5.4x10 ⁻⁰³
<i>KCNIP2</i>	10q24.32	13	0.055	-0.24 (0.083)	3.5x10 ⁻⁰³	-0.080 (0.12)	5.0x10 ⁻⁰¹	-0.19 (0.068)	5.5x10 ⁻⁰³
<i>RDBP</i>	6p21.33	17	0.076	-0.16 (0.059)	7.4x10 ⁻⁰³	-0.085 (0.083)	3.1x10 ⁻⁰¹	-0.13 (0.048)	5.5x10 ⁻⁰³
<i>ZSCAN20</i>	1p35.1	46	0.015	0.17 (0.084)	4.2x10 ⁻⁰²	0.22 (0.11)	5.4x10 ⁻⁰²	0.19 (0.068)	5.5x10 ⁻⁰³
<i>TRAF3IP3</i>	1q32.2	41	0.21	-0.11 (0.036)	2.0x10 ⁻⁰³	-0.026 (0.045)	5.6x10 ⁻⁰¹	-0.078 (0.028)	5.6x10 ⁻⁰³
<i>STAP2</i>	19p13.3	14	0.054	0.21 (0.083)	1.1x10 ⁻⁰²	0.13 (0.11)	2.1x10 ⁻⁰¹	0.18 (0.065)	5.6x10 ⁻⁰³
<i>INCENP</i>	11q12.3	45	0.084	-0.13 (0.062)	4.0x10 ⁻⁰²	-0.13 (0.070)	6.4x10 ⁻⁰²	-0.13 (0.047)	5.6x10 ⁻⁰³
<i>GLB1</i>	3p22.3	23	0.041	-0.22 (0.091)	1.8x10 ⁻⁰²	-0.15 (0.10)	1.3x10 ⁻⁰¹	-0.19 (0.068)	5.7x10 ⁻⁰³
<i>CASP8</i>	2q33.1	30	0.33	-0.060 (0.026)	2.1x10 ⁻⁰²	-0.056 (0.037)	1.3x10 ⁻⁰¹	-0.059 (0.021)	5.7x10 ⁻⁰³
<i>OTUD7B</i>	1q21.2	9	0.017	0.43 (0.14)	1.8x10 ⁻⁰³	0.088 (0.17)	6.1x10 ⁻⁰¹	0.30 (0.11)	5.8x10 ⁻⁰³
<i>SMAD3</i>	15q22.33	43	0.008	-0.29 (0.097)	3.2x10 ⁻⁰³	-0.086 (0.13)	5.1x10 ⁻⁰¹	-0.21 (0.078)	5.8x10 ⁻⁰³
<i>AATF</i>	17q12	27	0.028	-0.29 (0.11)	9.1x10 ⁻⁰³	-0.16 (0.14)	2.4x10 ⁻⁰¹	-0.24 (0.087)	5.8x10 ⁻⁰³
<i>ZNF367</i>	9q22.32	60	0.026	-0.15 (0.070)	3.3x10 ⁻⁰²	-0.16 (0.089)	7.8x10 ⁻⁰²	-0.15 (0.055)	5.8x10 ⁻⁰³
<i>WNT10B</i>	12q13.12	1	0.0075	0.54 (0.26)	3.6x10 ⁻⁰²	0.57 (0.32)	7.4x10 ⁻⁰²	0.56 (0.20)	5.9x10 ⁻⁰³
<i>LRRFIP2</i>	3p22.2	63	0.2	0.093 (0.042)	2.7x10 ⁻⁰²	0.075 (0.045)	9.8x10 ⁻⁰²	0.084 (0.031)	6.0x10 ⁻⁰³
<i>C22orf32</i>	22q13.2	29	0.86	-0.039 (0.018)	2.6x10 ⁻⁰²	-0.034 (0.021)	1.1x10 ⁻⁰¹	-0.037 (0.014)	6.5x10 ⁻⁰³

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>ZNF16</i>	8q24.3	21	0.014	0.21 (0.10)	3.6x10 ⁻⁰²	0.25 (0.14)	8.2x10 ⁻⁰²	0.22 (0.083)	6.5x10 ⁻⁰³
<i>APH1A</i>	1q21.2	2	0.0058	2.80 (1.0)	6.8x10 ⁻⁰³	1.20 (1.2)	3.2x10 ⁻⁰¹	2.20 (0.80)	6.8x10 ⁻⁰³
<i>STX1A</i>	7q11.23	18	0.031	-0.23 (0.10)	2.8x10 ⁻⁰²	-0.19 (0.12)	1.1x10 ⁻⁰¹	-0.21 (0.079)	6.8x10 ⁻⁰³
<i>C12orf32</i>	12p13.33	15	0.3	-0.061 (0.030)	4.2x10 ⁻⁰²	-0.078 (0.043)	7.0x10 ⁻⁰²	-0.067 (0.025)	6.8x10 ⁻⁰³
<i>TTL</i>	2q13	25	0.033	0.20 (0.082)	1.8x10 ⁻⁰²	0.15 (0.11)	1.8x10 ⁻⁰¹	0.18 (0.067)	6.9x10 ⁻⁰³
<i>XCL2</i>	1q24.2	23	0.51	-0.053 (0.026)	4.4x10 ⁻⁰²	-0.051 (0.029)	7.3x10 ⁻⁰²	-0.052 (0.019)	6.9x10 ⁻⁰³
<i>PF4V1</i>	4q13.3	37	0.58	0.040 (0.020)	4.8x10 ⁻⁰²	0.046 (0.025)	6.7x10 ⁻⁰²	0.042 (0.016)	7.1x10 ⁻⁰³
<i>IRF2BP2</i>	1q42.3	77	0.048	-0.13 (0.055)	1.5x10 ⁻⁰²	-0.087 (0.069)	2.1x10 ⁻⁰¹	-0.12 (0.043)	7.2x10 ⁻⁰³
<i>LGMN</i>	14q32.12	35	0.061	-0.15 (0.070)	3.9x10 ⁻⁰²	-0.15 (0.088)	8.9x10 ⁻⁰²	-0.15 (0.055)	7.4x10 ⁻⁰³
<i>RIOK2</i>	5q15	8	0.059	-0.20 (0.075)	6.7x10 ⁻⁰³	-0.084 (0.098)	3.9x10 ⁻⁰¹	-0.16 (0.060)	7.5x10 ⁻⁰³
<i>FAM200B</i>	4p15.32	15	0.008	-0.40 (0.16)	1.4x10 ⁻⁰²	-0.27 (0.23)	2.5x10 ⁻⁰¹	-0.35 (0.13)	7.5x10 ⁻⁰³
<i>TUBGCP4</i>	15q15.3	21	0.092	0.12 (0.057)	3.7x10 ⁻⁰²	0.11 (0.068)	9.4x10 ⁻⁰²	0.12 (0.043)	7.6x10 ⁻⁰³
<i>SOD2</i>	6q25.3	39	0.32	0.11 (0.040)	7.8x10 ⁻⁰³	0.043 (0.036)	2.3x10 ⁻⁰¹	0.071 (0.027)	7.7x10 ⁻⁰³
<i>IRAK3</i>	12q14.3	47	0.13	0.089 (0.037)	1.6x10 ⁻⁰²	0.069 (0.059)	2.4x10 ⁻⁰¹	0.083 (0.031)	7.7x10 ⁻⁰³
<i>SDC2</i>	8q22.1	46	0.054	0.19 (0.078)	1.7x10 ⁻⁰²	0.12 (0.092)	2.0x10 ⁻⁰¹	0.16 (0.060)	7.7x10 ⁻⁰³
<i>SYNE2</i>	14q23.2	45	0.036	-0.14 (0.066)	3.3x10 ⁻⁰²	-0.16 (0.099)	1.1x10 ⁻⁰¹	-0.15 (0.055)	7.8x10 ⁻⁰³
<i>FAIM</i>	3q22.3	12	0.061	0.28 (0.086)	1.1x10 ⁻⁰³	0.037 (0.093)	6.9x10 ⁻⁰¹	0.17 (0.063)	7.9x10 ⁻⁰³
<i>RINT1</i>	7q22.3	16	0.045	0.20 (0.085)	1.8x10 ⁻⁰²	0.14 (0.12)	2.1x10 ⁻⁰¹	0.18 (0.068)	8.1x10 ⁻⁰³
<i>S100Z</i>	5q13.3	32	0.16	0.10 (0.045)	2.3x10 ⁻⁰²	0.081 (0.059)	1.6x10 ⁻⁰¹	0.095 (0.036)	8.2x10 ⁻⁰³
<i>YJEFN3</i>	19p13.11	20	0.12	-0.12 (0.048)	1.5x10 ⁻⁰²	-0.071 (0.061)	2.4x10 ⁻⁰¹	-0.10 (0.038)	8.3x10 ⁻⁰³
<i>CASP10</i>	2q33.1	17	0.059	-0.24 (0.087)	6.7x10 ⁻⁰³	-0.085 (0.10)	4.0x10 ⁻⁰¹	-0.17 (0.066)	9.2x10 ⁻⁰³
<i>C19orf57</i>	19p13.12	27	0.0062	-0.51 (0.22)	1.9x10 ⁻⁰²	-0.34 (0.28)	2.3x10 ⁻⁰¹	-0.45 (0.17)	9.6x10 ⁻⁰³
<i>ING5</i>	2q37.3	17	0.0067	0.32 (0.14)	2.2x10 ⁻⁰²	0.23 (0.19)	2.1x10 ⁻⁰¹	0.29 (0.11)	9.6x10 ⁻⁰³
<i>ASL</i>	7q11.21	19	0.28	0.063 (0.030)	3.2x10 ⁻⁰²	0.056 (0.038)	1.4x10 ⁻⁰¹	0.061 (0.023)	9.6x10 ⁻⁰³
<i>NEIL2</i>	8p23.1	40	0.44	-0.11 (0.033)	1.1x10 ⁻⁰³	-0.016 (0.030)	6.0x10 ⁻⁰¹	-0.057 (0.022)	9.7x10 ⁻⁰³
<i>TMEM69</i>	1p34.1	20	0.015	-0.27 (0.12)	3.0x10 ⁻⁰²	-0.21 (0.14)	1.5x10 ⁻⁰¹	-0.24 (0.094)	9.9x10 ⁻⁰³

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>ARHGAP11A</i>	15q13.3	95	0.26	0.12 (0.031)	1.8x10 ⁻⁰⁴	-0.019 (0.038)	6.1x10 ⁻⁰¹	0.062 (0.024)	1.0x10 ⁻⁰²
<i>SNUPN</i>	15q24.2	24	0.37	-0.078 (0.029)	7.1x10 ⁻⁰³	-0.027 (0.033)	4.0x10 ⁻⁰¹	-0.056 (0.022)	1.0x10 ⁻⁰²
<i>ZNF181</i>	19q13.11	48	0.11	-0.12 (0.047)	1.1x10 ⁻⁰²	-0.054 (0.061)	3.8x10 ⁻⁰¹	-0.095 (0.037)	1.0x10 ⁻⁰²
<i>STON2</i>	14q31.1	13	0.0078	0.42 (0.18)	2.2x10 ⁻⁰²	0.32 (0.27)	2.4x10 ⁻⁰¹	0.39 (0.15)	1.0x10 ⁻⁰²
<i>SKIL</i>	3q26.2	45	0.038	0.14 (0.064)	2.9x10 ⁻⁰²	0.12 (0.087)	1.7x10 ⁻⁰¹	0.13 (0.052)	1.0x10 ⁻⁰²
<i>TSTA3</i>	8q24.3	2	0.017	-0.31 (0.15)	4.2x10 ⁻⁰²	-0.41 (0.26)	1.1x10 ⁻⁰¹	-0.34 (0.13)	1.0x10 ⁻⁰²
<i>WBSCR27</i>	7q11.23	43	0.78	0.044 (0.015)	3.3x10 ⁻⁰³	0.005 (0.021)	8.1x10 ⁻⁰¹	0.031 (0.012)	1.1x10 ⁻⁰²
<i>AP3D1</i>	19p13.3	34	0.083	-0.14 (0.055)	1.1x10 ⁻⁰²	-0.062 (0.078)	4.3x10 ⁻⁰¹	-0.11 (0.045)	1.1x10 ⁻⁰²
<i>CDCA4</i>	14q32.33	4	0.15	-0.11 (0.043)	1.1x10 ⁻⁰²	-0.050 (0.061)	4.1x10 ⁻⁰¹	-0.089 (0.035)	1.1x10 ⁻⁰²
<i>ZNF19</i>	16q22.2	23	0.063	-0.18 (0.073)	1.6x10 ⁻⁰²	-0.097 (0.086)	2.6x10 ⁻⁰¹	-0.14 (0.056)	1.1x10 ⁻⁰²
<i>SEMA4G</i>	10q24.31	18	0.087	-0.12 (0.050)	2.1x10 ⁻⁰²	-0.089 (0.081)	2.7x10 ⁻⁰¹	-0.11 (0.042)	1.1x10 ⁻⁰²
<i>SERF2</i>	15q15.3	16	0.083	0.18 (0.081)	2.6x10 ⁻⁰²	0.11 (0.080)	1.7x10 ⁻⁰¹	0.15 (0.057)	1.1x10 ⁻⁰²
<i>RNF187</i>	1q42.13	56	0.14	-0.094 (0.044)	3.1x10 ⁻⁰²	-0.072 (0.051)	1.6x10 ⁻⁰¹	-0.084 (0.033)	1.1x10 ⁻⁰²
<i>TUB</i>	11p15.4	77	0.052	-0.13 (0.059)	3.4x10 ⁻⁰²	-0.10 (0.073)	1.6x10 ⁻⁰¹	-0.12 (0.046)	1.1x10 ⁻⁰²
<i>PHLPP1</i>	18q21.33	34	0.15	0.087 (0.042)	3.6x10 ⁻⁰²	0.083 (0.056)	1.4x10 ⁻⁰¹	0.086 (0.034)	1.1x10 ⁻⁰²
<i>HOOK1</i>	1p32.1	40	0.0087	0.22 (0.11)	4.7x10 ⁻⁰²	0.22 (0.14)	1.1x10 ⁻⁰¹	0.22 (0.086)	1.1x10 ⁻⁰²
<i>MYOF</i>	10q23.33	54	0.092	0.14 (0.051)	5.3x10 ⁻⁰³	0.034 (0.061)	5.8x10 ⁻⁰¹	0.097 (0.039)	1.2x10 ⁻⁰²
<i>PRKAB2</i>	1q21.1	36	0.1	0.16 (0.063)	1.0x10 ⁻⁰²	0.062 (0.065)	3.4x10 ⁻⁰¹	0.11 (0.045)	1.2x10 ⁻⁰²
<i>GPX3</i>	5q33.1	45	0.14	0.11 (0.046)	1.4x10 ⁻⁰²	0.054 (0.056)	3.3x10 ⁻⁰¹	0.090 (0.036)	1.2x10 ⁻⁰²
<i>C1orf21</i>	1q25.3	61	0.026	0.18 (0.073)	1.5x10 ⁻⁰²	0.093 (0.098)	3.4x10 ⁻⁰¹	0.15 (0.059)	1.2x10 ⁻⁰²
<i>RABGAP1</i>	9q33.2	14	0.0058	0.38 (0.16)	1.9x10 ⁻⁰²	0.23 (0.22)	3.0x10 ⁻⁰¹	0.33 (0.13)	1.2x10 ⁻⁰²
<i>PDIA3</i>	15q15.3	10	0.03	0.30 (0.13)	2.2x10 ⁻⁰²	0.17 (0.13)	2.0x10 ⁻⁰¹	0.24 (0.093)	1.2x10 ⁻⁰²
<i>MDFIC</i>	7q31.1	19	0.0079	-0.35 (0.16)	3.1x10 ⁻⁰²	-0.24 (0.18)	1.8x10 ⁻⁰¹	-0.30 (0.12)	1.2x10 ⁻⁰²
<i>ZNF83</i>	19q13.41	42	0.61	0.043 (0.020)	3.3x10 ⁻⁰²	0.035 (0.025)	1.7x10 ⁻⁰¹	0.040 (0.016)	1.2x10 ⁻⁰²
<i>IL24</i>	1q32.1	16	0.16	0.14 (0.049)	4.8x10 ⁻⁰³	0.031 (0.054)	5.6x10 ⁻⁰¹	0.089 (0.036)	1.3x10 ⁻⁰²
<i>RNPEP</i>	1q32.1	57	0.77	-0.046 (0.018)	9.2x10 ⁻⁰³	-0.016 (0.022)	4.8x10 ⁻⁰¹	-0.034 (0.014)	1.3x10 ⁻⁰²

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>KCTD20</i>	6p21.31	25	0.042	0.20 (0.077)	1.1x10 ⁻⁰²	0.076 (0.11)	4.9x10 ⁻⁰¹	0.16 (0.063)	1.3x10 ⁻⁰²
<i>CERKL</i>	2q31.3	59	0.32	0.059 (0.024)	1.5x10 ⁻⁰²	0.030 (0.035)	3.9x10 ⁻⁰¹	0.049 (0.020)	1.3x10 ⁻⁰²
<i>PIGN</i>	18q21.33	65	0.35	0.056 (0.026)	2.9x10 ⁻⁰²	0.044 (0.036)	2.3x10 ⁻⁰¹	0.052 (0.021)	1.3x10 ⁻⁰²
<i>ELL3</i>	15q15.3	7	0.035	0.23 (0.11)	4.5x10 ⁻⁰²	0.20 (0.13)	1.3x10 ⁻⁰¹	0.22 (0.087)	1.3x10 ⁻⁰²
<i>PLEKHB1</i>	11q13.4	43	0.14	-0.083 (0.042)	4.7x10 ⁻⁰²	-0.077 (0.052)	1.4x10 ⁻⁰¹	-0.081 (0.033)	1.3x10 ⁻⁰²
<i>NPW</i>	16p13.3	21	0.014	-0.49 (0.14)	5.8x10 ⁻⁰⁴	0.053 (0.18)	7.6x10 ⁻⁰¹	-0.27 (0.11)	1.4x10 ⁻⁰²
<i>UGP2</i>	2p15	12	0.0065	-0.45 (0.14)	1.7x10 ⁻⁰³	0.050 (0.21)	8.1x10 ⁻⁰¹	-0.29 (0.12)	1.4x10 ⁻⁰²
<i>CCDC114</i>	19q13.33	27	0.32	0.085 (0.032)	7.3x10 ⁻⁰³	0.024 (0.038)	5.2x10 ⁻⁰¹	0.060 (0.024)	1.4x10 ⁻⁰²
<i>FKBP11</i>	12q13.12	17	0.031	-0.26 (0.10)	9.4x10 ⁻⁰³	-0.086 (0.12)	4.8x10 ⁻⁰¹	-0.19 (0.077)	1.4x10 ⁻⁰²
<i>PTPLAD2</i>	9p21.3	37	0.087	0.16 (0.062)	1.1x10 ⁻⁰²	0.060 (0.074)	4.2x10 ⁻⁰¹	0.12 (0.048)	1.4x10 ⁻⁰²
<i>PDE9A</i>	21q22.3	97	0.34	0.075 (0.031)	1.7x10 ⁻⁰²	0.035 (0.032)	2.8x10 ⁻⁰¹	0.055 (0.022)	1.4x10 ⁻⁰²
<i>CA6</i>	1p36.23	42	0.33	0.051 (0.023)	2.6x10 ⁻⁰²	0.037 (0.035)	2.9x10 ⁻⁰¹	0.047 (0.019)	1.4x10 ⁻⁰²
<i>BCS1L</i>	2q35	8	0.0051	0.65 (0.29)	2.8x10 ⁻⁰²	0.43 (0.37)	2.4x10 ⁻⁰¹	0.56 (0.23)	1.4x10 ⁻⁰²
<i>FDXR</i>	17q25.1	33	0.12	0.090 (0.046)	4.9x10 ⁻⁰²	0.089 (0.060)	1.4x10 ⁻⁰¹	0.090 (0.037)	1.4x10 ⁻⁰²
<i>PEX14</i>	1p36.22	18	0.066	0.23 (0.082)	5.0x10 ⁻⁰³	0.045 (0.092)	6.2x10 ⁻⁰¹	0.15 (0.061)	1.5x10 ⁻⁰²
<i>FAIM3</i>	1q32.1	4	0.016	0.44 (0.17)	9.1x10 ⁻⁰³	0.14 (0.18)	4.5x10 ⁻⁰¹	0.30 (0.12)	1.5x10 ⁻⁰²
<i>PPP1R13L</i>	19q13.32	33	0.044	-0.21 (0.087)	1.4x10 ⁻⁰²	-0.086 (0.10)	4.0x10 ⁻⁰¹	-0.16 (0.066)	1.5x10 ⁻⁰²
<i>MXD4</i>	4p16.3	14	0.013	-0.26 (0.11)	2.2x10 ⁻⁰²	-0.17 (0.19)	3.5x10 ⁻⁰¹	-0.24 (0.097)	1.5x10 ⁻⁰²
<i>HIAT1</i>	1p21.2	3	0.0054	-0.71 (0.34)	3.8x10 ⁻⁰²	-0.43 (0.30)	1.6x10 ⁻⁰¹	-0.55 (0.23)	1.5x10 ⁻⁰²
<i>BAG3</i>	10q26.11	18	0.0051	-0.71 (0.20)	4.9x10 ⁻⁰⁴	0.22 (0.29)	4.4x10 ⁻⁰¹	-0.40 (0.17)	1.6x10 ⁻⁰²
<i>ZNF860</i>	3p23	10	0.016	0.33 (0.13)	9.9x10 ⁻⁰³	0.085 (0.21)	6.8x10 ⁻⁰¹	0.26 (0.11)	1.6x10 ⁻⁰²
<i>TANC2</i>	17q23.2	31	0.2	0.089 (0.040)	2.5x10 ⁻⁰²	0.048 (0.044)	2.7x10 ⁻⁰¹	0.071 (0.029)	1.6x10 ⁻⁰²
<i>RTDR1</i>	22q11.22	19	0.053	0.16 (0.074)	2.8x10 ⁻⁰²	0.11 (0.100)	2.7x10 ⁻⁰¹	0.14 (0.060)	1.6x10 ⁻⁰²
<i>AKNA</i>	9q32	9	0.074	-0.19 (0.088)	3.3x10 ⁻⁰²	-0.13 (0.10)	2.3x10 ⁻⁰¹	-0.16 (0.068)	1.6x10 ⁻⁰²
<i>PTPRJ</i>	11p11.2	34	0.16	0.080 (0.038)	3.6x10 ⁻⁰²	0.063 (0.052)	2.2x10 ⁻⁰¹	0.074 (0.031)	1.6x10 ⁻⁰²
<i>ZNF576</i>	19q13.31	37	0.052	-0.24 (0.068)	4.5x10 ⁻⁰⁴	0.056 (0.088)	5.3x10 ⁻⁰¹	-0.13 (0.054)	1.7x10 ⁻⁰²
<i>SYDE2</i>	1p22.3	11	0.018	-0.34 (0.13)	8.6x10 ⁻⁰³	-0.083 (0.17)	6.2x10 ⁻⁰¹	-0.24 (0.10)	1.7x10 ⁻⁰²

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		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>QDPR</i>	4p15.32	6	0.65	-0.050 (0.020)	1.2x10 ⁻⁰²	-0.017 (0.025)	4.9x10 ⁻⁰¹	-0.037 (0.016)	1.7x10 ⁻⁰²
<i>STK16</i>	2q35	27	0.0097	0.32 (0.13)	1.8x10 ⁻⁰²	0.15 (0.17)	3.9x10 ⁻⁰¹	0.25 (0.11)	1.7x10 ⁻⁰²
<i>PHOSPHO2</i>	2q31.1	31	0.12	-0.10 (0.047)	3.3x10 ⁻⁰²	-0.069 (0.060)	2.5x10 ⁻⁰¹	-0.089 (0.037)	1.7x10 ⁻⁰²
<i>ARRDC2</i>	19p13.11	20	0.034	-0.21 (0.100)	3.7x10 ⁻⁰²	-0.18 (0.15)	2.4x10 ⁻⁰¹	-0.20 (0.083)	1.7x10 ⁻⁰²
<i>NDUFA7</i>	19p13.2	34	0.095	-0.13 (0.063)	4.2x10 ⁻⁰²	-0.091 (0.069)	1.9x10 ⁻⁰¹	-0.11 (0.047)	1.7x10 ⁻⁰²
<i>GPR19</i>	12p13.1	8	0.26	-0.12 (0.041)	3.2x10 ⁻⁰³	-0.014 (0.044)	7.6x10 ⁻⁰¹	-0.071 (0.030)	1.8x10 ⁻⁰²
<i>MCM9</i>	6q22.31	76	0.094	0.11 (0.047)	2.2x10 ⁻⁰²	0.052 (0.053)	3.3x10 ⁻⁰¹	0.084 (0.035)	1.8x10 ⁻⁰²
<i>NOL9</i>	1p36.31	19	0.081	0.096 (0.048)	4.5x10 ⁻⁰²	0.12 (0.095)	2.0x10 ⁻⁰¹	0.10 (0.043)	1.8x10 ⁻⁰²
<i>IDH1</i>	2q34	6	0.011	0.59 (0.20)	3.1x10 ⁻⁰³	0.034 (0.23)	8.8x10 ⁻⁰¹	0.35 (0.15)	1.9x10 ⁻⁰²
<i>PMFBP1</i>	16q22.2	39	0.012	-0.21 (0.082)	1.1x10 ⁻⁰²	-0.051 (0.12)	6.6x10 ⁻⁰¹	-0.16 (0.067)	1.9x10 ⁻⁰²
<i>TRIM16</i>	17p12	32	0.21	-0.095 (0.037)	1.1x10 ⁻⁰²	-0.027 (0.046)	5.6x10 ⁻⁰¹	-0.068 (0.029)	1.9x10 ⁻⁰²
<i>ARID5B</i>	10q21.2	29	0.11	0.14 (0.061)	2.5x10 ⁻⁰²	0.069 (0.068)	3.1x10 ⁻⁰¹	0.11 (0.045)	1.9x10 ⁻⁰²
<i>QSOX1</i>	1q25.2	55	0.45	-0.043 (0.021)	4.4x10 ⁻⁰²	-0.035 (0.029)	2.2x10 ⁻⁰¹	-0.040 (0.017)	1.9x10 ⁻⁰²
<i>SYNPO2</i>	4q26	30	0.2	0.11 (0.040)	4.4x10 ⁻⁰³	0.012 (0.046)	7.9x10 ⁻⁰¹	0.070 (0.030)	2.0x10 ⁻⁰²
<i>TAP2</i>	6p21.32	56	0.56	0.054 (0.023)	1.9x10 ⁻⁰²	0.023 (0.029)	4.3x10 ⁻⁰¹	0.042 (0.018)	2.0x10 ⁻⁰²
<i>POLR3G</i>	5q14.3	19	0.16	-0.11 (0.047)	2.2x10 ⁻⁰²	-0.049 (0.054)	3.7x10 ⁻⁰¹	-0.083 (0.036)	2.0x10 ⁻⁰²
<i>ABCC10</i>	6p21.1	22	0.054	-0.19 (0.091)	3.2x10 ⁻⁰²	-0.12 (0.11)	2.8x10 ⁻⁰¹	-0.16 (0.069)	2.0x10 ⁻⁰²
<i>CCDC53</i>	12q23.2	26	0.35	0.050 (0.025)	4.4x10 ⁻⁰²	0.041 (0.035)	2.4x10 ⁻⁰¹	0.047 (0.020)	2.0x10 ⁻⁰²
<i>TRAF3IP2</i>	6q21	22	0.12	0.088 (0.045)	4.8x10 ⁻⁰²	0.071 (0.058)	2.2x10 ⁻⁰¹	0.082 (0.035)	2.0x10 ⁻⁰²
<i>MS4A14</i>	11q12.2	33	0.23	0.10 (0.036)	4.6x10 ⁻⁰³	0.009 (0.043)	8.3x10 ⁻⁰¹	0.064 (0.028)	2.1x10 ⁻⁰²
<i>ZNF165</i>	6p22.1	21	0.039	-0.20 (0.078)	8.3x10 ⁻⁰³	-0.033 (0.11)	7.5x10 ⁻⁰¹	-0.14 (0.062)	2.1x10 ⁻⁰²
<i>XBP1</i>	22q12.1	39	0.25	0.082 (0.032)	1.2x10 ⁻⁰²	0.021 (0.042)	6.1x10 ⁻⁰¹	0.059 (0.026)	2.1x10 ⁻⁰²
<i>SLC5A11</i>	16p12.1	34	0.75	-0.051 (0.021)	1.5x10 ⁻⁰²	-0.017 (0.023)	4.6x10 ⁻⁰¹	-0.036 (0.016)	2.1x10 ⁻⁰²
<i>FAM114A1</i>	4p14	26	0.077	0.17 (0.071)	1.6x10 ⁻⁰²	0.061 (0.087)	4.8x10 ⁻⁰¹	0.13 (0.055)	2.1x10 ⁻⁰²
<i>NDUFA10</i>	2q37.3	46	0.52	0.053 (0.023)	2.1x10 ⁻⁰²	0.023 (0.028)	4.1x10 ⁻⁰¹	0.041 (0.018)	2.1x10 ⁻⁰²
<i>BLMH</i>	17q11.2	44	0.14	0.092 (0.041)	2.4x10 ⁻⁰²	0.043 (0.048)	3.7x10 ⁻⁰¹	0.071 (0.031)	2.1x10 ⁻⁰²
<i>PDS5B</i>	13q13.1	33	0.017	-0.26 (0.12)	2.7x10 ⁻⁰²	-0.14 (0.15)	3.6x10 ⁻⁰¹	-0.21 (0.092)	2.1x10 ⁻⁰²

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>DFFA</i>	1p36.22	6	0.0067	0.50 (0.23)	3.1x10 ⁻⁰²	0.29 (0.29)	3.1x10 ⁻⁰¹	0.42 (0.18)	2.1x10 ⁻⁰²
<i>CCDC132</i>	7q21.3	7	0.022	-0.32 (0.16)	4.4x10 ⁻⁰²	-0.22 (0.18)	2.4x10 ⁻⁰¹	-0.28 (0.12)	2.1x10 ⁻⁰²
<i>NUP210</i>	3p25.1	17	0.033	-0.27 (0.10)	1.0x10 ⁻⁰²	-0.056 (0.13)	6.8x10 ⁻⁰¹	-0.19 (0.082)	2.2x10 ⁻⁰²
<i>FKBP7</i>	2q31.2	28	0.034	0.24 (0.074)	1.2x10 ⁻⁰³	-0.068 (0.10)	5.2x10 ⁻⁰¹	0.14 (0.061)	2.3x10 ⁻⁰²
<i>NSMCE1</i>	16p12.1	26	0.067	-0.19 (0.076)	1.3x10 ⁻⁰²	-0.054 (0.090)	5.5x10 ⁻⁰¹	-0.13 (0.058)	2.3x10 ⁻⁰²
<i>MRPL43</i>	10q24.31	17	0.41	-0.049 (0.022)	2.3x10 ⁻⁰²	-0.023 (0.033)	4.9x10 ⁻⁰¹	-0.041 (0.018)	2.3x10 ⁻⁰²
<i>LZTS1</i>	8p21.3	56	0.15	-0.079 (0.038)	3.6x10 ⁻⁰²	-0.052 (0.054)	3.4x10 ⁻⁰¹	-0.070 (0.031)	2.3x10 ⁻⁰²
<i>SOCS6</i>	18q22.2	8	0.0066	-0.40 (0.20)	4.6x10 ⁻⁰²	-0.31 (0.27)	2.6x10 ⁻⁰¹	-0.37 (0.16)	2.3x10 ⁻⁰²
<i>ZNF707</i>	8q24.3	16	0.11	0.085 (0.043)	4.9x10 ⁻⁰²	0.075 (0.066)	2.5x10 ⁻⁰¹	0.082 (0.036)	2.3x10 ⁻⁰²
<i>CRYM</i>	16p12.2	40	0.12	-0.12 (0.054)	2.6x10 ⁻⁰²	-0.053 (0.056)	3.4x10 ⁻⁰¹	-0.088 (0.039)	2.4x10 ⁻⁰²
<i>CNOT6L</i>	4q21.1	13	0.0061	-0.42 (0.16)	1.2x10 ⁻⁰²	-0.056 (0.25)	8.3x10 ⁻⁰¹	-0.31 (0.14)	2.5x10 ⁻⁰²
<i>C10orf2</i>	10q24.31	16	0.022	0.31 (0.12)	1.2x10 ⁻⁰²	0.062 (0.16)	6.9x10 ⁻⁰¹	0.22 (0.097)	2.5x10 ⁻⁰²
<i>MSLN</i>	16p13.3	137	0.37	-0.060 (0.026)	2.1x10 ⁻⁰²	-0.023 (0.032)	4.7x10 ⁻⁰¹	-0.045 (0.020)	2.5x10 ⁻⁰²
<i>TMEM62</i>	15q15.2	6	0.014	0.33 (0.16)	4.0x10 ⁻⁰²	0.20 (0.20)	3.1x10 ⁻⁰¹	0.28 (0.12)	2.5x10 ⁻⁰²
<i>SRGAP2</i>	1q32.1	61	0.012	0.17 (0.064)	6.2x10 ⁻⁰³	0.000 (0.090)	1.00E+00	0.12 (0.052)	2.6x10 ⁻⁰²
<i>ALCAM</i>	3q13.11	77	0.28	0.064 (0.025)	1.1x10 ⁻⁰²	0.009 (0.036)	8.1x10 ⁻⁰¹	0.046 (0.021)	2.6x10 ⁻⁰²
<i>PCBP3</i>	21q22.3	73	0.39	0.060 (0.027)	2.3x10 ⁻⁰²	0.024 (0.031)	4.5x10 ⁻⁰¹	0.045 (0.020)	2.6x10 ⁻⁰²
<i>RPL7L1</i>	6p21.1	16	0.09	0.15 (0.070)	3.1x10 ⁻⁰²	0.072 (0.075)	3.4x10 ⁻⁰¹	0.11 (0.051)	2.6x10 ⁻⁰²
<i>UNG</i>	12q24.11	4	0.23	-0.075 (0.037)	4.5x10 ⁻⁰²	-0.050 (0.048)	2.9x10 ⁻⁰¹	-0.065 (0.029)	2.6x10 ⁻⁰²
<i>CNKSR3</i>	6q25.2	28	0.17	-0.11 (0.043)	7.4x10 ⁻⁰³	-0.009 (0.054)	8.7x10 ⁻⁰¹	-0.074 (0.034)	2.7x10 ⁻⁰²
<i>SAT2</i>	17p13.1	32	0.24	0.10 (0.040)	1.2x10 ⁻⁰²	0.023 (0.042)	5.9x10 ⁻⁰¹	0.064 (0.029)	2.7x10 ⁻⁰²
<i>ITGA7</i>	12q13.2	43	0.1	-0.11 (0.049)	3.1x10 ⁻⁰²	-0.053 (0.066)	4.2x10 ⁻⁰¹	-0.087 (0.039)	2.7x10 ⁻⁰²
<i>CCND1</i>	11q13.3	29	0.083	0.15 (0.072)	3.7x10 ⁻⁰²	0.077 (0.077)	3.2x10 ⁻⁰¹	0.12 (0.053)	2.7x10 ⁻⁰²
<i>ARL4A</i>	7p21.3	47	0.06	-0.20 (0.073)	5.3x10 ⁻⁰³	-0.014 (0.082)	8.7x10 ⁻⁰¹	-0.12 (0.055)	2.8x10 ⁻⁰²
<i>SHISA4</i>	1q32.1	33	0.045	0.22 (0.099)	2.9x10 ⁻⁰²	0.094 (0.11)	4.0x10 ⁻⁰¹	0.16 (0.075)	2.8x10 ⁻⁰²
<i>PDCD11</i>	10q24.33	42	0.034	-0.20 (0.071)	5.7x10 ⁻⁰³	-0.004 (0.089)	9.7x10 ⁻⁰¹	-0.12 (0.056)	2.9x10 ⁻⁰²
<i>TMEM170B</i>	6p24.2	41	0.045	0.18 (0.084)	3.7x10 ⁻⁰²	0.091 (0.10)	3.8x10 ⁻⁰¹	0.14 (0.066)	2.9x10 ⁻⁰²

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>TDG</i>	12q23.3	19	0.0082	-0.36 (0.15)	1.9x10 ⁻⁰²	-0.11 (0.17)	5.4x10 ⁻⁰¹	-0.25 (0.11)	3.0x10 ⁻⁰²
<i>RNF157</i>	17q25.1	21	0.094	0.14 (0.059)	2.1x10 ⁻⁰²	0.045 (0.074)	5.5x10 ⁻⁰¹	0.10 (0.046)	3.0x10 ⁻⁰²
<i>DCBLD2</i>	3q12.1	32	0.17	0.090 (0.044)	4.0x10 ⁻⁰²	0.049 (0.054)	3.6x10 ⁻⁰¹	0.074 (0.034)	3.0x10 ⁻⁰²
<i>SCUBE2</i>	11p15.4	25	0.035	-0.15 (0.078)	4.9x10 ⁻⁰²	-0.10 (0.11)	3.3x10 ⁻⁰¹	-0.14 (0.063)	3.0x10 ⁻⁰²
<i>PLD6</i>	17p11.2	34	0.25	-0.054 (0.021)	1.0x10 ⁻⁰²	0.011 (0.041)	7.9x10 ⁻⁰¹	-0.040 (0.019)	3.1x10 ⁻⁰²
<i>FARS2</i>	6p25.1	60	0.17	-0.089 (0.035)	1.1x10 ⁻⁰²	-0.007 (0.047)	8.8x10 ⁻⁰¹	-0.060 (0.028)	3.1x10 ⁻⁰²
<i>HBE1</i>	11p15.4	8	0.016	-0.32 (0.14)	2.2x10 ⁻⁰²	-0.088 (0.22)	6.9x10 ⁻⁰¹	-0.25 (0.12)	3.1x10 ⁻⁰²
<i>ABCG1</i>	21q22.3	33	0.0048	0.34 (0.16)	3.8x10 ⁻⁰²	0.18 (0.22)	4.2x10 ⁻⁰¹	0.28 (0.13)	3.1x10 ⁻⁰²
<i>IRGQ</i>	19q13.31	22	0.052	-0.21 (0.072)	3.0x10 ⁻⁰³	0.028 (0.091)	7.6x10 ⁻⁰¹	-0.12 (0.057)	3.2x10 ⁻⁰²
<i>MAP1LC3A</i>	20q11.22	49	0.27	-0.088 (0.031)	4.7x10 ⁻⁰³	-0.002 (0.035)	9.6x10 ⁻⁰¹	-0.050 (0.023)	3.2x10 ⁻⁰²
<i>AHNAK</i>	11q12.3	57	0.038	0.19 (0.076)	1.0x10 ⁻⁰²	0.027 (0.090)	7.6x10 ⁻⁰¹	0.12 (0.058)	3.2x10 ⁻⁰²
<i>ATE1</i>	10q26.13	4	0.011	-0.52 (0.25)	3.4x10 ⁻⁰²	-0.22 (0.24)	3.6x10 ⁻⁰¹	-0.37 (0.17)	3.2x10 ⁻⁰²
<i>TAF11</i>	6p21.31	29	0.0077	-0.20 (0.098)	3.7x10 ⁻⁰²	-0.11 (0.14)	4.4x10 ⁻⁰¹	-0.17 (0.080)	3.2x10 ⁻⁰²
<i>AGPHD1</i>	15q25.1	12	0.017	-0.31 (0.15)	3.7x10 ⁻⁰²	-0.14 (0.16)	3.6x10 ⁻⁰¹	-0.23 (0.11)	3.2x10 ⁻⁰²
<i>KISS1R</i>	19p13.3	14	0.22	0.098 (0.049)	4.8x10 ⁻⁰²	0.051 (0.047)	2.8x10 ⁻⁰¹	0.073 (0.034)	3.2x10 ⁻⁰²
<i>PAK1</i>	11q14.1	35	0.058	0.26 (0.093)	4.5x10 ⁻⁰³	0.018 (0.091)	8.4x10 ⁻⁰¹	0.14 (0.065)	3.3x10 ⁻⁰²
<i>RSPH9</i>	6p21.1	50	0.009	0.28 (0.11)	8.6x10 ⁻⁰³	0.011 (0.14)	9.3x10 ⁻⁰¹	0.18 (0.084)	3.3x10 ⁻⁰²
<i>IFI16</i>	1q23.1	14	0.019	0.30 (0.12)	1.1x10 ⁻⁰²	0.000 (0.19)	1.00E+00	0.21 (0.10)	3.3x10 ⁻⁰²
<i>CSDA</i>	17p13.1	64	0.033	0.14 (0.061)	2.2x10 ⁻⁰²	0.039 (0.090)	6.7x10 ⁻⁰¹	0.11 (0.051)	3.3x10 ⁻⁰²
<i>PDZD8</i>	10q26.11	64	0.44	-0.060 (0.027)	2.7x10 ⁻⁰²	-0.022 (0.030)	4.6x10 ⁻⁰¹	-0.043 (0.020)	3.3x10 ⁻⁰²
<i>LSR</i>	19q13.12	18	0.17	0.10 (0.046)	2.8x10 ⁻⁰²	0.039 (0.056)	4.9x10 ⁻⁰¹	0.076 (0.036)	3.3x10 ⁻⁰²
<i>C2</i>	6p21.33	45	0.085	-0.21 (0.068)	1.9x10 ⁻⁰³	-0.002 (0.062)	9.7x10 ⁻⁰¹	-0.097 (0.046)	3.4x10 ⁻⁰²
<i>B3GALTL</i>	13q12.3	53	0.034	0.20 (0.075)	6.7x10 ⁻⁰³	-0.024 (0.11)	8.3x10 ⁻⁰¹	0.13 (0.062)	3.4x10 ⁻⁰²
<i>BIK</i>	22q13.2	40	0.068	0.20 (0.075)	7.7x10 ⁻⁰³	0.010 (0.090)	9.2x10 ⁻⁰¹	0.12 (0.058)	3.4x10 ⁻⁰²
<i>OCIAD2</i>	4p11	1	0.0064	-0.59 (0.23)	1.0x10 ⁻⁰²	0.097 (0.41)	8.1x10 ⁻⁰¹	-0.42 (0.20)	3.4x10 ⁻⁰²
<i>ZDHHC5</i>	11q12.1	16	0.084	0.17 (0.073)	2.0x10 ⁻⁰²	0.048 (0.081)	5.5x10 ⁻⁰¹	0.12 (0.054)	3.4x10 ⁻⁰²
<i>IDO1</i>	8p11.21	37	0.13	-0.093 (0.045)	3.8x10 ⁻⁰²	-0.046 (0.059)	4.4x10 ⁻⁰¹	-0.076 (0.036)	3.4x10 ⁻⁰²

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		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>CDKN1A</i>	6p21.2	44	0.052	0.16 (0.065)	1.3x10 ⁻⁰²	0.020 (0.082)	8.1x10 ⁻⁰¹	0.11 (0.051)	3.5x10 ⁻⁰²
<i>UBE2E1</i>	3p24.3	31	0.0064	0.23 (0.11)	3.6x10 ⁻⁰²	0.10 (0.15)	4.8x10 ⁻⁰¹	0.18 (0.087)	3.5x10 ⁻⁰²
<i>ACSL5</i>	10q25.2	21	0.38	0.052 (0.026)	4.4x10 ⁻⁰²	0.029 (0.034)	4.0x10 ⁻⁰¹	0.044 (0.021)	3.5x10 ⁻⁰²
<i>TRPV5</i>	7q34	32	0.22	-0.11 (0.043)	1.0x10 ⁻⁰²	-0.016 (0.044)	7.2x10 ⁻⁰¹	-0.065 (0.031)	3.6x10 ⁻⁰²
<i>CASC1</i>	12p12.1	33	0.23	0.094 (0.038)	1.2x10 ⁻⁰²	0.011 (0.047)	8.1x10 ⁻⁰¹	0.061 (0.029)	3.6x10 ⁻⁰²
<i>AFMID</i>	17q25.3	3	0.035	0.26 (0.098)	7.7x10 ⁻⁰³	-0.031 (0.15)	8.3x10 ⁻⁰¹	0.17 (0.081)	3.7x10 ⁻⁰²
<i>CD44</i>	11p13	8	0.049	0.29 (0.12)	1.1x10 ⁻⁰²	0.031 (0.14)	8.2x10 ⁻⁰¹	0.18 (0.088)	3.7x10 ⁻⁰²
<i>TMEM184B</i>	22q13.1	19	0.15	0.12 (0.050)	2.1x10 ⁻⁰²	0.029 (0.060)	6.2x10 ⁻⁰¹	0.080 (0.038)	3.7x10 ⁻⁰²
<i>CHPF2</i>	7q36.1	45	0.07	0.13 (0.064)	3.6x10 ⁻⁰²	0.057 (0.074)	4.4x10 ⁻⁰¹	0.10 (0.048)	3.7x10 ⁻⁰²
<i>PLAT</i>	8p11.21	8	0.067	-0.14 (0.072)	4.6x10 ⁻⁰²	-0.079 (0.097)	4.2x10 ⁻⁰¹	-0.12 (0.058)	3.7x10 ⁻⁰²
<i>NOG</i>	17q22	36	0.069	0.18 (0.073)	1.3x10 ⁻⁰²	0.029 (0.082)	7.2x10 ⁻⁰¹	0.11 (0.054)	3.8x10 ⁻⁰²
<i>ANKRD26</i>	10p12.1	89	0.077	0.096 (0.044)	2.9x10 ⁻⁰²	0.032 (0.062)	6.1x10 ⁻⁰¹	0.074 (0.036)	3.8x10 ⁻⁰²
<i>CYB561</i>	17q23.3	11	0.014	-0.34 (0.17)	4.9x10 ⁻⁰²	-0.18 (0.20)	3.7x10 ⁻⁰¹	-0.28 (0.13)	3.8x10 ⁻⁰²
<i>WDR37</i>	10p15.3	9	0.033	-0.28 (0.10)	5.9x10 ⁻⁰³	0.075 (0.16)	6.4x10 ⁻⁰¹	-0.18 (0.086)	3.9x10 ⁻⁰²
<i>ISOC1</i>	5q23.3	42	0.32	0.061 (0.027)	2.2x10 ⁻⁰²	0.013 (0.036)	7.1x10 ⁻⁰¹	0.044 (0.022)	3.9x10 ⁻⁰²
<i>RNF216</i>	7p22.1	41	0.059	-0.12 (0.054)	2.6x10 ⁻⁰²	-0.035 (0.074)	6.4x10 ⁻⁰¹	-0.091 (0.044)	3.9x10 ⁻⁰²
<i>CASC3</i>	17q21.1	36	0.024	-0.12 (0.058)	4.0x10 ⁻⁰²	-0.057 (0.096)	5.5x10 ⁻⁰¹	-0.10 (0.050)	3.9x10 ⁻⁰²
<i>TNS4</i>	17q21.2	6	0.031	0.27 (0.13)	4.3x10 ⁻⁰²	0.12 (0.15)	4.1x10 ⁻⁰¹	0.21 (0.099)	3.9x10 ⁻⁰²
<i>CCDC126</i>	7p15.3	13	0.16	0.11 (0.057)	4.9x10 ⁻⁰²	0.054 (0.055)	3.3x10 ⁻⁰¹	0.082 (0.040)	3.9x10 ⁻⁰²
<i>TPBG</i>	6q14.1	73	0.098	-0.098 (0.043)	2.2x10 ⁻⁰²	-0.022 (0.056)	7.0x10 ⁻⁰¹	-0.070 (0.034)	4.0x10 ⁻⁰²
<i>THNSL1</i>	10p12.1	40	0.031	0.17 (0.086)	4.6x10 ⁻⁰²	0.086 (0.11)	4.3x10 ⁻⁰¹	0.14 (0.068)	4.0x10 ⁻⁰²
<i>MCCC1</i>	3q27.1	37	0.12	0.11 (0.041)	1.1x10 ⁻⁰²	-0.005 (0.059)	9.4x10 ⁻⁰¹	0.069 (0.034)	4.1x10 ⁻⁰²
<i>TMED6</i>	16q22.1	25	0.31	0.064 (0.032)	4.7x10 ⁻⁰²	0.030 (0.036)	4.0x10 ⁻⁰¹	0.049 (0.024)	4.1x10 ⁻⁰²
<i>MAFF</i>	22q13.1	14	0.059	-0.19 (0.075)	1.3x10 ⁻⁰²	-0.006 (0.10)	9.5x10 ⁻⁰¹	-0.12 (0.060)	4.2x10 ⁻⁰²
<i>NME4</i>	16p13.3	47	0.5	-0.052 (0.024)	2.8x10 ⁻⁰²	-0.015 (0.028)	5.8x10 ⁻⁰¹	-0.037 (0.018)	4.2x10 ⁻⁰²
<i>NDUFB1</i>	14q32.12	10	0.011	0.50 (0.24)	3.8x10 ⁻⁰²	0.19 (0.29)	5.1x10 ⁻⁰¹	0.38 (0.18)	4.2x10 ⁻⁰²
<i>TM2D3</i>	15q26.3	13	0.039	-0.21 (0.10)	3.8x10 ⁻⁰²	-0.083 (0.12)	4.7x10 ⁻⁰¹	-0.16 (0.076)	4.2x10 ⁻⁰²

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		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>SPRYD3</i>	12q13.13	14	0.06	-0.18 (0.071)	1.2x10 ⁻⁰²	0.024 (0.11)	8.3x10 ⁻⁰¹	-0.12 (0.060)	4.3x10 ⁻⁰²
<i>STX1B</i>	16p11.2	23	0.045	-0.20 (0.087)	2.4x10 ⁻⁰²	-0.050 (0.096)	6.0x10 ⁻⁰¹	-0.13 (0.064)	4.3x10 ⁻⁰²
<i>SLK</i>	10q24.33	32	0.08	0.12 (0.061)	4.6x10 ⁻⁰²	0.058 (0.078)	4.6x10 ⁻⁰¹	0.098 (0.048)	4.3x10 ⁻⁰²
<i>POLR3D</i>	8p21.3	8	0.093	0.17 (0.074)	2.4x10 ⁻⁰²	0.041 (0.081)	6.1x10 ⁻⁰¹	0.11 (0.055)	4.4x10 ⁻⁰²
<i>GNA13</i>	17q24.1	7	0.012	-0.37 (0.18)	3.7x10 ⁻⁰²	-0.13 (0.26)	6.1x10 ⁻⁰¹	-0.29 (0.15)	4.4x10 ⁻⁰²
<i>VIL1</i>	2q35	6	0.084	0.15 (0.072)	3.7x10 ⁻⁰²	0.056 (0.078)	4.8x10 ⁻⁰¹	0.11 (0.053)	4.4x10 ⁻⁰²
<i>C16orf62</i>	16p12.3	11	0.021	0.27 (0.12)	2.5x10 ⁻⁰²	0.068 (0.14)	6.3x10 ⁻⁰¹	0.18 (0.091)	4.5x10 ⁻⁰²
<i>HLA-DOB</i>	6p21.32	51	0.47	-0.058 (0.025)	1.8x10 ⁻⁰²	-0.009 (0.030)	7.7x10 ⁻⁰¹	-0.038 (0.019)	4.6x10 ⁻⁰²
<i>CNNM2</i>	10q24.32	11	0.0076	-0.35 (0.16)	2.7x10 ⁻⁰²	-0.080 (0.22)	7.1x10 ⁻⁰¹	-0.26 (0.13)	4.6x10 ⁻⁰²
<i>NKD1</i>	16q12.1	49	0.075	-0.13 (0.053)	1.8x10 ⁻⁰²	-0.007 (0.075)	9.3x10 ⁻⁰¹	-0.086 (0.043)	4.7x10 ⁻⁰²
<i>CTAGE5</i>	14q21.1	15	0.023	-0.29 (0.11)	8.4x10 ⁻⁰³	0.034 (0.15)	8.2x10 ⁻⁰¹	-0.18 (0.089)	4.8x10 ⁻⁰²
<i>KRT74</i>	12q13.13	51	0.3	-0.076 (0.030)	1.2x10 ⁻⁰²	0.000 (0.039)	1.00E+00	-0.048 (0.024)	4.8x10 ⁻⁰²
<i>GCOM1</i>	15q21.3	75	0.67	-0.055 (0.020)	4.8x10 ⁻⁰³	0.007 (0.023)	7.6x10 ⁻⁰¹	-0.030 (0.015)	4.9x10 ⁻⁰²
<i>PRSS50</i>	3p21.31	18	0.1	0.097 (0.047)	4.1x10 ⁻⁰²	0.033 (0.073)	6.5x10 ⁻⁰¹	0.078 (0.040)	4.9x10 ⁻⁰²
<i>KRT73</i>	12q13.13	53	0.53	-0.052 (0.022)	1.6x10 ⁻⁰²	-0.001 (0.029)	9.8x10 ⁻⁰¹	-0.034 (0.017)	5.1x10 ⁻⁰²
<i>MPP2</i>	17q21.31	27	0.39	0.051 (0.025)	4.1x10 ⁻⁰²	0.018 (0.034)	6.0x10 ⁻⁰¹	0.039 (0.020)	5.1x10 ⁻⁰²
<i>SCUBE3</i>	6p21.31	31	0.049	0.20 (0.080)	1.5x10 ⁻⁰²	-0.005 (0.11)	9.7x10 ⁻⁰¹	0.13 (0.065)	5.2x10 ⁻⁰²
<i>PLIN3</i>	19p13.3	15	0.0085	-0.34 (0.15)	2.0x10 ⁻⁰²	-0.042 (0.18)	8.1x10 ⁻⁰¹	-0.22 (0.11)	5.2x10 ⁻⁰²
<i>RRP1</i>	21q22.3	51	0.12	0.11 (0.049)	2.8x10 ⁻⁰²	0.023 (0.059)	7.0x10 ⁻⁰¹	0.073 (0.038)	5.2x10 ⁻⁰²
<i>ADCY7</i>	16q12.1	26	0.31	-0.051 (0.024)	3.2x10 ⁻⁰²	-0.009 (0.038)	8.2x10 ⁻⁰¹	-0.039 (0.020)	5.2x10 ⁻⁰²
<i>C12orf57</i>	12p13.31	41	0.015	0.22 (0.11)	3.5x10 ⁻⁰²	0.035 (0.20)	8.6x10 ⁻⁰¹	0.18 (0.094)	5.2x10 ⁻⁰²
<i>GNPTAB</i>	12q23.2	14	0.021	-0.23 (0.11)	4.2x10 ⁻⁰²	-0.077 (0.17)	6.4x10 ⁻⁰¹	-0.18 (0.094)	5.2x10 ⁻⁰²
<i>CHD7</i>	8q12.1	25	0.059	-0.21 (0.087)	1.3x10 ⁻⁰²	-0.015 (0.094)	8.7x10 ⁻⁰¹	-0.12 (0.064)	5.3x10 ⁻⁰²
<i>CHD5</i>	1p36.31	34	0.057	-0.18 (0.083)	2.7x10 ⁻⁰²	-0.041 (0.092)	6.6x10 ⁻⁰¹	-0.12 (0.062)	5.3x10 ⁻⁰²
<i>LILRB4</i>	19q13.42	81	0.25	0.067 (0.033)	4.5x10 ⁻⁰²	0.024 (0.041)	5.5x10 ⁻⁰¹	0.050 (0.026)	5.3x10 ⁻⁰²
<i>TMEM200A</i>	6q23.1	37	0.055	-0.17 (0.069)	1.1x10 ⁻⁰²	0.009 (0.087)	9.2x10 ⁻⁰¹	-0.10 (0.054)	5.4x10 ⁻⁰²
<i>NUDT19</i>	19q13.11	36	0.05	-0.17 (0.062)	6.9x10 ⁻⁰³	0.052 (0.091)	5.7x10 ⁻⁰¹	-0.098 (0.051)	5.5x10 ⁻⁰²

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>BRD7</i>	16q12.1	20	0.32	-0.054 (0.024)	2.2x10 ⁻⁰²	0.002 (0.038)	9.6x10 ⁻⁰¹	-0.039 (0.020)	5.5x10 ⁻⁰²
<i>GLYCTK</i>	3p21.1	25	0.24	0.077 (0.034)	2.2x10 ⁻⁰²	0.010 (0.041)	8.1x10 ⁻⁰¹	0.050 (0.026)	5.5x10 ⁻⁰²
<i>ZNF575</i>	19q13.31	25	0.37	-0.10 (0.029)	5.6x10 ⁻⁰⁴	0.035 (0.033)	2.9x10 ⁻⁰¹	-0.042 (0.022)	5.6x10 ⁻⁰²
<i>FYTTD1</i>	3q29	7	0.0054	-0.58 (0.21)	6.7x10 ⁻⁰³	0.16 (0.30)	6.0x10 ⁻⁰¹	-0.34 (0.18)	5.6x10 ⁻⁰²
<i>RRP9</i>	3p21.2	17	0.0061	0.32 (0.13)	1.5x10 ⁻⁰²	-0.038 (0.20)	8.5x10 ⁻⁰¹	0.21 (0.11)	5.6x10 ⁻⁰²
<i>USP28</i>	11q23.2	19	0.013	0.41 (0.20)	3.6x10 ⁻⁰²	0.12 (0.20)	5.4x10 ⁻⁰¹	0.27 (0.14)	5.6x10 ⁻⁰²
<i>GEMIN4</i>	17p13.3	16	0.086	0.11 (0.055)	4.1x10 ⁻⁰²	0.031 (0.082)	7.0x10 ⁻⁰¹	0.087 (0.046)	5.6x10 ⁻⁰²
<i>AGMAT</i>	1p36.21	16	0.0077	0.40 (0.20)	4.7x10 ⁻⁰²	0.14 (0.24)	5.6x10 ⁻⁰¹	0.30 (0.16)	5.6x10 ⁻⁰²
<i>CHEK2</i>	22q12.1	23	0.045	0.17 (0.072)	2.1x10 ⁻⁰²	0.009 (0.096)	9.2x10 ⁻⁰¹	0.11 (0.058)	5.7x10 ⁻⁰²
<i>MRI1</i>	19p13.2	57	0.097	-0.11 (0.052)	4.2x10 ⁻⁰²	-0.032 (0.063)	6.1x10 ⁻⁰¹	-0.076 (0.040)	5.8x10 ⁻⁰²
<i>SNTB1</i>	8q24.12	22	0.01	0.36 (0.16)	2.2x10 ⁻⁰²	0.019 (0.21)	9.3x10 ⁻⁰¹	0.24 (0.13)	5.9x10 ⁻⁰²
<i>ZNF410</i>	14q24.3	11	0.023	0.19 (0.090)	3.3x10 ⁻⁰²	0.008 (0.16)	9.6x10 ⁻⁰¹	0.15 (0.079)	5.9x10 ⁻⁰²
<i>TRDMT1</i>	10p13	29	0.065	-0.15 (0.070)	3.2x10 ⁻⁰²	-0.026 (0.091)	7.7x10 ⁻⁰¹	-0.10 (0.055)	6.0x10 ⁻⁰²
<i>NUDT12</i>	5q21.2	40	0.48	-0.053 (0.026)	4.1x10 ⁻⁰²	-0.016 (0.028)	5.7x10 ⁻⁰¹	-0.036 (0.019)	6.0x10 ⁻⁰²
<i>DNAL1</i>	14q24.3	27	0.0096	0.40 (0.14)	3.9x10 ⁻⁰³	-0.047 (0.15)	7.5x10 ⁻⁰¹	0.19 (0.10)	6.1x10 ⁻⁰²
<i>CENPO</i>	2p23.3	10	0.021	-0.27 (0.13)	3.0x10 ⁻⁰²	-0.056 (0.14)	6.9x10 ⁻⁰¹	-0.18 (0.094)	6.1x10 ⁻⁰²
<i>C7orf46</i>	7p15.3	32	0.35	-0.053 (0.026)	4.6x10 ⁻⁰²	-0.016 (0.035)	6.4x10 ⁻⁰¹	-0.039 (0.021)	6.1x10 ⁻⁰²
<i>NOXO1</i>	16p13.3	33	0.26	-0.16 (0.042)	1.8x10 ⁻⁰⁴	0.039 (0.040)	3.2x10 ⁻⁰¹	-0.054 (0.029)	6.2x10 ⁻⁰²
<i>HLA-DMA</i>	6p21.32	31	0.059	-0.16 (0.063)	1.1x10 ⁻⁰²	0.006 (0.072)	9.4x10 ⁻⁰¹	-0.088 (0.047)	6.2x10 ⁻⁰²
<i>MS4A7</i>	11q12.2	27	0.26	-0.081 (0.033)	1.3x10 ⁻⁰²	0.006 (0.042)	8.9x10 ⁻⁰¹	-0.048 (0.026)	6.2x10 ⁻⁰²
<i>DLK2</i>	6p21.1	22	0.23	0.084 (0.036)	1.9x10 ⁻⁰²	0.004 (0.043)	9.3x10 ⁻⁰¹	0.051 (0.028)	6.2x10 ⁻⁰²
<i>SSX2IP</i>	1p22.3	11	0.014	0.34 (0.16)	2.8x10 ⁻⁰²	0.036 (0.21)	8.6x10 ⁻⁰¹	0.23 (0.12)	6.2x10 ⁻⁰²
<i>RNF111</i>	15q22.1	1	0.0078	4.80 (2.4)	4.5x10 ⁻⁰²	1.30 (3.5)	7.2x10 ⁻⁰¹	3.70 (2.0)	6.2x10 ⁻⁰²
<i>FAH</i>	15q25.1	49	0.16	0.18 (0.054)	1.0x10 ⁻⁰³	-0.042 (0.056)	4.6x10 ⁻⁰¹	0.073 (0.039)	6.3x10 ⁻⁰²
<i>C7orf41</i>	7p14.3	8	0.032	0.26 (0.12)	2.3x10 ⁻⁰²	0.017 (0.15)	9.1x10 ⁻⁰¹	0.17 (0.091)	6.4x10 ⁻⁰²
<i>GHRL</i>	3p25.3	34	0.063	-0.19 (0.060)	1.4x10 ⁻⁰³	0.12 (0.086)	1.6x10 ⁻⁰¹	-0.090 (0.049)	6.6x10 ⁻⁰²
<i>DNAH1</i>	3p21.1	16	0.051	0.14 (0.070)	4.3x10 ⁻⁰²	0.033 (0.097)	7.4x10 ⁻⁰¹	0.11 (0.057)	6.6x10 ⁻⁰²

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>PLEKHA3</i>	2q31.2	18	0.019	-0.29 (0.11)	8.8x10 ⁻⁰³	0.068 (0.15)	6.5x10 ⁻⁰¹	-0.16 (0.088)	6.7x10 ⁻⁰²
<i>H2AFZ</i>	4q23	17	0.1	0.11 (0.055)	4.4x10 ⁻⁰²	0.026 (0.073)	7.2x10 ⁻⁰¹	0.080 (0.044)	6.7x10 ⁻⁰²
<i>SULF2</i>	20q13.13	63	0.39	-0.099 (0.030)	1.0x10 ⁻⁰³	0.031 (0.034)	3.5x10 ⁻⁰¹	-0.041 (0.023)	6.8x10 ⁻⁰²
<i>PPP2R1A</i>	19q13.41	34	0.011	0.35 (0.12)	3.3x10 ⁻⁰³	-0.13 (0.16)	4.0x10 ⁻⁰¹	0.18 (0.096)	6.8x10 ⁻⁰²
<i>KCNK17</i>	6p21.2	32	0.71	-0.049 (0.020)	1.3x10 ⁻⁰²	0.003 (0.023)	9.1x10 ⁻⁰¹	-0.028 (0.015)	6.8x10 ⁻⁰²
<i>PHYH</i>	10p13	24	0.21	0.13 (0.043)	3.9x10 ⁻⁰³	-0.025 (0.049)	6.1x10 ⁻⁰¹	0.059 (0.032)	6.9x10 ⁻⁰²
<i>SREK1IP1</i>	5q12.3	18	0.029	0.28 (0.11)	7.3x10 ⁻⁰³	-0.072 (0.14)	6.0x10 ⁻⁰¹	0.15 (0.083)	7.0x10 ⁻⁰²
<i>THBS4</i>	5q14.1	35	0.019	-0.29 (0.11)	8.9x10 ⁻⁰³	0.051 (0.14)	7.1x10 ⁻⁰¹	-0.15 (0.086)	7.0x10 ⁻⁰²
<i>LRRC45</i>	17q25.3	18	0.24	-0.099 (0.037)	8.0x10 ⁻⁰³	0.015 (0.044)	7.4x10 ⁻⁰¹	-0.052 (0.029)	7.1x10 ⁻⁰²
<i>IER3</i>	6p21.33	27	0.17	-0.11 (0.050)	2.5x10 ⁻⁰²	-0.019 (0.044)	6.6x10 ⁻⁰¹	-0.059 (0.033)	7.2x10 ⁻⁰²
<i>AMIGO1</i>	1p13.3	24	0.19	-0.10 (0.045)	2.6x10 ⁻⁰²	-0.011 (0.050)	8.3x10 ⁻⁰¹	-0.060 (0.033)	7.2x10 ⁻⁰²
<i>CTNNA2</i>	2p12	31	0.18	0.091 (0.042)	2.9x10 ⁻⁰²	0.009 (0.050)	8.5x10 ⁻⁰¹	0.058 (0.032)	7.2x10 ⁻⁰²
<i>RDX</i>	11q22.3	26	0.033	-0.21 (0.081)	1.1x10 ⁻⁰²	0.030 (0.099)	7.7x10 ⁻⁰¹	-0.11 (0.063)	7.3x10 ⁻⁰²
<i>TNFSF12</i>	17p13.1	15	0.34	-0.080 (0.038)	3.6x10 ⁻⁰²	-0.017 (0.037)	6.3x10 ⁻⁰¹	-0.047 (0.026)	7.3x10 ⁻⁰²
<i>ZSWIM5</i>	1p34.1	36	0.097	-0.14 (0.057)	1.2x10 ⁻⁰²	0.004 (0.061)	9.5x10 ⁻⁰¹	-0.075 (0.042)	7.4x10 ⁻⁰²
<i>PIGU</i>	20q11.22	6	0.0089	0.40 (0.18)	2.6x10 ⁻⁰²	0.005 (0.24)	9.8x10 ⁻⁰¹	0.25 (0.14)	7.4x10 ⁻⁰²
<i>PRRC1</i>	5q23.2	14	0.0077	-0.33 (0.15)	2.9x10 ⁻⁰²	-0.012 (0.21)	9.6x10 ⁻⁰¹	-0.22 (0.12)	7.4x10 ⁻⁰²
<i>ZNF37A</i>	10p11.1	41	0.091	0.067 (0.033)	4.5x10 ⁻⁰²	0.007 (0.057)	9.1x10 ⁻⁰¹	0.051 (0.029)	7.4x10 ⁻⁰²
<i>SERPINB10</i>	18q21.33	69	0.36	-0.060 (0.025)	1.5x10 ⁻⁰²	0.009 (0.033)	7.8x10 ⁻⁰¹	-0.035 (0.020)	7.5x10 ⁻⁰²
<i>CCDC28A</i>	6q24.1	62	0.097	-0.14 (0.047)	3.0x10 ⁻⁰³	0.063 (0.062)	3.1x10 ⁻⁰¹	-0.066 (0.037)	7.6x10 ⁻⁰²
<i>FAM18B2</i>	17p12	54	0.11	-0.13 (0.049)	9.0x10 ⁻⁰³	0.022 (0.059)	7.1x10 ⁻⁰¹	-0.066 (0.038)	7.7x10 ⁻⁰²
<i>ANKRD33B</i>	5p15.2	21	0.054	-0.19 (0.075)	1.3x10 ⁻⁰²	0.050 (0.11)	6.4x10 ⁻⁰¹	-0.11 (0.061)	7.7x10 ⁻⁰²
<i>NOTCH4</i>	6p21.32	64	0.12	0.094 (0.041)	2.1x10 ⁻⁰²	-0.006 (0.053)	9.1x10 ⁻⁰¹	0.057 (0.032)	7.7x10 ⁻⁰²
<i>SMARCD3</i>	7q36.1	39	0.027	0.22 (0.10)	2.6x10 ⁻⁰²	0.015 (0.12)	9.0x10 ⁻⁰¹	0.14 (0.077)	7.7x10 ⁻⁰²
<i>PPIA</i>	7p13	26	0.073	-0.14 (0.069)	4.7x10 ⁻⁰²	-0.033 (0.079)	6.8x10 ⁻⁰¹	-0.092 (0.052)	7.7x10 ⁻⁰²
<i>FAM168A</i>	11q13.4	11	0.07	-0.16 (0.073)	2.7x10 ⁻⁰²	0.000 (0.095)	1.00E+00	-0.10 (0.058)	7.8x10 ⁻⁰²
<i>S1PR3</i>	9q22.1	15	0.066	0.17 (0.080)	2.9x10 ⁻⁰²	0.010 (0.099)	9.2x10 ⁻⁰¹	0.11 (0.062)	7.9x10 ⁻⁰²

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>LRRC27</i>	10q26.3	35	0.67	0.034 (0.017)	3.8x10 ⁻⁰²	0.002 (0.024)	9.4x10 ⁻⁰¹	0.024 (0.014)	7.9x10 ⁻⁰²
<i>HECTD2</i>	10q23.32	2	0.04	0.13 (0.059)	3.1x10 ⁻⁰²	-0.093 (0.14)	5.2x10 ⁻⁰¹	0.095 (0.054)	8.0x10 ⁻⁰²
<i>TALDO1</i>	11p15.5	6	0.013	-0.33 (0.13)	1.5x10 ⁻⁰²	0.16 (0.23)	4.9x10 ⁻⁰¹	-0.20 (0.12)	8.1x10 ⁻⁰²
<i>SPDYE1</i>	7p13	29	0.016	0.24 (0.100)	1.7x10 ⁻⁰²	-0.031 (0.13)	8.1x10 ⁻⁰¹	0.14 (0.079)	8.1x10 ⁻⁰²
<i>RPL10A</i>	6p21.31	26	0.17	0.086 (0.042)	3.9x10 ⁻⁰²	0.014 (0.049)	7.8x10 ⁻⁰¹	0.056 (0.032)	8.1x10 ⁻⁰²
<i>CYLD</i>	16q12.1	23	0.079	-0.12 (0.059)	4.2x10 ⁻⁰²	-0.012 (0.081)	8.8x10 ⁻⁰¹	-0.083 (0.048)	8.3x10 ⁻⁰²
<i>MED15</i>	22q11.21	27	0.048	0.22 (0.090)	1.5x10 ⁻⁰²	-0.018 (0.10)	8.7x10 ⁻⁰¹	0.12 (0.068)	8.4x10 ⁻⁰²
<i>CPSF2</i>	14q32.12	32	0.32	-0.055 (0.025)	2.4x10 ⁻⁰²	0.013 (0.038)	7.4x10 ⁻⁰¹	-0.035 (0.021)	8.5x10 ⁻⁰²
<i>SLC20A1</i>	2q13	22	0.3	0.068 (0.034)	4.6x10 ⁻⁰²	0.012 (0.040)	7.7x10 ⁻⁰¹	0.045 (0.026)	8.6x10 ⁻⁰²
<i>ALKBH2</i>	12q24.11	9	0.038	-0.21 (0.080)	9.8x10 ⁻⁰³	0.12 (0.13)	3.5x10 ⁻⁰¹	-0.12 (0.068)	8.8x10 ⁻⁰²
<i>TTC28</i>	22q12.1	24	0.11	0.12 (0.059)	3.9x10 ⁻⁰²	0.009 (0.077)	9.1x10 ⁻⁰¹	0.080 (0.047)	8.8x10 ⁻⁰²
<i>KHDRBS2</i>	6q11.1	16	0.034	-0.21 (0.11)	4.8x10 ⁻⁰²	-0.042 (0.12)	7.3x10 ⁻⁰¹	-0.14 (0.080)	8.8x10 ⁻⁰²
<i>UBE2E3</i>	2q31.3	76	0.22	0.098 (0.035)	4.6x10 ⁻⁰³	-0.027 (0.040)	5.0x10 ⁻⁰¹	0.045 (0.026)	8.9x10 ⁻⁰²
<i>NDUFC1</i>	4q31.1	29	0.1	-0.13 (0.064)	4.4x10 ⁻⁰²	-0.024 (0.067)	7.2x10 ⁻⁰¹	-0.079 (0.046)	9.0x10 ⁻⁰²
<i>AP2A1</i>	19q13.33	41	0.0076	-0.30 (0.11)	5.2x10 ⁻⁰³	0.14 (0.15)	3.3x10 ⁻⁰¹	-0.14 (0.086)	9.2x10 ⁻⁰²
<i>MYO9B</i>	19p13.11	6	0.014	0.49 (0.19)	9.9x10 ⁻⁰³	-0.14 (0.25)	5.6x10 ⁻⁰¹	0.25 (0.15)	9.2x10 ⁻⁰²
<i>TRPV6</i>	7q34	131	0.25	0.048 (0.020)	1.5x10 ⁻⁰²	-0.037 (0.037)	3.1x10 ⁻⁰¹	0.029 (0.017)	9.3x10 ⁻⁰²
<i>ZBTB7C</i>	18q21.1	36	0.13	0.11 (0.053)	3.0x10 ⁻⁰²	-0.002 (0.066)	9.8x10 ⁻⁰¹	0.069 (0.041)	9.3x10 ⁻⁰²
<i>UBL7</i>	15q24.1	47	0.013	0.15 (0.069)	3.2x10 ⁻⁰²	-0.007 (0.093)	9.4x10 ⁻⁰¹	0.093 (0.055)	9.3x10 ⁻⁰²
<i>GGT7</i>	20q11.22	16	0.093	-0.12 (0.055)	3.5x10 ⁻⁰²	0.004 (0.075)	9.6x10 ⁻⁰¹	-0.074 (0.044)	9.3x10 ⁻⁰²
<i>SDC3</i>	1p35.2	28	0.23	-0.061 (0.030)	4.4x10 ⁻⁰²	-0.001 (0.045)	9.8x10 ⁻⁰¹	-0.042 (0.025)	9.3x10 ⁻⁰²
<i>CES4A</i>	16q22.1	37	0.011	-0.23 (0.089)	8.3x10 ⁻⁰³	0.093 (0.12)	4.4x10 ⁻⁰¹	-0.12 (0.072)	9.4x10 ⁻⁰²
<i>ANP32E</i>	1q21.2	30	0.089	0.14 (0.061)	2.3x10 ⁻⁰²	0.000 (0.068)	1.00E+00	0.076 (0.045)	9.4x10 ⁻⁰²
<i>ZCCHC7</i>	9p13.2	21	0.09	-0.15 (0.064)	1.6x10 ⁻⁰²	0.015 (0.072)	8.4x10 ⁻⁰¹	-0.080 (0.048)	9.5x10 ⁻⁰²
<i>SYNGR2</i>	17q25.3	47	0.11	-0.096 (0.046)	3.7x10 ⁻⁰²	0.013 (0.072)	8.6x10 ⁻⁰¹	-0.065 (0.039)	9.5x10 ⁻⁰²
<i>IL6ST</i>	5q11.2	32	0.036	0.27 (0.11)	1.4x10 ⁻⁰²	-0.029 (0.12)	8.1x10 ⁻⁰¹	0.14 (0.082)	9.7x10 ⁻⁰²
<i>PTPRM</i>	18p11.23	174	0.33	0.063 (0.027)	2.0x10 ⁻⁰²	-0.009 (0.034)	7.9x10 ⁻⁰¹	0.035 (0.021)	9.7x10 ⁻⁰²

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>AFAP1</i>	4p16.1	95	0.72	-0.046 (0.022)	3.1x10 ⁻⁰²	-0.003 (0.022)	8.9x10 ⁻⁰¹	-0.025 (0.016)	1.0x10 ⁻⁰¹
<i>ANXA5</i>	4q27	66	0.51	-0.057 (0.021)	6.9x10 ⁻⁰³	0.022 (0.026)	4.0x10 ⁻⁰¹	-0.026 (0.017)	1.1x10 ⁻⁰¹
<i>ZNF167</i>	3p21.31	83	0.14	-0.12 (0.049)	1.9x10 ⁻⁰²	0.007 (0.050)	8.9x10 ⁻⁰¹	-0.056 (0.035)	1.1x10 ⁻⁰¹
<i>HTRA2</i>	2p13.1	31	0.03	-0.17 (0.074)	2.1x10 ⁻⁰²	0.049 (0.10)	6.4x10 ⁻⁰¹	-0.097 (0.060)	1.1x10 ⁻⁰¹
<i>TRPV1</i>	17p13.2	52	0.13	0.13 (0.059)	3.2x10 ⁻⁰²	0.009 (0.055)	8.7x10 ⁻⁰¹	0.065 (0.040)	1.1x10 ⁻⁰¹
<i>COL13A1</i>	10q22.1	21	0.061	-0.18 (0.085)	3.3x10 ⁻⁰²	0.006 (0.10)	9.5x10 ⁻⁰¹	-0.11 (0.066)	1.1x10 ⁻⁰¹
<i>IPO8</i>	12p11.21	47	0.12	-0.11 (0.052)	3.5x10 ⁻⁰²	-0.001 (0.060)	9.9x10 ⁻⁰¹	-0.063 (0.039)	1.1x10 ⁻⁰¹
<i>MAP3K1</i>	5q11.2	51	0.051	0.16 (0.080)	4.1x10 ⁻⁰²	0.009 (0.090)	9.2x10 ⁻⁰¹	0.095 (0.060)	1.1x10 ⁻⁰¹
<i>MTCH1</i>	6p21.2	19	0.022	0.27 (0.13)	4.2x10 ⁻⁰²	0.022 (0.15)	8.8x10 ⁻⁰¹	0.16 (0.098)	1.1x10 ⁻⁰¹
<i>RPL9</i>	4p14	21	0.83	-0.033 (0.016)	4.2x10 ⁻⁰²	0.015 (0.032)	6.3x10 ⁻⁰¹	-0.023 (0.014)	1.1x10 ⁻⁰¹
<i>SNCG</i>	10q23.2	19	0.064	0.14 (0.068)	4.3x10 ⁻⁰²	-0.007 (0.097)	9.5x10 ⁻⁰¹	0.090 (0.056)	1.1x10 ⁻⁰¹
<i>GRK5</i>	10q26.11	86	0.14	-0.076 (0.038)	4.4x10 ⁻⁰²	0.001 (0.049)	9.8x10 ⁻⁰¹	-0.047 (0.030)	1.1x10 ⁻⁰¹
<i>PCBD2</i>	5q31.1	4	0.059	-0.16 (0.082)	4.4x10 ⁻⁰²	0.007 (0.11)	9.5x10 ⁻⁰¹	-0.10 (0.066)	1.1x10 ⁻⁰¹
<i>CDH4</i>	20q13.33	50	0.076	-0.14 (0.068)	4.6x10 ⁻⁰²	-0.007 (0.081)	9.3x10 ⁻⁰¹	-0.082 (0.052)	1.1x10 ⁻⁰¹
<i>C22orf15</i>	22q11.23	14	0.055	-0.14 (0.068)	4.6x10 ⁻⁰²	0.011 (0.10)	9.1x10 ⁻⁰¹	-0.090 (0.057)	1.1x10 ⁻⁰¹
<i>TMEM184A</i>	7p22.3	15	0.076	0.17 (0.062)	4.9x10 ⁻⁰³	-0.093 (0.082)	2.5x10 ⁻⁰¹	0.077 (0.049)	1.2x10 ⁻⁰¹
<i>THOC3</i>	5q35.2	22	0.05	0.19 (0.073)	9.0x10 ⁻⁰³	-0.13 (0.11)	2.5x10 ⁻⁰¹	0.096 (0.061)	1.2x10 ⁻⁰¹
<i>CELF1</i>	11p11.2	6	0.014	0.34 (0.14)	1.4x10 ⁻⁰²	-0.11 (0.18)	5.4x10 ⁻⁰¹	0.18 (0.11)	1.2x10 ⁻⁰¹
<i>IRAK2</i>	3p25.3	52	0.012	-0.21 (0.086)	1.7x10 ⁻⁰²	0.092 (0.13)	4.7x10 ⁻⁰¹	-0.11 (0.071)	1.2x10 ⁻⁰¹
<i>RC3H2</i>	9q33.2	14	0.033	0.19 (0.080)	1.7x10 ⁻⁰²	-0.15 (0.14)	2.9x10 ⁻⁰¹	0.11 (0.070)	1.2x10 ⁻⁰¹
<i>ZNF197</i>	3p21.31	63	0.24	-0.10 (0.042)	1.8x10 ⁻⁰²	0.005 (0.041)	9.0x10 ⁻⁰¹	-0.046 (0.030)	1.2x10 ⁻⁰¹
<i>PWWP2A</i>	5q33.3	28	0.099	0.12 (0.051)	2.0x10 ⁻⁰²	-0.029 (0.065)	6.6x10 ⁻⁰¹	0.063 (0.040)	1.2x10 ⁻⁰¹
<i>PREPL</i>	2p21	11	0.099	-0.13 (0.056)	2.1x10 ⁻⁰²	0.040 (0.075)	5.9x10 ⁻⁰¹	-0.069 (0.045)	1.2x10 ⁻⁰¹
<i>ZNF714</i>	19p12	5	0.0072	-0.37 (0.16)	2.4x10 ⁻⁰²	0.19 (0.26)	4.6x10 ⁻⁰¹	-0.21 (0.14)	1.2x10 ⁻⁰¹
<i>ZC3H12D</i>	6q25.1	23	0.077	-0.12 (0.054)	3.2x10 ⁻⁰²	0.039 (0.084)	6.4x10 ⁻⁰¹	-0.071 (0.046)	1.2x10 ⁻⁰¹
<i>KRT72</i>	12q13.13	55	0.57	-0.044 (0.022)	4.2x10 ⁻⁰²	0.001 (0.027)	9.7x10 ⁻⁰¹	-0.027 (0.017)	1.2x10 ⁻⁰¹
<i>PIK3C2A</i>	11p15.1	7	0.0079	0.57 (0.29)	4.5x10 ⁻⁰²	-0.009 (0.36)	9.8x10 ⁻⁰¹	0.35 (0.22)	1.2x10 ⁻⁰¹

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>GART</i>	21q22.11	1	0.0091	0.44 (0.22)	4.7x10 ⁻⁰²	-0.026 (0.30)	9.3x10 ⁻⁰¹	0.28 (0.18)	1.2x10 ⁻⁰¹
<i>ESAM</i>	11q24.2	6	0.0052	0.51 (0.26)	4.7x10 ⁻⁰²	-0.033 (0.36)	9.3x10 ⁻⁰¹	0.32 (0.21)	1.2x10 ⁻⁰¹
<i>PTK2</i>	8q24.3	14	0.037	-0.25 (0.095)	9.5x10 ⁻⁰³	0.10 (0.12)	3.9x10 ⁻⁰¹	-0.11 (0.075)	1.3x10 ⁻⁰¹
<i>C17orf62</i>	17q25.3	25	0.1	-0.11 (0.044)	1.3x10 ⁻⁰²	0.058 (0.063)	3.6x10 ⁻⁰¹	-0.054 (0.036)	1.3x10 ⁻⁰¹
<i>LATS2</i>	13q12.11	50	0.1	-0.14 (0.058)	1.5x10 ⁻⁰²	0.025 (0.063)	7.0x10 ⁻⁰¹	-0.065 (0.043)	1.3x10 ⁻⁰¹
<i>FRMD4A</i>	10p13	55	0.3	-0.077 (0.032)	1.7x10 ⁻⁰²	0.018 (0.037)	6.3x10 ⁻⁰¹	-0.037 (0.024)	1.3x10 ⁻⁰¹
<i>SMAD5</i>	5q31.1	25	0.31	0.067 (0.028)	1.8x10 ⁻⁰²	-0.022 (0.037)	5.6x10 ⁻⁰¹	0.034 (0.023)	1.3x10 ⁻⁰¹
<i>C10orf116</i>	10q23.2	33	0.086	0.16 (0.070)	2.6x10 ⁻⁰²	-0.013 (0.077)	8.6x10 ⁻⁰¹	0.079 (0.052)	1.3x10 ⁻⁰¹
<i>CLCN2</i>	3q27.1	32	0.033	0.20 (0.097)	4.1x10 ⁻⁰²	0.003 (0.11)	9.8x10 ⁻⁰¹	0.11 (0.072)	1.3x10 ⁻⁰¹
<i>DPYSL4</i>	10q26.3	43	0.53	-0.056 (0.028)	4.3x10 ⁻⁰²	-0.003 (0.028)	9.1x10 ⁻⁰¹	-0.030 (0.020)	1.3x10 ⁻⁰¹
<i>C1GALT1</i>	7p22.1	31	0.31	0.071 (0.036)	4.7x10 ⁻⁰²	0.003 (0.038)	9.5x10 ⁻⁰¹	0.039 (0.026)	1.3x10 ⁻⁰¹
<i>PLEKHA1</i>	10q26.13	29	0.15	0.14 (0.050)	4.2x10 ⁻⁰³	-0.070 (0.061)	2.5x10 ⁻⁰¹	0.057 (0.039)	1.4x10 ⁻⁰¹
<i>FAM20A</i>	17q24.2	18	0.059	0.20 (0.071)	5.1x10 ⁻⁰³	-0.11 (0.091)	2.2x10 ⁻⁰¹	0.081 (0.056)	1.4x10 ⁻⁰¹
<i>ITPR1P</i>	10q25.1	40	0.092	-0.14 (0.054)	9.8x10 ⁻⁰³	0.041 (0.061)	5.0x10 ⁻⁰¹	-0.061 (0.041)	1.4x10 ⁻⁰¹
<i>CCDC93</i>	2q14.1	36	0.012	-0.29 (0.12)	1.4x10 ⁻⁰²	0.079 (0.14)	5.7x10 ⁻⁰¹	-0.13 (0.090)	1.4x10 ⁻⁰¹
<i>USP10</i>	16q24.1	77	0.069	-0.16 (0.067)	1.5x10 ⁻⁰²	0.035 (0.074)	6.4x10 ⁻⁰¹	-0.074 (0.050)	1.4x10 ⁻⁰¹
<i>POLR2D</i>	2q14.3	19	0.28	0.093 (0.038)	1.5x10 ⁻⁰²	-0.019 (0.041)	6.4x10 ⁻⁰¹	0.041 (0.028)	1.4x10 ⁻⁰¹
<i>RFWD2</i>	1q25.2	10	0.016	-0.39 (0.19)	3.8x10 ⁻⁰²	0.050 (0.23)	8.3x10 ⁻⁰¹	-0.21 (0.14)	1.4x10 ⁻⁰¹
<i>ARF3</i>	12q13.12	29	0.21	-0.063 (0.032)	4.8x10 ⁻⁰²	0.015 (0.048)	7.5x10 ⁻⁰¹	-0.039 (0.027)	1.4x10 ⁻⁰¹
<i>FPR1</i>	19q13.41	51	0.39	-0.056 (0.028)	4.9x10 ⁻⁰²	0.005 (0.037)	9.0x10 ⁻⁰¹	-0.034 (0.023)	1.4x10 ⁻⁰¹
<i>ZXDC</i>	3q21.3	26	0.026	0.23 (0.092)	1.4x10 ⁻⁰²	-0.066 (0.11)	5.3x10 ⁻⁰¹	0.10 (0.070)	1.5x10 ⁻⁰¹
<i>ATXN7L2</i>	1p13.3	21	0.02	-0.28 (0.13)	2.3x10 ⁻⁰²	0.089 (0.16)	5.8x10 ⁻⁰¹	-0.14 (0.099)	1.5x10 ⁻⁰¹
<i>ZNF487P</i>	10q11.21	2	0.011	-0.60 (0.27)	2.6x10 ⁻⁰²	0.11 (0.30)	7.2x10 ⁻⁰¹	-0.28 (0.20)	1.5x10 ⁻⁰¹
<i>SEMA7A</i>	15q24.1	2	0.0047	1.80 (0.82)	3.1x10 ⁻⁰²	-0.38 (1.0)	7.1x10 ⁻⁰¹	0.92 (0.64)	1.5x10 ⁻⁰¹
<i>ZNF563</i>	19p13.2	32	0.07	-0.10 (0.052)	4.8x10 ⁻⁰²	0.021 (0.073)	7.8x10 ⁻⁰¹	-0.061 (0.042)	1.5x10 ⁻⁰¹
<i>FBXO2</i>	1p36.22	51	0.61	-0.068 (0.023)	3.7x10 ⁻⁰³	0.028 (0.025)	2.7x10 ⁻⁰¹	-0.024 (0.017)	1.6x10 ⁻⁰¹
<i>TSPAN1</i>	1p34.1	3	0.052	-0.19 (0.084)	2.0x10 ⁻⁰²	0.085 (0.11)	4.5x10 ⁻⁰¹	-0.095 (0.067)	1.6x10 ⁻⁰¹

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>MNDA</i>	1q23.1	28	0.091	0.12 (0.052)	2.2x10 ⁻⁰²	-0.048 (0.069)	4.8x10 ⁻⁰¹	0.058 (0.041)	1.6x10 ⁻⁰¹
<i>RPS8</i>	1p34.1	5	0.077	-0.20 (0.089)	2.4x10 ⁻⁰²	0.012 (0.082)	8.8x10 ⁻⁰¹	-0.085 (0.060)	1.6x10 ⁻⁰¹
<i>PTX4</i>	16p13.3	86	0.028	0.13 (0.058)	2.8x10 ⁻⁰²	-0.032 (0.071)	6.5x10 ⁻⁰¹	0.064 (0.045)	1.6x10 ⁻⁰¹
<i>AQP11</i>	11q14.1	10	0.017	-0.24 (0.12)	3.7x10 ⁻⁰²	0.15 (0.20)	4.5x10 ⁻⁰¹	-0.14 (0.099)	1.6x10 ⁻⁰¹
<i>RNF139</i>	8q24.13	49	0.011	-0.18 (0.089)	3.8x10 ⁻⁰²	0.048 (0.12)	6.8x10 ⁻⁰¹	-0.099 (0.070)	1.6x10 ⁻⁰¹
<i>DCTD</i>	4q35.1	31	0.21	0.091 (0.037)	1.4x10 ⁻⁰²	-0.056 (0.052)	2.7x10 ⁻⁰¹	0.041 (0.030)	1.7x10 ⁻⁰¹
<i>TMEM8B</i>	9p13.3	22	0.066	0.17 (0.075)	2.2x10 ⁻⁰²	-0.049 (0.087)	5.7x10 ⁻⁰¹	0.077 (0.057)	1.7x10 ⁻⁰¹
<i>OLFML1</i>	11p15.4	11	0.064	0.17 (0.079)	2.8x10 ⁻⁰²	-0.067 (0.11)	5.3x10 ⁻⁰¹	0.087 (0.064)	1.7x10 ⁻⁰¹
<i>HK1</i>	10q22.1	31	0.031	0.18 (0.087)	3.5x10 ⁻⁰²	-0.053 (0.11)	6.4x10 ⁻⁰¹	0.094 (0.069)	1.7x10 ⁻⁰¹
<i>MICA</i>	6p21.33	84	0.67	-0.035 (0.017)	3.7x10 ⁻⁰²	0.013 (0.023)	5.8x10 ⁻⁰¹	-0.019 (0.014)	1.7x10 ⁻⁰¹
<i>LTN1</i>	21q21.3	9	0.033	-0.27 (0.13)	3.7x10 ⁻⁰²	0.055 (0.15)	7.2x10 ⁻⁰¹	-0.13 (0.098)	1.7x10 ⁻⁰¹
<i>ALDH6A1</i>	14q24.3	20	0.042	0.15 (0.072)	3.8x10 ⁻⁰²	-0.055 (0.10)	5.9x10 ⁻⁰¹	0.081 (0.059)	1.7x10 ⁻⁰¹
<i>PTPRA</i>	20p13	28	0.054	-0.19 (0.091)	3.9x10 ⁻⁰²	0.027 (0.10)	7.9x10 ⁻⁰¹	-0.093 (0.068)	1.7x10 ⁻⁰¹
<i>C1QTNF4</i>	11p11.2	41	0.69	0.044 (0.019)	2.1x10 ⁻⁰²	-0.014 (0.022)	5.2x10 ⁻⁰¹	0.019 (0.014)	1.8x10 ⁻⁰¹
<i>KATNB1</i>	16q21	47	0.041	-0.15 (0.066)	2.2x10 ⁻⁰²	0.063 (0.083)	4.5x10 ⁻⁰¹	-0.068 (0.052)	1.8x10 ⁻⁰¹
<i>C7orf53</i>	7q31.1	101	0.12	-0.075 (0.035)	3.3x10 ⁻⁰²	0.026 (0.046)	5.7x10 ⁻⁰¹	-0.038 (0.028)	1.8x10 ⁻⁰¹
<i>PPM1M</i>	3p21.2	32	0.17	0.084 (0.039)	3.4x10 ⁻⁰²	-0.022 (0.048)	6.5x10 ⁻⁰¹	0.041 (0.031)	1.8x10 ⁻⁰¹
<i>DUSP18</i>	22q12.2	58	0.32	0.059 (0.029)	4.2x10 ⁻⁰²	-0.011 (0.035)	7.5x10 ⁻⁰¹	0.030 (0.022)	1.8x10 ⁻⁰¹
<i>FAM83A</i>	8q24.13	17	0.3	0.063 (0.031)	4.2x10 ⁻⁰²	-0.017 (0.040)	6.7x10 ⁻⁰¹	0.033 (0.024)	1.8x10 ⁻⁰¹
<i>FOXK2</i>	17q25.3	23	0.057	0.15 (0.059)	1.1x10 ⁻⁰²	-0.13 (0.088)	1.4x10 ⁻⁰¹	0.063 (0.049)	1.9x10 ⁻⁰¹
<i>RNMT</i>	18p11.21	24	0.16	-0.11 (0.048)	1.6x10 ⁻⁰²	0.032 (0.050)	5.3x10 ⁻⁰¹	-0.046 (0.035)	1.9x10 ⁻⁰¹
<i>PHLDA1</i>	12q21.2	34	0.025	0.22 (0.095)	2.1x10 ⁻⁰²	-0.16 (0.14)	2.7x10 ⁻⁰¹	0.10 (0.079)	1.9x10 ⁻⁰¹
<i>TCP11L2</i>	12q23.3	31	0.075	0.14 (0.061)	2.4x10 ⁻⁰²	-0.046 (0.072)	5.3x10 ⁻⁰¹	0.061 (0.047)	1.9x10 ⁻⁰¹
<i>GSTK1</i>	7q34	16	0.15	0.081 (0.039)	3.7x10 ⁻⁰²	-0.044 (0.058)	4.5x10 ⁻⁰¹	0.042 (0.032)	1.9x10 ⁻⁰¹
<i>MKS1</i>	17q22	27	0.0076	-0.34 (0.11)	1.8x10 ⁻⁰³	0.31 (0.15)	3.5x10 ⁻⁰²	-0.11 (0.087)	2.0x10 ⁻⁰¹
<i>ARHGAP32</i>	11q24.3	31	0.1	0.17 (0.059)	4.0x10 ⁻⁰³	-0.12 (0.074)	1.2x10 ⁻⁰¹	0.059 (0.046)	2.0x10 ⁻⁰¹
<i>ADSL</i>	22q13.1	9	0.025	0.27 (0.11)	1.4x10 ⁻⁰²	-0.11 (0.13)	3.8x10 ⁻⁰¹	0.11 (0.084)	2.0x10 ⁻⁰¹

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>ZNF438</i>	10p11.22	17	0.02	-0.30 (0.13)	1.9x10 ⁻⁰²	0.12 (0.15)	4.4x10 ⁻⁰¹	-0.13 (0.098)	2.0x10 ⁻⁰¹
<i>FAM96A</i>	15q22.31	14	0.005	0.42 (0.18)	1.9x10 ⁻⁰²	-0.29 (0.26)	2.6x10 ⁻⁰¹	0.19 (0.15)	2.0x10 ⁻⁰¹
<i>TRNT1</i>	3p26.2	26	0.31	-0.063 (0.028)	2.3x10 ⁻⁰²	0.036 (0.038)	3.4x10 ⁻⁰¹	-0.029 (0.022)	2.0x10 ⁻⁰¹
<i>TTC9C</i>	11q12.3	30	0.25	-0.069 (0.032)	2.9x10 ⁻⁰²	0.030 (0.041)	4.6x10 ⁻⁰¹	-0.033 (0.025)	2.0x10 ⁻⁰¹
<i>SND1</i>	7q32.1	13	0.045	0.31 (0.12)	1.1x10 ⁻⁰²	-0.098 (0.12)	4.2x10 ⁻⁰¹	0.11 (0.086)	2.1x10 ⁻⁰¹
<i>ZNF76</i>	6p21.31	23	0.12	-0.095 (0.043)	2.6x10 ⁻⁰²	0.073 (0.065)	2.7x10 ⁻⁰¹	-0.045 (0.036)	2.1x10 ⁻⁰¹
<i>FUT8</i>	14q23.3	26	0.19	0.091 (0.044)	3.8x10 ⁻⁰²	-0.031 (0.054)	5.7x10 ⁻⁰¹	0.043 (0.034)	2.1x10 ⁻⁰¹
<i>C5orf20</i>	5q31.1	29	0.043	-0.17 (0.080)	3.9x10 ⁻⁰²	0.057 (0.10)	5.7x10 ⁻⁰¹	-0.079 (0.063)	2.1x10 ⁻⁰¹
<i>ISCU</i>	12q23.3	72	0.29	0.062 (0.031)	4.5x10 ⁻⁰²	-0.018 (0.038)	6.4x10 ⁻⁰¹	0.030 (0.024)	2.1x10 ⁻⁰¹
<i>ZNF668</i>	16p11.2	22	0.26	0.10 (0.039)	8.8x10 ⁻⁰³	-0.036 (0.040)	3.6x10 ⁻⁰¹	0.034 (0.028)	2.2x10 ⁻⁰¹
<i>CLPB</i>	11q13.4	29	0.0067	0.25 (0.098)	1.3x10 ⁻⁰²	-0.28 (0.16)	8.2x10 ⁻⁰²	0.10 (0.084)	2.2x10 ⁻⁰¹
<i>PROCR</i>	20q11.22	38	0.041	0.17 (0.075)	2.5x10 ⁻⁰²	-0.045 (0.079)	5.7x10 ⁻⁰¹	0.067 (0.054)	2.2x10 ⁻⁰¹
<i>DHX37</i>	12q24.31	31	0.014	0.29 (0.13)	3.1x10 ⁻⁰²	-0.11 (0.16)	4.9x10 ⁻⁰¹	0.13 (0.10)	2.2x10 ⁻⁰¹
<i>AKAP3</i>	12p13.32	11	0.3	0.061 (0.031)	4.9x10 ⁻⁰²	-0.020 (0.039)	6.2x10 ⁻⁰¹	0.030 (0.024)	2.2x10 ⁻⁰¹
<i>MCM3</i>	6p12.2	43	0.024	-0.30 (0.11)	7.8x10 ⁻⁰³	0.13 (0.12)	2.7x10 ⁻⁰¹	-0.097 (0.081)	2.3x10 ⁻⁰¹
<i>PDHB</i>	3p14.3	44	0.24	-0.075 (0.030)	1.1x10 ⁻⁰²	0.062 (0.041)	1.4x10 ⁻⁰¹	-0.029 (0.024)	2.3x10 ⁻⁰¹
<i>CCDC127</i>	5p15.33	15	0.33	-0.072 (0.030)	1.8x10 ⁻⁰²	0.032 (0.036)	3.6x10 ⁻⁰¹	-0.028 (0.023)	2.3x10 ⁻⁰¹
<i>PCYOX1L</i>	5q32	25	0.39	0.058 (0.025)	2.3x10 ⁻⁰²	-0.033 (0.033)	3.2x10 ⁻⁰¹	0.024 (0.020)	2.3x10 ⁻⁰¹
<i>PTER</i>	10p13	45	0.28	0.073 (0.035)	3.6x10 ⁻⁰²	-0.027 (0.042)	5.1x10 ⁻⁰¹	0.032 (0.027)	2.3x10 ⁻⁰¹
<i>FAM26F</i>	6q22.1	104	0.49	-0.057 (0.024)	1.6x10 ⁻⁰²	0.028 (0.028)	3.2x10 ⁻⁰¹	-0.021 (0.018)	2.4x10 ⁻⁰¹
<i>PPP1R3B</i>	8p23.1	12	0.0087	0.43 (0.18)	1.7x10 ⁻⁰²	-0.22 (0.22)	3.1x10 ⁻⁰¹	0.16 (0.14)	2.4x10 ⁻⁰¹
<i>PPM1K</i>	4q22.1	23	0.088	0.14 (0.065)	3.3x10 ⁻⁰²	-0.043 (0.072)	5.5x10 ⁻⁰¹	0.056 (0.048)	2.4x10 ⁻⁰¹
<i>HAGHL</i>	16p13.3	37	0.23	-0.074 (0.035)	3.7x10 ⁻⁰²	0.031 (0.044)	4.8x10 ⁻⁰¹	-0.032 (0.027)	2.4x10 ⁻⁰¹
<i>ACACB</i>	12q24.11	29	0.28	-0.060 (0.030)	4.7x10 ⁻⁰²	0.024 (0.038)	5.3x10 ⁻⁰¹	-0.028 (0.024)	2.4x10 ⁻⁰¹
<i>ADSSL1</i>	14q32.33	10	0.015	-0.32 (0.16)	4.9x10 ⁻⁰²	0.095 (0.19)	6.1x10 ⁻⁰¹	-0.14 (0.12)	2.4x10 ⁻⁰¹
<i>NAA20</i>	20p11.23	27	0.014	-0.27 (0.11)	2.0x10 ⁻⁰²	0.23 (0.17)	1.7x10 ⁻⁰¹	-0.11 (0.094)	2.5x10 ⁻⁰¹
<i>ZNF202</i>	11q24.1	15	0.054	0.20 (0.092)	2.9x10 ⁻⁰²	-0.11 (0.12)	3.6x10 ⁻⁰¹	0.082 (0.072)	2.5x10 ⁻⁰¹

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>RPF2</i>	6q21	8	0.24	-0.064 (0.031)	4.0x10 ⁻⁰²	0.038 (0.044)	3.8x10 ⁻⁰¹	-0.030 (0.025)	2.5x10 ⁻⁰¹
<i>CABIN1</i>	22q11.23	18	0.0073	0.25 (0.13)	4.7x10 ⁻⁰²	-0.25 (0.22)	2.6x10 ⁻⁰¹	0.13 (0.11)	2.5x10 ⁻⁰¹
<i>NUCB2</i>	11p15.1	30	0.11	0.14 (0.054)	7.9x10 ⁻⁰³	-0.087 (0.063)	1.7x10 ⁻⁰¹	0.047 (0.041)	2.6x10 ⁻⁰¹
<i>C6orf57</i>	6q13	11	0.019	0.36 (0.14)	8.7x10 ⁻⁰³	-0.22 (0.16)	1.8x10 ⁻⁰¹	0.12 (0.11)	2.6x10 ⁻⁰¹
<i>ZNF502</i>	3p21.31	46	0.6	-0.071 (0.027)	9.1x10 ⁻⁰³	0.024 (0.026)	3.5x10 ⁻⁰¹	-0.021 (0.019)	2.6x10 ⁻⁰¹
<i>C10orf10</i>	10q11.21	31	0.035	0.14 (0.069)	3.9x10 ⁻⁰²	-0.12 (0.11)	2.8x10 ⁻⁰¹	0.066 (0.058)	2.6x10 ⁻⁰¹
<i>SYNGR3</i>	16p13.3	10	0.36	0.10 (0.038)	7.8x10 ⁻⁰³	-0.032 (0.035)	3.6x10 ⁻⁰¹	0.029 (0.026)	2.7x10 ⁻⁰¹
<i>MAPK8IP2</i>	22q13.33	13	0.04	-0.22 (0.086)	1.2x10 ⁻⁰²	0.18 (0.12)	1.2x10 ⁻⁰¹	-0.075 (0.069)	2.7x10 ⁻⁰¹
<i>DYNLRB1</i>	20q11.22	40	0.0048	0.21 (0.087)	1.5x10 ⁻⁰²	-0.25 (0.14)	7.1x10 ⁻⁰²	0.082 (0.074)	2.7x10 ⁻⁰¹
<i>CHMP4B</i>	20q11.22	27	0.18	0.095 (0.042)	2.4x10 ⁻⁰²	-0.049 (0.050)	3.3x10 ⁻⁰¹	0.036 (0.032)	2.7x10 ⁻⁰¹
<i>ZCCHC24</i>	10q22.3	16	0.044	-0.19 (0.084)	2.5x10 ⁻⁰²	0.11 (0.11)	2.8x10 ⁻⁰¹	-0.072 (0.066)	2.7x10 ⁻⁰¹
<i>HLA-C</i>	6p21.33	104	0.67	-0.048 (0.022)	2.7x10 ⁻⁰²	0.021 (0.024)	3.9x10 ⁻⁰¹	-0.018 (0.016)	2.8x10 ⁻⁰¹
<i>VANGL1</i>	1p13.1	68	0.16	-0.074 (0.036)	4.1x10 ⁻⁰²	0.042 (0.047)	3.8x10 ⁻⁰¹	-0.031 (0.029)	2.8x10 ⁻⁰¹
<i>MAL</i>	2q11.1	16	0.025	0.26 (0.11)	1.5x10 ⁻⁰²	-0.19 (0.13)	1.6x10 ⁻⁰¹	0.087 (0.083)	2.9x10 ⁻⁰¹
<i>PROM2</i>	2q11.1	7	0.0094	-0.40 (0.16)	1.6x10 ⁻⁰²	0.29 (0.21)	1.7x10 ⁻⁰¹	-0.14 (0.13)	2.9x10 ⁻⁰¹
<i>DNMT3A</i>	2p23.3	18	0.085	-0.13 (0.054)	1.8x10 ⁻⁰²	0.11 (0.074)	1.5x10 ⁻⁰¹	-0.046 (0.044)	2.9x10 ⁻⁰¹
<i>SMC6</i>	2p24.2	15	0.01	0.28 (0.14)	3.9x10 ⁻⁰²	-0.16 (0.17)	3.6x10 ⁻⁰¹	0.11 (0.11)	2.9x10 ⁻⁰¹
<i>RPP14</i>	3p14.3	27	0.11	-0.18 (0.062)	4.6x10 ⁻⁰³	0.088 (0.063)	1.6x10 ⁻⁰¹	-0.046 (0.044)	3.0x10 ⁻⁰¹
<i>CALML6</i>	1p36.33	27	0.1	0.12 (0.056)	3.1x10 ⁻⁰²	-0.064 (0.067)	3.4x10 ⁻⁰¹	0.045 (0.043)	3.0x10 ⁻⁰¹
<i>SNx10</i>	7p15.2	3	0.006	0.78 (0.36)	3.2x10 ⁻⁰²	-0.43 (0.44)	3.3x10 ⁻⁰¹	0.29 (0.28)	3.0x10 ⁻⁰¹
<i>PARN</i>	16p13.12	4	0.014	-0.42 (0.20)	3.4x10 ⁻⁰²	0.44 (0.31)	1.6x10 ⁻⁰¹	-0.17 (0.17)	3.0x10 ⁻⁰¹
<i>STAC</i>	3p22.3	66	0.087	0.11 (0.051)	3.8x10 ⁻⁰²	-0.059 (0.064)	3.5x10 ⁻⁰¹	0.042 (0.040)	3.0x10 ⁻⁰¹
<i>C16orf79</i>	16p13.3	39	0.11	-0.11 (0.047)	2.4x10 ⁻⁰²	0.071 (0.059)	2.3x10 ⁻⁰¹	-0.038 (0.037)	3.1x10 ⁻⁰¹
<i>GATSL3</i>	22q12.2	17	0.26	-0.069 (0.032)	2.9x10 ⁻⁰²	0.050 (0.042)	2.3x10 ⁻⁰¹	-0.026 (0.025)	3.1x10 ⁻⁰¹
<i>MYBPC2</i>	19q13.33	20	0.0093	0.25 (0.12)	3.9x10 ⁻⁰²	-0.22 (0.18)	2.2x10 ⁻⁰¹	0.10 (0.10)	3.1x10 ⁻⁰¹
<i>JHDM1D</i>	7q34	18	0.032	0.24 (0.11)	2.1x10 ⁻⁰²	-0.19 (0.14)	1.6x10 ⁻⁰¹	0.083 (0.084)	3.2x10 ⁻⁰¹
<i>RBBP6</i>	16p12.1	59	0.37	-0.074 (0.032)	2.3x10 ⁻⁰²	0.028 (0.032)	3.8x10 ⁻⁰¹	-0.022 (0.023)	3.3x10 ⁻⁰¹

Gene	Location ^a	# SNPs in	Imputation	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
		Prediction	Quality ^b	Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>MIA</i>	19q13.2	9	0.0048	-0.44 (0.22)	4.5x10 ⁻⁰²	0.56 (0.37)	1.3x10 ⁻⁰¹	-0.18 (0.19)	3.3x10 ⁻⁰¹
<i>RGPD4</i>	2q12.3	21	0.67	-0.051 (0.021)	1.8x10 ⁻⁰²	0.029 (0.024)	2.2x10 ⁻⁰¹	-0.015 (0.016)	3.4x10 ⁻⁰¹
<i>TCERG1</i>	5q32	19	0.016	0.31 (0.14)	2.5x10 ⁻⁰²	-0.13 (0.14)	3.6x10 ⁻⁰¹	0.093 (0.098)	3.4x10 ⁻⁰¹
<i>FBXO44</i>	1p36.22	39	0.31	-0.083 (0.035)	1.9x10 ⁻⁰²	0.049 (0.040)	2.2x10 ⁻⁰¹	-0.025 (0.026)	3.5x10 ⁻⁰¹
<i>SIPA1</i>	11q13.1	21	0.037	0.17 (0.079)	2.9x10 ⁻⁰²	-0.15 (0.11)	1.7x10 ⁻⁰¹	0.059 (0.064)	3.5x10 ⁻⁰¹
<i>STX4</i>	16p11.2	14	0.12	-0.12 (0.057)	3.1x10 ⁻⁰²	0.057 (0.061)	3.5x10 ⁻⁰¹	-0.039 (0.042)	3.5x10 ⁻⁰¹
<i>SCP2</i>	1p32.3	44	0.15	0.093 (0.043)	3.2x10 ⁻⁰²	-0.083 (0.060)	1.6x10 ⁻⁰¹	0.032 (0.035)	3.6x10 ⁻⁰¹
<i>SNX1</i>	15q22.31	17	0.19	-0.099 (0.044)	2.6x10 ⁻⁰²	0.064 (0.052)	2.2x10 ⁻⁰¹	-0.030 (0.034)	3.7x10 ⁻⁰¹
<i>ZSWIM1</i>	20q13.12	17	0.0082	-0.34 (0.14)	1.3x10 ⁻⁰²	0.44 (0.20)	3.1x10 ⁻⁰²	-0.097 (0.11)	4.0x10 ⁻⁰¹
<i>UBR2</i>	6p21.1	3	0.023	0.45 (0.23)	4.5x10 ⁻⁰²	-0.14 (0.20)	5.0x10 ⁻⁰¹	0.13 (0.15)	4.0x10 ⁻⁰¹
<i>HIST1H3D</i>	6p22.2	15	0.02	0.28 (0.14)	4.5x10 ⁻⁰²	-0.18 (0.16)	2.8x10 ⁻⁰¹	0.087 (0.11)	4.2x10 ⁻⁰¹
<i>ZNF805</i>	19q13.43	19	0.059	-0.18 (0.080)	2.8x10 ⁻⁰²	0.14 (0.098)	1.5x10 ⁻⁰¹	-0.049 (0.062)	4.3x10 ⁻⁰¹
<i>DNAH6</i>	2p11.2	61	0.15	-0.098 (0.045)	3.1x10 ⁻⁰²	0.076 (0.055)	1.7x10 ⁻⁰¹	-0.028 (0.035)	4.3x10 ⁻⁰¹
<i>STIM2</i>	4p15.2	51	0.1	0.092 (0.045)	4.0x10 ⁻⁰²	-0.079 (0.057)	1.6x10 ⁻⁰¹	0.026 (0.035)	4.5x10 ⁻⁰¹
<i>HIST1H4D</i>	6p22.2	4	0.0094	0.50 (0.23)	2.7x10 ⁻⁰²	-0.49 (0.30)	1.0x10 ⁻⁰¹	0.13 (0.18)	4.6x10 ⁻⁰¹
<i>BCKDK</i>	16p11.2	16	0.081	0.16 (0.074)	3.1x10 ⁻⁰²	-0.082 (0.074)	2.7x10 ⁻⁰¹	0.038 (0.053)	4.6x10 ⁻⁰¹
<i>TTC30A</i>	2q31.2	26	0.015	0.27 (0.14)	4.3x10 ⁻⁰²	-0.24 (0.17)	1.7x10 ⁻⁰¹	0.079 (0.11)	4.6x10 ⁻⁰¹
<i>TMEM206</i>	1q32.3	21	0.096	0.15 (0.061)	1.6x10 ⁻⁰²	-0.14 (0.075)	6.7x10 ⁻⁰²	0.034 (0.047)	4.7x10 ⁻⁰¹
<i>PGP</i>	16p13.3	6	0.099	-0.13 (0.063)	3.3x10 ⁻⁰²	0.12 (0.080)	1.3x10 ⁻⁰¹	-0.036 (0.050)	4.7x10 ⁻⁰¹
<i>SETD1A</i>	16p11.2	15	0.016	-0.38 (0.16)	1.4x10 ⁻⁰²	0.26 (0.17)	1.2x10 ⁻⁰¹	-0.079 (0.11)	4.8x10 ⁻⁰¹
<i>ARHGAP24</i>	4q21.23	66	0.23	0.078 (0.036)	3.2x10 ⁻⁰²	-0.059 (0.042)	1.6x10 ⁻⁰¹	0.019 (0.027)	4.8x10 ⁻⁰¹
<i>STAM</i>	10p12.33	3	0.023	-0.37 (0.18)	3.8x10 ⁻⁰²	0.29 (0.21)	1.7x10 ⁻⁰¹	-0.095 (0.14)	4.8x10 ⁻⁰¹
<i>KSR1</i>	17q11.1	29	0.24	0.060 (0.030)	4.7x10 ⁻⁰²	-0.062 (0.041)	1.2x10 ⁻⁰¹	0.017 (0.024)	4.9x10 ⁻⁰¹
<i>EGLN3</i>	14q13.1	66	0.11	-0.085 (0.044)	5.0x10 ⁻⁰²	0.083 (0.056)	1.4x10 ⁻⁰¹	-0.022 (0.034)	5.2x10 ⁻⁰¹
<i>GDF11</i>	12q13.2	40	0.033	0.18 (0.074)	1.7x10 ⁻⁰²	-0.16 (0.087)	6.4x10 ⁻⁰²	0.035 (0.056)	5.4x10 ⁻⁰¹
<i>RPS2</i>	16p13.3	12	0.31	-0.078 (0.038)	3.8x10 ⁻⁰²	0.049 (0.039)	2.1x10 ⁻⁰¹	-0.016 (0.027)	5.4x10 ⁻⁰¹
<i>KCNS1</i>	20q13.12	18	0.044	-0.24 (0.12)	4.2x10 ⁻⁰²	0.14 (0.12)	2.5x10 ⁻⁰¹	-0.051 (0.083)	5.4x10 ⁻⁰¹

Gene	Location ^a	# SNPs in Prediction	Imputation Quality ^b	Discovery U4C Meta-analysis		UK Biobank Replication		Joint Meta-analysis	
				Beta (SE)	p-value	Beta (SE)	p-value	Beta (SE)	p-value
<i>GIMAP4</i>	7q36.1	67	0.08	-0.12 (0.061)	4.6x10 ⁻⁰²	0.097 (0.070)	1.7x10 ⁻⁰¹	-0.028 (0.046)	5.5x10 ⁻⁰¹
<i>MAP3K8</i>	10p11.23	59	0.034	-0.13 (0.065)	3.9x10 ⁻⁰²	0.15 (0.085)	8.4x10 ⁻⁰²	-0.031 (0.052)	5.6x10 ⁻⁰¹
<i>ADCY10</i>	1q24.2	39	0.0056	-0.30 (0.15)	4.5x10 ⁻⁰²	0.30 (0.19)	1.1x10 ⁻⁰¹	-0.068 (0.12)	5.6x10 ⁻⁰¹
<i>PCTP</i>	17q22	40	0.23	-0.078 (0.035)	2.8x10 ⁻⁰²	0.11 (0.051)	3.0x10 ⁻⁰²	-0.016 (0.029)	5.7x10 ⁻⁰¹
<i>C3orf23</i>	3p21.31	9	0.053	-0.18 (0.089)	4.2x10 ⁻⁰²	0.19 (0.11)	9.6x10 ⁻⁰²	-0.040 (0.070)	5.7x10 ⁻⁰¹
<i>NCF2</i>	1q25.3	67	0.02	-0.13 (0.066)	5.0x10 ⁻⁰²	0.14 (0.086)	1.1x10 ⁻⁰¹	-0.030 (0.053)	5.7x10 ⁻⁰¹
<i>MCMBP</i>	10q26.11	77	0.19	0.093 (0.043)	3.0x10 ⁻⁰²	-0.063 (0.044)	1.5x10 ⁻⁰¹	0.017 (0.031)	5.8x10 ⁻⁰¹
<i>EBF4</i>	20p13	48	0.35	-0.072 (0.029)	1.4x10 ⁻⁰²	0.088 (0.038)	2.0x10 ⁻⁰²	-0.012 (0.023)	6.0x10 ⁻⁰¹
<i>FAM83H</i>	8q24.3	15	0.046	-0.17 (0.081)	4.0x10 ⁻⁰²	0.18 (0.10)	7.4x10 ⁻⁰²	-0.033 (0.063)	6.0x10 ⁻⁰¹
<i>TPM2</i>	9p13.3	23	0.54	0.051 (0.025)	4.0x10 ⁻⁰²	-0.042 (0.027)	1.2x10 ⁻⁰¹	0.009 (0.018)	6.3x10 ⁻⁰¹
<i>NAV2</i>	11p15.1	10	0.035	-0.28 (0.12)	1.9x10 ⁻⁰²	0.34 (0.15)	2.5x10 ⁻⁰²	-0.041 (0.093)	6.6x10 ⁻⁰¹
<i>PFN2</i>	3q25.1	46	0.39	-0.059 (0.029)	4.0x10 ⁻⁰²	0.056 (0.033)	8.6x10 ⁻⁰²	-0.009 (0.022)	6.8x10 ⁻⁰¹
<i>AURKC</i>	19q13.43	48	0.086	0.11 (0.053)	4.6x10 ⁻⁰²	-0.13 (0.067)	6.2x10 ⁻⁰²	0.017 (0.042)	6.9x10 ⁻⁰¹
<i>ZNF425</i>	7q36.1	27	0.28	0.069 (0.033)	3.6x10 ⁻⁰²	-0.076 (0.039)	5.4x10 ⁻⁰²	0.010 (0.025)	7.0x10 ⁻⁰¹
<i>SPINT2</i>	19q13.2	39	0.091	0.099 (0.050)	4.5x10 ⁻⁰²	-0.13 (0.065)	4.1x10 ⁻⁰²	0.014 (0.039)	7.3x10 ⁻⁰¹
<i>SCGB3A2</i>	5q32	48	0.53	-0.047 (0.024)	4.6x10 ⁻⁰²	0.083 (0.028)	3.3x10 ⁻⁰³	0.006 (0.018)	7.3x10 ⁻⁰¹
<i>HLA-B</i>	6p21.33	84	0.54	0.041 (0.021)	4.6x10 ⁻⁰²	-0.049 (0.025)	5.3x10 ⁻⁰²	0.005 (0.016)	7.5x10 ⁻⁰¹
<i>NUB1</i>	7q36.1	18	0.048	-0.20 (0.097)	4.1x10 ⁻⁰²	0.22 (0.11)	5.1x10 ⁻⁰²	-0.021 (0.074)	7.8x10 ⁻⁰¹
<i>DACT3</i>	19q13.32	16	0.12	-0.11 (0.053)	4.0x10 ⁻⁰²	0.13 (0.062)	4.4x10 ⁻⁰²	-0.011 (0.040)	7.9x10 ⁻⁰¹
<i>TMEM98</i>	17q11.2	56	0.51	-0.058 (0.028)	3.7x10 ⁻⁰²	0.047 (0.027)	7.9x10 ⁻⁰²	-0.004 (0.019)	8.5x10 ⁻⁰¹
<i>FCF1</i>	14q24.3	15	0.01	0.44 (0.18)	1.8x10 ⁻⁰²	-0.71 (0.24)	3.4x10 ⁻⁰³	0.017 (0.15)	9.1x10 ⁻⁰¹
<i>SACM1L</i>	3p21.31	40	0.21	0.086 (0.043)	4.5x10 ⁻⁰²	-0.11 (0.049)	3.1x10 ⁻⁰²	0.002 (0.032)	9.4x10 ⁻⁰¹
<i>RPS6KL1</i>	14q24.3	13	0.29	0.087 (0.033)	8.4x10 ⁻⁰³	-0.12 (0.039)	2.4x10 ⁻⁰³	0.001 (0.025)	9.6x10 ⁻⁰¹

Abbreviations: SE: standard error; SNP: single nucleotide polymorphism; U4C: Up for a Challenge

^a According to human reference genome GRCh37/hg19

^b R² estimate derived from 10-fold cross-validation of true gene expression and predicted gene expression