

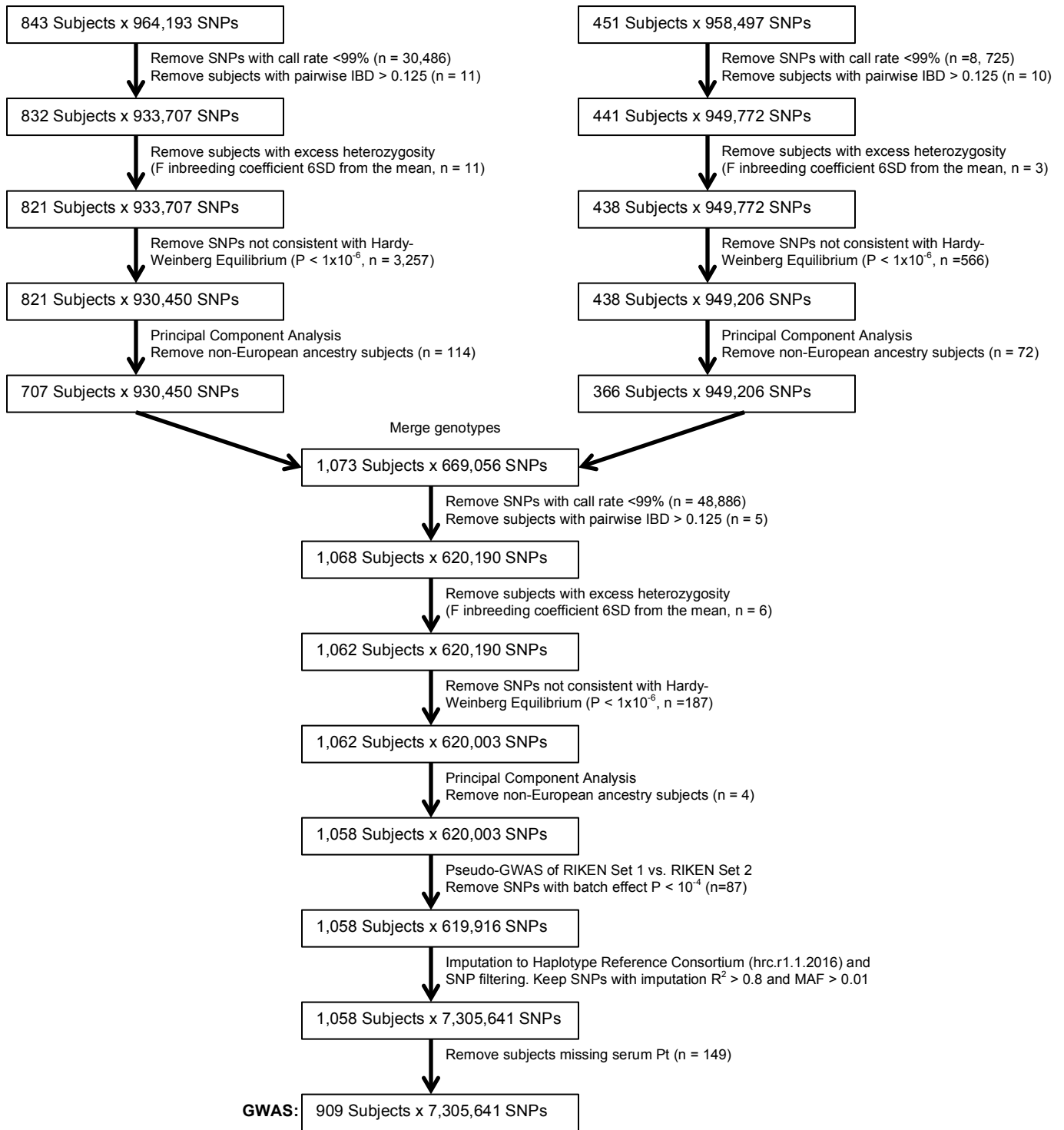
Supplemental Materials to:

## **Clinical and Genome-Wide Analysis of Serum Platinum Levels after Cisplatin-Based Chemotherapy**

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**Supplementary Figure S1. GWAS and Quality Control Pipeline.** Abbreviations: IBD = identity by descent, SD = standard deviation, MAF = minor allele frequency.

**Supplementary Table S1. Additional Clinical and Sociodemographic Characteristics for 1,010 Testicular Cancer Survivors According to Residual Platinum Values.**

Characteristic	Residual Platinum Value			
	All Patients (n=1,010)	Low (n=118)	Medium (n=785)	High (n=107)
<b>Clinical characteristics</b>				
<b>Age at GCT diagnosis (years)</b>				
Median (range)	31 (15-54)	30 (15-53)	31 (15-54)	35 (16-50)
<20	70 (6.9%)	16 (13.6%)	49 (6.2%)	5 (4.7%)
20-29	390 (38.6%)	52 (44.1%)	311 (39.6%)	27 (25.2%)
30-39	351 (34.8%)	32 (27.1%)	273 (34.8%)	46 (43.0%)
40-55	199 (19.7%)	18 (15.3%)	152 (19.4%)	29 (27.1%)
<b>BMI<sup>a</sup></b>				
Median (range)	27.4 (18.1-53.9)	29.1 (21.3-53.9)	27.2 (18.1-52.8)	27.2(19.5-46)
<25	223 (25.1%)	15 (14.0%)	178 (25.8%)	30 (32.6%)
25-29	396 (44.5%)	45 (42.1%)	315 (45.6%)	36 (39.1%)
30-34	185 (20.8%)	27 (25.2%)	137 (19.8%)	21 (22.8%)
35-39	57 (6.4%)	11 (10.3%)	43 (6.2%)	3 (3.3%)
≥40	29 (3.3%)	9 (8.4%)	18 (2.6%)	2 (2.2%)
<b>Number of cycles, platinum-based chemotherapy</b>				
3	436 (43.2%)	50 (42.4%)	342 (43.6%)	44 (41.1%)
4	572 (56.6%)	68 (57.6%)	443 (56.4%)	61 (57.0%)
>4	2 (0.2%)	0 (0%)	0 (0%)	2 (1.9%)
<b>Hypogonadism<sup>b,c</sup></b>				
Yes	163 (38.4%)	23 (39.0%)	125 (37.5%)	15 (45.5%)
No	262 (61.6%)	36 (61.0%)	208 (62.5%)	18 (54.5%)
<b>CBM score for cisplatin-induced toxicities<sup>d,e</sup></b>				
None	271 (27.1%)	38 (32.2%)	218 (27.9%)	15 (15.0%)
Very low	359 (35.9%)	36 (30.5%)	280 (35.8%)	43 (43.0%)
Low	184 (18.4%)	19 (16.1%)	148 (18.8%)	17 (17.0%)
Medium	158 (15.8%)	22 (18.6%)	118 (15.1%)	18 (18.0%)
High	28 (2.8%)	3 (2.5%)	18 (2.3%)	7 (7.0%)
<b>Sociodemographic characteristics</b>				

Characteristic	All Patients (n=1,010)	Residual Platinum Value		
		Low (n=118)	Medium (n=785)	High (n=107)
<b>Race</b>				
White	866 (85.7%)	103 (87.3%)	674 (85.9%)	89 (83.2%)
Nonwhite	17 (1.7%)	3 (2.5%)	11 (1.4%)	3 (2.8%)
Not stated	127 (12.6%)	12 (10.2%)	100 (12.7%)	15 (14.0%)
<b>Marital status<sup>f</sup></b>				
Not married	342 (35.9%)	34 (31.8%)	279 (39.7%)	29 (31.2%)
Married/ living as married	560 (62.1%)	73 (68.2%)	423 (60.3%)	64 (68.8%)
<b>Education</b>				
High school or less	35 (3.5%)	9 (7.6%)	23 (2.9%)	3 (2.8%)
Some college/ college graduate	541 (53.6%)	66 (55.9%)	423 (53.9%)	52 (48.6%)
Postgraduate level	196 (19.4%)	19 (16.1%)	151 (19.2%)	26 (24.3%)
Other or unknown	238 (23.6%)	24 (20.3%)	188 (23.9%)	26 (24.3%)

Abbreviation: BMI: body mass index

<sup>a</sup>120 participants were missing BMI measurement.

<sup>b</sup>585 participants were not evaluated with laboratory measurements for hypogonadism.

<sup>c</sup>Defined as testosterone levels  $\leq 3$  ng/mL based on laboratory measurement or whether the patient was on testosterone therapy. All patients who had testosterone levels  $> 3$  ng/mL and were not on testosterone therapy were labeled as normal or high, and were grouped together as controls for the multinomial regression analysis, as in Abu Zaid et al (1).

<sup>d</sup>10 participants did not have CBM score determined.

<sup>e</sup>Was calculated by using adverse health outcomes previously related to cisplatin exposure (i.e, peripheral sensory neuropathy, hearing damage, tinnitus, and kidney disease), as in Kerns et al (2).

<sup>f</sup>108 participants did not have marital status stated.

**Supplementary Table S2. Univariate Multinomial Regression of the Association Between Residual Platinum Values and Clinical Phenotypes Relevant to Cisplatin-Based Chemotherapy.**

	Variable Type	n (All Patients, Low, Medium, High)	Residual Platinum Value: Medium (n = 785)		Residual Platinum Value: High (n = 107)	
			OR (95% CI)	p-value	OR (95% CI)	p-value
<b>Risk Factors/Comorbidities</b>						
Age at diagnosis	continuous	1,010 (118, 785, 107)	1.03 (1.01, 1.06)	<b>5.40x10<sup>-3</sup></b>	1.06 (1.03, 1.10)	<b>3.72x10<sup>-5</sup></b>
Creatinine clearance <sup>a</sup>	continuous	769 (94, 597, 78)	0.99 (0.98, 0.99)	<b>5.38x10<sup>-4</sup></b>	0.98 (0.96, 0.99)	<b>1.35x10<sup>-3</sup></b>
LDL (mg/dL)	continuous	579 (73, 455, 51)	1.00 (1.00, 1.01)	0.07	1.00 (0.99, 1.01)	0.70
LH (mg/dL)	continuous	436 (60, 334, 32)	1.02 (0.97, 1.06)	0.46	1.02 (0.96, 1.08)	0.52
Hypogonadism <sup>b</sup>	categorical	425 (59, 333, 33)	0.96 (0.54, 1.69)	0.88	1.30 (0.55, 3.09)	0.55
Testosterone (ng/mL)	continuous	440 (60, 346, 34)	1.02 (0.94, 1.11)	0.58	0.97 (0.81, 1.17)	0.79
<b>Cisplatin-Induced Toxicities</b>						
CBM score for cisplatin-induced toxicities <sup>c</sup>	categorical	1,000 (118, 782, 100)	0.99 (0.83, 1.18)	0.94	1.26 (0.99, 1.60)	<b>0.05</b>
Peripheral sensory neuropathy <sup>d</sup>	categorical	996 (118, 773, 105)	1.02 (0.76, 1.39)	0.87	1.61 (1.07, 2.41)	<b>0.02</b>
Raynaud phenomenon <sup>d</sup>	categorical	991 (118, 770, 103)	1.20 (0.91, 1.59)	0.20	1.54 (1.08, 2.20)	<b>0.02</b>
Hearing Loss (rnGM412) <sup>e</sup>	continuous	749 (96, 570, 83)	0.87 (0.69, 1.09)	0.22	1.03 (0.76, 1.39)	0.86
Tinnitus	categorical	954 (115, 738, 101)	1.18 (0.78, 1.78)	0.44	1.69 (0.98, 2.94)	0.06

Abbreviations: CBM: cumulative burden of morbidity; HDL: high-density lipoprotein cholesterol; LDL: low-density lipoprotein cholesterol; LH: luteinizing hormone

For the multinomial regression model, the ordinal version of residual platinum values (low, medium, and high) was the dependent variable, with low residual platinum values being designated as the reference group. The other phenotypes were classified as independent variables. Bold indicates  $p \leq 0.05$ ; italics indicates  $0.05 < p < 0.10$ .

<sup>a</sup>Was calculated by using the following formula: creatinine clearance =  $(140 - \text{age at clinical examination}) \times \text{weight (kg)} / (72 \times \text{serum creatinine (mg/dL)})$ .

<sup>b</sup>Defined as testosterone levels  $\leq 3$  ng/mL based on crude measurement or whether the patient was on testosterone therapy. All patients who had testosterone levels  $> 3$  ng/mL and were not on testosterone therapy were labeled as normal or high, and were grouped together as controls for the multinomial regression analysis, as in Abu Zaid et al (1).

<sup>c</sup>Calculated by using selected adverse health outcomes previously related to cisplatin exposure (i.e., peripheral sensory neuropathy, hearing damage, tinnitus, and kidney disease), using a modified version of Kerns et al. (2) by removing autonomic neuropathy.

<sup>d</sup>Following conversion of the Likert scale: "none, a little, quite a bit, very much" to a 0-3 numeric scale, each individual was attributed a summary statistic for the sensory subscale (Cronbach ( $\alpha = 0.88$ )) and the motor subscale ( $\alpha = 0.78$ ) by taking the mean of the response in the subscale: none (mean = 0), mild ( $0 < \text{mean} \leq 1$ ), severe (mean  $> 1$ ), as in Dolan et al (3).

<sup>e</sup>Defined by the rank normalized geometric mean of air conduction thresholds measured at 4, 6, 8, 10, and 12 kHz, as in Frisina et al (4).

**Supplementary Table S3. Multinomial Regression of the Association Between Residual Platinum Values and Phenotypes Relevant to Cisplatin-Based Chemotherapy with Age at Diagnosis as a Covariate.**

	Variable Type	n (All Patients, Low, Medium, High)	Residual Platinum Value: Medium (n = 785)		Residual Platinum Value: High (n = 107)	
			OR (95% CI)	p-value	OR (95% CI)	p-value
<b>Risk Factors/Comorbidities</b>						
Age at diagnosis	continuous	1,010 (118, 785, 107)	N/A	N/A	N/A	N/A
Creatinine clearance <sup>a</sup>	continuous	769 (94, 597, 78)	0.99 (0.98, 1.00)	<b>4.83x10<sup>-3</sup></b>	0.98 (0.96, 0.99)	<b>6.06x10<sup>-3</sup></b>
LDL (mg/dL)	continuous	579 (73, 455, 51)	1.00 (0.99, 1.01)	<i>0.08</i>	1.00 (0.99, 1.01)	0.79
LH (mg/dL)	continuous	436 (60, 334, 32)	1.02 (0.97, 1.06)	0.46	1.02 (0.96, 1.08)	0.55
Hypogonadism <sup>b</sup>	categorical	425 (59, 333, 33)	0.80 (0.45, 1.44)	0.46	1.05 (0.41, 2.44)	0.99
Testosterone (ng/mL)	continuous	440 (60, 346, 34)	1.04 (0.92, 1.18)	0.50	1.01 (0.85, 1.21)	0.87
<b>Cisplatin-Induced Toxicities</b>						
CBM score for cisplatin-induced toxicities <sup>c</sup>	categorical	1,000 (118, 782, 100)	0.93 (0.78, 1.12)	0.45	1.13 (0.89, 1.44)	0.32
Peripheral sensory neuropathy <sup>d</sup>	categorical	996 (118, 773, 105)	0.91 (0.67, 1.25)	0.59	1.34 (0.88, 2.03)	0.17
Raynaud phenomenon <sup>d</sup>	categorical	991 (118, 770, 103)	1.17 (0.88, 1.54)	0.28	1.46 (1.02, 2.09)	<b>0.04</b>
Hearing Loss (rnGM412) <sup>e</sup>	continuous	749 (96, 570, 83)	0.67 (0.52, 0.86)	<b>2.43x10<sup>-3</sup></b>	0.67 (0.47, 0.97)	<b>0.03</b>
Tinnitus	categorical	954 (115, 738, 101)	1.17 (0.77, 1.78)	0.45	1.68 (0.97, 2.94)	<i>0.07</i>

Abbreviations: CBM: cumulative burden of morbidity; HDL: high-density lipoprotein cholesterol; LDL: low-density lipoprotein cholesterol; LH: luteinizing hormone

For the multinomial regression model, the ordinal version of residual platinum values (low, medium, and high) was the dependent variable, with low residual platinum values being designated as the reference group. The other phenotypes were classified as independent variables, and age at clinical examination was included as a covariate. Bold indicates  $p \leq 0.05$ ; italics indicates  $0.05 < p < 0.10$ .

<sup>a</sup>Was calculated by using the following formula: creatinine clearance =  $(140 - \text{age at clinical examination}) \times \text{weight (kg)} / (72 \times \text{serum creatinine (mg/dL)})$ .

<sup>b</sup>Defined as testosterone levels  $\leq 3$  ng/mL based on crude measurement or whether the patient was on testosterone therapy. All patients who had testosterone levels  $> 3$  ng/mL and were not on testosterone therapy were labeled as normal or high, and were grouped together as controls for the multinomial regression analysis, as in Abu Zaid et al (1).

<sup>c</sup>Calculated by using selected adverse health outcomes previously related to cisplatin exposure (i.e., peripheral sensory neuropathy, hearing damage, tinnitus, and kidney disease), using a modified version of Kerns et al. (2) by removing autonomic neuropathy.

<sup>d</sup>Following conversion of the Likert scale: "none, a little, quite a bit, very much" to a 0-3 numeric scale, each individual was attributed a summary statistic for the sensory subscale (Cronbach ( $\alpha = 0.88$ ) and the motor subscale ( $\alpha = 0.78$ ) by taking the mean of the response in the subscale: none (mean = 0), mild ( $0 < \text{mean} \leq 1$ ), severe (mean  $> 1$ ), as in Dolan et al (3).

<sup>e</sup>Defined by the rank normalized geometric mean of air conduction thresholds measured at 4, 6, 8, 10, and 12 kHz, as in Frisina et al (4).

**Supplementary Table S4. GWAS Results (P < 0.0001).**

CHR	BP	SNP	EFFECT	REFERENCE	FRQ	INFO	BETA	SE	P
19	50804066	rs1377817	G	T	0.1299	1.0081	-0.2303	0.0418	4.62E-08
19	50803571	rs58754699	T	C	0.1298	1.0088	-0.2299	0.0418	5.00E-08
19	50798679	rs113890379	A	G	0.1311	1.0321	-0.2178	0.0412	1.60E-07
2	2047397	rs6759709	G	A	0.2572	0.9887	0.1671	0.0323	2.86E-07
2	2047397	rs6759709	G	A	0.2572	0.9887	0.1671	0.0323	2.86E-07
7	96167810	rs150691387	G	A	0.0135	0.9847	0.63	0.123	3.68E-07
19	50787642	rs78604854	C	G	0.1337	1.0641	-0.2058	0.0403	4.14E-07
11	12807189	rs61878760	A	G	0.0896	0.9563	0.2499	0.0503	8.25E-07
19	50795001	rs7247511	A	G	0.1865	1.0918	-0.1731	0.0349	8.65E-07
19	50794970	rs7247501	A	G	0.187	1.0908	-0.1728	0.0349	8.86E-07
2	2102687	rs6755567	G	A	0.2402	1.024	0.1607	0.0325	9.37E-07
2	2102687	rs6755567	G	A	0.2402	1.024	0.1607	0.0325	9.37E-07
2	2103999	rs13019515	G	A	0.2403	1.0235	0.1607	0.0326	9.43E-07
2	2103999	rs13019515	G	A	0.2403	1.0235	0.1607	0.0326	9.43E-07
15	70810984	rs36116683	G	A	0.2011	0.9747	0.1746	0.0355	1.03E-06
4	183553033	rs138013532	T	C	0.0107	0.8981	0.7147	0.1454	1.06E-06
2	2109794	rs35314672	G	A	0.2414	1.0173	0.1602	0.0326	1.07E-06
2	2109794	rs35314672	G	A	0.2414	1.0173	0.1602	0.0326	1.07E-06
2	2110503	rs34210742	C	T	0.2414	1.0172	0.1601	0.0326	1.09E-06
2	2110503	rs34210742	C	T	0.2414	1.0172	0.1601	0.0326	1.09E-06
21	46563820	rs13047590	T	C	0.1363	0.9937	0.1998	0.0411	1.37E-06
2	2086374	rs1617213	C	T	0.2541	0.9844	0.1585	0.0326	1.39E-06
2	2086374	rs1617213	C	T	0.2541	0.9844	0.1585	0.0326	1.39E-06
10	85778375	rs11200804	G	A	0.1573	0.9777	0.1899	0.0394	1.74E-06
1	59556847	rs4543825	A	G	0.212	0.9768	-0.1678	0.0349	1.77E-06
2	2091619	rs1421614	T	C	0.2536	0.994	0.1561	0.0325	1.81E-06
2	2091619	rs1421614	T	C	0.2536	0.994	0.1561	0.0325	1.81E-06

6	144224312	rs9484827	G	T	0.0133	1.0704	0.5719	0.1192	1.89E-06
15	70811082	rs6494875	C	A	0.2008	0.9771	0.1701	0.0355	1.92E-06
5	159341075	rs80184476	T	C	0.0349	0.9922	0.3691	0.0771	1.96E-06
5	159342026	rs77875476	A	G	0.0349	0.9934	0.3675	0.077	2.13E-06
5	159342345	rs78007572	G	A	0.0349	0.9938	0.3669	0.077	2.19E-06
3	146147613	rs563551865	T	C	0.0126	0.9303	-0.6234	0.131	2.25E-06
5	159342843	rs74425400	T	C	0.0349	0.9943	0.3661	0.0769	2.28E-06
5	159343166	rs139748609	A	C	0.0349	0.9946	0.3657	0.0769	2.33E-06
5	159342808	rs74440770	C	T	0.0356	0.9888	0.363	0.0764	2.36E-06
5	159344083	rs2229181	T	C	0.035	0.9958	0.364	0.0768	2.52E-06
5	159354532	rs114294707	A	G	0.035	0.9966	0.3638	0.0768	2.53E-06
5	159347613	rs76661640	A	C	0.035	0.9966	0.3638	0.0768	2.53E-06
5	159348134	rs77476585	G	A	0.035	0.9966	0.3638	0.0768	2.53E-06
5	159348665	rs77392734	A	C	0.035	0.9966	0.3638	0.0768	2.53E-06
5	159346342	rs79224140	A	G	0.035	0.9964	0.3638	0.0768	2.54E-06
5	159346362	rs78464698	T	C	0.035	0.9964	0.3638	0.0768	2.54E-06
5	159344446	rs3730284	T	C	0.035	0.996	0.3639	0.0768	2.54E-06
5	159345906	rs75038956	G	T	0.035	0.9963	0.3638	0.0768	2.54E-06
5	159352459	rs75398586	A	T	0.035	0.9966	0.3638	0.0768	2.54E-06
5	159345112	rs78609450	G	A	0.035	0.9961	0.3638	0.0768	2.55E-06
5	159354433	rs76889583	G	A	0.035	0.9959	0.3637	0.0768	2.55E-06
5	159353055	rs76458976	C	T	0.035	0.996	0.3637	0.0768	2.56E-06
5	159353439	rs79686163	G	A	0.035	0.9959	0.3637	0.0768	2.56E-06
5	159352409	rs74417290	A	G	0.035	0.9951	0.3636	0.0768	2.56E-06
5	159355336	rs115188683	T	C	0.035	0.9954	0.3636	0.0768	2.58E-06
5	159355916	rs74319842	C	T	0.035	0.9942	0.3634	0.0768	2.62E-06
5	159355942	rs114663835	A	G	0.035	0.9941	0.3634	0.0768	2.62E-06
19	50795879	rs659773	G	T	0.186	1.0949	-0.1651	0.0349	2.63E-06
7	76820800	rs10252204	A	C	0.4261	0.9849	-0.1349	0.0285	2.63E-06
5	159356026	rs76011910	A	G	0.0351	0.993	0.3631	0.0768	2.67E-06



8	3913060	rs183748570	A	G	0.0147	0.8064	0.6129	0.1298	2.72E-06
5	159356875	rs77670862	T	C	0.0351	0.9919	0.3628	0.0769	2.73E-06
5	159356906	rs116547954	T	C	0.0351	0.9918	0.3627	0.0769	2.74E-06
5	159357298	rs78253043	A	G	0.0352	0.9905	0.3626	0.0768	2.77E-06
1	59548314	rs17466219	C	T	0.2131	0.9729	-0.1644	0.0349	2.88E-06
5	159358878	rs74641610	C	T	0.0353	0.9895	0.3613	0.0768	2.97E-06
5	159359512	rs78223549	A	G	0.0353	0.9885	0.3606	0.0768	3.07E-06
5	159360438	rs115000732	G	A	0.0353	0.9883	0.3602	0.0768	3.13E-06
5	159360770	rs116446221	T	C	0.0354	0.9884	0.3598	0.0768	3.20E-06
3	146142255	rs115704620	C	T	0.0632	0.8886	-0.2879	0.0619	3.75E-06
18	47309540	rs75276171	G	A	0.0611	0.9539	0.2797	0.0601	3.77E-06
18	47309909	rs7237253	G	A	0.0611	0.9539	0.2797	0.0601	3.77E-06
3	172462474	rs75979836	G	C	0.0547	0.8062	0.3189	0.0686	3.85E-06
18	47297521	rs143619252	A	G	0.0615	0.9523	0.2784	0.06	3.95E-06
18	47310967	rs80068204	A	T	0.0613	0.9512	0.279	0.0601	4.00E-06
18	47309884	rs7233791	C	G	0.0599	0.9477	0.2826	0.0609	4.00E-06
18	47296455	rs142158273	T	C	0.0616	0.9531	0.2779	0.0599	4.02E-06
18	47295988	rs3889856	T	G	0.0616	0.9535	0.2777	0.0599	4.06E-06
2	241177042	rs114949804	C	G	0.01	0.8619	0.7073	0.1526	4.08E-06
2	241177042	rs114949804	C	G	0.01	0.8619	0.7073	0.1526	4.08E-06
2	72156702	rs7587256	A	G	0.0396	1.0172	0.3333	0.0719	4.08E-06
2	72156702	rs7587256	A	G	0.0396	1.0172	0.3333	0.0719	4.08E-06
10	85775159	rs10788306	A	G	0.1937	0.9588	0.1698	0.0366	4.14E-06
10	85778523	rs11200805	T	A	0.1937	0.9588	0.1698	0.0366	4.15E-06
10	85778903	rs6585773	C	T	0.1937	0.9588	0.1698	0.0366	4.16E-06
2	156570190	rs7579510	C	A	0.012	0.943	0.6159	0.133	4.19E-06
2	156570190	rs7579510	C	A	0.012	0.943	0.6159	0.133	4.19E-06
11	12794946	rs3915398	G	A	0.1119	0.9101	0.2176	0.047	4.26E-06
10	85779923	rs7098745	C	T	0.1936	0.9582	0.1696	0.0367	4.29E-06
10	85780168	rs7902759	T	C	0.1936	0.9581	0.1695	0.0367	4.32E-06

5	159376710	rs78335203	A	T	0.0359	0.9706	0.3552	0.077	4.55E-06
2	48070044	rs7568939	T	C	0.0203	0.8401	0.5003	0.1088	4.88E-06
2	48070044	rs7568939	T	C	0.0203	0.8401	0.5003	0.1088	4.88E-06
3	146180070	rs76258070	A	G	0.0479	0.8864	-0.3231	0.0703	4.88E-06
11	65637273	rs501630	G	A	0.5545	0.9897	-0.1299	0.0284	5.25E-06
10	85786038	rs7921728	C	A	0.1935	0.9565	0.1682	0.0367	5.25E-06
10	85786610	rs7908599	A	G	0.1935	0.9565	0.1682	0.0367	5.27E-06
7	157930243	rs10949698	C	A	0.3239	0.9838	0.1383	0.0303	5.61E-06
3	185604948	rs111649035	C	T	0.0114	0.9692	0.6144	0.1345	5.65E-06
2	154366274	rs114985352	T	C	0.0153	0.7911	0.5881	0.1291	5.96E-06
2	154366274	rs114985352	T	C	0.0153	0.7911	0.5881	0.1291	5.96E-06
5	159299561	rs78989266	C	T	0.0368	0.9552	0.3472	0.0766	6.60E-06
2	50420757	rs115487787	T	C	0.0463	0.9773	0.3084	0.0681	6.71E-06
2	50420757	rs115487787	T	C	0.0463	0.9773	0.3084	0.0681	6.71E-06
3	153334750	rs17506814	G	A	0.0131	0.8316	0.6165	0.1363	6.93E-06
1	59555169	rs12404965	G	A	0.2237	0.9769	-0.1549	0.0343	7.03E-06
1	212136070	rs115440456	C	T	0.0495	0.7991	-0.3291	0.0729	7.23E-06
5	159323156	rs74747711	G	A	0.037	0.9863	0.3391	0.0753	7.58E-06
18	47292377	rs8083124	T	C	0.0611	0.9424	0.2723	0.0605	7.60E-06
6	98198517	rs144939408	T	A	0.0106	0.8459	0.6703	0.1491	7.90E-06
5	159349985	rs79416469	C	T	0.034	0.9867	0.3521	0.0784	7.92E-06
9	136613623	rs78280308	A	T	0.0325	0.8882	0.3793	0.0844	7.92E-06
2	164257937	rs10469688	G	A	0.0264	0.9492	0.4037	0.0899	8.10E-06
2	164257937	rs10469688	G	A	0.0264	0.9492	0.4037	0.0899	8.10E-06
3	151509744	rs9289856	C	T	0.0283	0.973	0.3856	0.0863	8.99E-06
18	47326426	rs183716438	T	C	0.0619	0.9489	0.2676	0.0599	9.05E-06
2	50443675	rs2222316	C	T	0.0459	0.9825	0.3045	0.0682	9.08E-06
2	50443675	rs2222316	C	T	0.0459	0.9825	0.3045	0.0682	9.08E-06
6	16951626	rs76903139	G	T	0.043	0.8413	0.3411	0.0764	9.11E-06
9	90504714	rs73653973	T	G	0.0425	0.967	0.3189	0.0715	9.31E-06

18	47327759	rs77983677	G	A	0.0619	0.9493	0.2671	0.0599	9.37E-06
8	8490501	rs74615832	A	G	0.0727	0.8638	0.2689	0.0604	9.56E-06
4	10198932	rs11732805	C	T	0.011	0.9276	0.6235	0.1402	9.74E-06
11	12772203	rs117301475	A	G	0.0184	0.7717	0.5304	0.1193	9.91E-06
18	47329871	rs7238567	T	C	0.0619	0.9483	0.2665	0.06	1.00E-05
1	59552704	rs9970281	G	T	0.2242	0.979	-0.152	0.0342	1.01E-05
8	1287641	rs73170474	A	C	0.0523	0.99	-0.2819	0.0635	1.01E-05
18	47330081	rs74481622	C	T	0.0619	0.9483	0.2664	0.06	1.01E-05
22	29813175	rs9625792	C	T	0.0441	0.9197	0.3173	0.0716	1.05E-05
13	93666376	rs460850	C	T	0.8516	0.9364	-0.1815	0.041	1.06E-05
18	47331659	rs78558624	C	T	0.0619	0.9489	0.2655	0.06	1.07E-05
18	47332163	rs140573335	A	G	0.0619	0.9489	0.2654	0.06	1.08E-05
6	6336740	rs116617212	T	C	0.0134	0.9042	0.5737	0.1297	1.10E-05
4	10210648	rs185700151	A	C	0.0132	0.975	0.5514	0.1249	1.14E-05
7	138728018	rs59023152	T	C	0.0196	0.9713	0.4595	0.1041	1.14E-05
20	31873286	rs6141913	A	G	0.2173	0.959	0.1541	0.0349	1.15E-05
4	10440936	rs140477370	T	A	0.0133	0.9633	0.5524	0.1253	1.16E-05
2	102731596	rs1007027	C	A	0.3294	0.9657	-0.1361	0.0309	1.16E-05
2	102731596	rs1007027	C	A	0.3294	0.9657	-0.1361	0.0309	1.16E-05
4	10194891	rs11727128	G	A	0.0133	0.9706	0.5497	0.1248	1.20E-05
8	1284211	rs73170467	A	G	0.0244	1.0009	-0.4011	0.0914	1.27E-05
14	23291551	rs117373989	A	C	0.0448	0.8485	0.3233	0.0737	1.29E-05
2	156566726	rs73965656	T	C	0.0118	0.9468	0.5867	0.1339	1.32E-05
2	156566726	rs73965656	T	C	0.0118	0.9468	0.5867	0.1339	1.32E-05
8	1284547	rs56071402	A	C	0.0244	0.9999	-0.4005	0.0914	1.32E-05
1	59534195	rs34071988	T	A	0.227	0.9847	-0.1488	0.034	1.36E-05
2	156555762	rs77079095	C	T	0.0118	0.9432	0.5872	0.1343	1.38E-05
2	156555762	rs77079095	C	T	0.0118	0.9432	0.5872	0.1343	1.38E-05
12	106302694	rs78225733	T	C	0.0162	0.8238	0.536	0.1226	1.39E-05
17	71130961	rs2344994	C	T	0.7719	1.0018	0.1464	0.0335	1.41E-05

11	18286807	rs750948	T	C	0.0216	0.9679	-0.4304	0.0986	1.43E-05
10	73047181	rs151211976	T	C	0.0126	0.7884	0.6199	0.1421	1.44E-05
3	151512034	rs115608419	G	T	0.0296	0.9763	0.3677	0.0843	1.45E-05
12	92342258	rs63482062	C	T	0.0132	0.8673	0.578	0.1326	1.46E-05
9	136112029	rs78433526	G	A	0.0111	0.8763	0.6308	0.1447	1.47E-05
9	136112069	rs79382109	A	G	0.011	0.8765	0.6307	0.1447	1.47E-05
1	59540105	rs4421614	C	T	0.2253	0.976	-0.1491	0.0342	1.48E-05
8	1286467	rs73170473	A	G	0.0243	0.9945	-0.3994	0.0918	1.53E-05
1	59537214	rs7536474	A	G	0.1421	0.9983	0.1753	0.0403	1.53E-05
16	65820295	rs7198565	A	C	0.0911	0.9905	0.2143	0.0493	1.53E-05
16	65818152	rs28386180	T	G	0.0906	0.9921	0.2144	0.0493	1.54E-05
14	34436723	rs8005064	C	G	0.6362	0.8796	0.1352	0.0311	1.57E-05
22	36639067	rs13054261	T	C	0.2074	0.9588	0.1541	0.0355	1.60E-05
7	138727771	rs111377784	A	C	0.0207	0.9705	0.4392	0.1013	1.61E-05
7	138727353	rs10245897	A	T	0.0207	0.97	0.4392	0.1013	1.61E-05
2	233346027	rs746379	G	C	0.2657	0.9523	0.142	0.0328	1.63E-05
2	233346027	rs746379	G	C	0.2657	0.9523	0.142	0.0328	1.63E-05
16	65813222	rs9931033	A	G	0.0917	0.9908	0.2126	0.0491	1.65E-05
16	65812859	rs28399714	T	G	0.0917	0.9909	0.2126	0.0491	1.65E-05
22	36639308	rs5750243	T	C	0.208	0.9662	0.1529	0.0353	1.68E-05
7	157906182	rs2335844	G	C	0.3272	0.9817	0.1308	0.0302	1.70E-05
22	36639421	rs4378900	A	G	0.2081	0.9673	0.1527	0.0353	1.70E-05
15	93010321	rs116928729	A	G	0.0176	0.8056	0.5182	0.1199	1.72E-05
7	157909775	rs4909241	G	T	0.3272	0.9814	0.1307	0.0302	1.72E-05
7	157917414	rs4909253	A	G	0.3274	0.9818	0.1306	0.0302	1.74E-05
2	156556800	rs11901099	G	A	0.0113	0.9412	0.5949	0.1378	1.75E-05
2	156556800	rs11901099	G	A	0.0113	0.9412	0.5949	0.1378	1.75E-05
9	14726174	rs76660602	C	G	0.0106	0.7463	0.688	0.1593	1.75E-05
19	50816020	rs116046797	A	G	0.0832	0.9607	-0.2269	0.0525	1.75E-05
7	157920125	rs13437759	A	G	0.3274	0.9819	0.1305	0.0302	1.75E-05

17	71127471	rs28410243	A	G	0.1862	0.9895	-0.1569	0.0363	1.77E-05
14	34674161	rs12590234	C	T	0.4919	0.9223	-0.1268	0.0294	1.78E-05
1	59535204	rs12402173	C	T	0.2258	0.9809	-0.1472	0.0341	1.79E-05
19	50816768	rs9916985	G	T	0.0837	0.9586	-0.2261	0.0524	1.81E-05
2	58523256	rs74887875	T	C	0.0226	0.9241	0.426	0.0988	1.81E-05
2	58523256	rs74887875	T	C	0.0226	0.9241	0.426	0.0988	1.81E-05
22	36636794	rs34223341	A	G	0.2114	0.9422	0.1533	0.0356	1.82E-05
21	39202275	rs117930146	G	T	0.0339	1.0513	0.3275	0.076	1.83E-05
7	157927537	rs6944055	G	A	0.323	0.9746	0.1312	0.0305	1.85E-05
7	157927166	rs6943534	T	A	0.323	0.9747	0.1312	0.0305	1.85E-05
8	87748951	rs139032104	A	G	0.0187	0.8576	0.4849	0.1126	1.85E-05
7	157927193	rs6960916	A	G	0.323	0.9747	0.1312	0.0305	1.86E-05
7	157927858	rs10231602	G	T	0.323	0.9746	0.1311	0.0305	1.86E-05
17	71126836	rs9902588	T	C	0.186	0.9836	-0.1569	0.0365	1.87E-05
8	14596257	rs138531759	C	T	0.0179	0.9113	-0.4809	0.1118	1.90E-05
21	37538063	rs9984678	A	G	0.1957	0.9433	-0.158	0.0367	1.90E-05
7	138735270	rs7782919	T	C	0.0328	0.9371	0.3525	0.082	1.91E-05
8	36673279	rs147078296	G	A	0.0271	0.9442	0.3838	0.0893	1.93E-05
16	65805462	rs72784570	A	G	0.0914	0.9907	0.2113	0.0492	1.94E-05
19	50817702	rs77696005	C	A	0.0842	0.958	-0.2245	0.0523	1.94E-05
15	70818373	rs4407020	G	T	0.2131	1.027	0.1457	0.0339	1.95E-05
20	31865697	rs7262822	A	G	0.2242	0.9789	0.147	0.0342	1.96E-05
15	70817811	rs4539552	G	A	0.2092	1.0371	0.1459	0.034	1.96E-05
22	36640533	rs5756113	A	C	0.2086	0.9659	0.1516	0.0353	1.96E-05
10	29325167	rs117756384	A	T	0.0351	0.9702	-0.3329	0.0776	1.98E-05
7	157928503	rs4349930	A	T	0.3224	0.9761	0.1306	0.0305	2.00E-05
7	157928660	rs6459841	C	G	0.3222	0.9755	0.1307	0.0305	2.00E-05
7	157928710	rs4475429	T	C	0.3219	0.9779	0.1305	0.0304	2.00E-05
7	157928642	rs4458820	A	G	0.3222	0.9755	0.1307	0.0305	2.00E-05
7	157928460	rs6966663	C	G	0.3224	0.9763	0.1306	0.0305	2.01E-05

7	157928610	rs6459840	G	A	0.3224	0.9763	0.1306	0.0305	2.01E-05
7	157928572	rs4349931	A	G	0.3224	0.9763	0.1305	0.0305	2.02E-05
7	157928272	rs6967448	G	C	0.3224	0.9762	0.1305	0.0305	2.02E-05
16	65800850	rs141403560	G	C	0.0921	0.99	0.2101	0.049	2.02E-05
5	16854994	rs2560858	G	A	0.2809	0.9237	0.1395	0.0325	2.02E-05
16	65802899	rs72784567	T	C	0.0915	0.9912	0.2106	0.0491	2.03E-05
20	31862091	rs6141909	T	C	0.2246	0.9826	0.1462	0.0341	2.05E-05
7	157928998	rs7803631	A	G	0.3225	0.9762	0.1304	0.0305	2.06E-05
7	157928976	rs7803621	A	G	0.3225	0.9762	0.1304	0.0305	2.06E-05
5	142433411	rs2398565	G	A	0.023	1.0387	0.3955	0.0924	2.07E-05
7	157929076	rs7787501	T	A	0.3226	0.9764	0.1303	0.0305	2.08E-05
16	65802172	rs55958810	A	G	0.0916	0.9918	0.2102	0.0491	2.09E-05
7	157929223	rs3800858	A	G	0.3226	0.9765	0.1302	0.0305	2.10E-05
19	50809274	rs144748691	A	G	0.0653	0.9342	-0.2548	0.0596	2.11E-05
4	67676396	rs114671118	A	G	0.0229	0.8345	-0.4419	0.1034	2.11E-05
7	157928246	rs6966230	A	G	0.3224	0.9762	0.1302	0.0305	2.12E-05
16	65801698	rs1966503	A	G	0.0916	0.9926	0.2099	0.0491	2.12E-05
17	71126929	rs9909102	G	A	0.1853	0.9828	-0.1561	0.0365	2.13E-05
17	71343370	rs184838697	T	A	0.011	0.9286	-0.6013	0.1408	2.14E-05
22	36640927	rs13055888	T	G	0.2087	0.9659	0.1508	0.0353	2.15E-05
7	157918094	rs4909255	T	C	0.3252	0.9833	0.1293	0.0303	2.16E-05
7	157920247	rs13437762	T	G	0.3279	0.9802	0.1292	0.0302	2.17E-05
7	157918582	rs4909094	T	C	0.3252	0.9834	0.1293	0.0303	2.17E-05
11	134019675	rs11223715	C	T	0.0748	0.9161	0.238	0.0558	2.19E-05
3	172567112	rs79520329	G	A	0.0612	0.8139	0.2769	0.0649	2.19E-05
2	156553677	rs11901342	T	G	0.0114	0.9379	0.5852	0.1372	2.20E-05
2	156553677	rs11901342	T	G	0.0114	0.9379	0.5852	0.1372	2.20E-05
11	65637076	rs570387	C	T	0.5198	1.0051	-0.1198	0.0281	2.23E-05
16	65800656	rs139685695	T	C	0.0916	0.9904	0.2095	0.0492	2.24E-05
16	15870985	rs113267683	T	C	0.0151	0.7832	-0.5577	0.1309	2.25E-05

1	83300093	rs11580950	A	G	0.0999	0.7669	0.2297	0.0539	2.25E-05
20	31873821	rs3746393	T	C	0.2228	0.9761	0.1463	0.0343	2.26E-05
7	157931263	rs3752371	C	G	0.3231	0.9786	0.1295	0.0304	2.27E-05
20	31868249	rs7263699	C	T	0.2262	0.9895	0.1447	0.034	2.29E-05
7	157930036	rs6977814	G	C	0.3228	0.9777	0.1295	0.0304	2.29E-05
14	34638094	rs12886379	T	C	0.4212	1.0042	-0.1208	0.0284	2.30E-05
7	157930137	rs12668329	A	T	0.3228	0.9778	0.1295	0.0304	2.30E-05
8	1287382	rs73670773	C	T	0.0578	0.9706	-0.2606	0.0613	2.32E-05
1	202424535	rs114269248	T	G	0.0127	0.8762	0.5733	0.1348	2.32E-05
2	8033212	rs11682406	C	T	0.0176	0.9606	0.4684	0.1101	2.33E-05
2	8033212	rs11682406	C	T	0.0176	0.9606	0.4684	0.1101	2.33E-05
7	157930974	rs3752366	T	C	0.3231	0.9769	0.1294	0.0304	2.34E-05
1	59488772	rs2716108	T	G	0.1991	0.8031	-0.168	0.0395	2.35E-05
7	157930619	rs10949699	A	C	0.3229	0.9793	0.1292	0.0304	2.36E-05
17	29920645	rs77144095	T	C	0.0199	0.8976	0.4512	0.1061	2.36E-05
20	31867286	rs6141911	A	T	0.2247	0.9836	0.145	0.0341	2.40E-05
8	14585192	rs186518397	A	G	0.0173	0.9109	-0.4834	0.1139	2.41E-05
11	65636509	rs659824	G	A	0.5227	1.0042	-0.1193	0.0281	2.44E-05
18	47398040	rs79374597	T	C	0.0622	0.9527	0.2536	0.0598	2.47E-05
18	47390805	rs4939898	T	C	0.0622	0.9525	0.2536	0.0598	2.47E-05
10	44307607	rs7906426	G	A	0.0932	1.0022	-0.206	0.0486	2.48E-05
18	47393044	rs4939596	A	G	0.0622	0.9526	0.2536	0.0598	2.48E-05
8	1283042	rs73170465	T	C	0.0167	1.0189	-0.4611	0.1088	2.49E-05
10	104249839	rs1977382	T	A	0.2619	0.9485	0.1396	0.0329	2.49E-05
2	57931576	rs187470710	T	C	0.0173	0.901	0.4834	0.1142	2.52E-05
2	57931576	rs187470710	T	C	0.0173	0.901	0.4834	0.1142	2.52E-05
22	36641792	rs62233823	A	G	0.2092	0.9635	0.1496	0.0353	2.53E-05
17	71153671	rs9904568	A	G	0.1964	0.9822	-0.1514	0.0358	2.54E-05
1	59533996	rs4128414	A	C	0.2253	0.9826	-0.1446	0.0341	2.54E-05
1	59533777	rs4128413	G	A	0.2253	0.9824	-0.1445	0.0341	2.55E-05

1	59533336	rs12402674	T	A	0.2253	0.9821	-0.1445	0.0342	2.56E-05
20	31870090	rs4911311	C	G	0.2248	0.9829	0.1445	0.0341	2.56E-05
15	70817246	rs8034299	G	T	0.2068	1.0362	0.1445	0.0341	2.56E-05
15	70817223	rs8033107	T	C	0.2068	1.0363	0.1445	0.0341	2.57E-05
1	59533223	rs17118659	A	G	0.2253	0.982	-0.1445	0.0342	2.57E-05
18	47395770	rs78814171	T	C	0.0627	0.9519	0.2521	0.0596	2.58E-05
2	58556174	rs186863356	A	C	0.0229	0.8884	0.4243	0.1003	2.58E-05
2	58556174	rs186863356	A	C	0.0229	0.8884	0.4243	0.1003	2.58E-05
22	36642018	rs34235585	A	T	0.2092	0.9634	0.1494	0.0353	2.59E-05
1	59532637	rs6689928	C	A	0.2253	0.9814	-0.1445	0.0342	2.60E-05
11	65638719	rs633800	A	G	0.5235	1.0006	-0.1191	0.0282	2.60E-05
10	44307693	rs7917583	G	A	0.0927	1.0017	-0.2061	0.0487	2.61E-05
10	44307687	rs7900485	T	G	0.0927	1.0017	-0.206	0.0487	2.61E-05
1	59531700	rs12016654	A	G	0.2254	0.981	-0.1444	0.0342	2.62E-05
4	10137711	rs16893993	A	C	0.0698	0.9905	0.2354	0.0557	2.63E-05
1	212138895	rs116415521	A	C	0.0408	0.782	-0.3414	0.0808	2.63E-05
8	1277213	rs73170459	G	A	0.0236	1.017	-0.3892	0.0921	2.64E-05
7	44221942	rs117544459	A	C	0.0166	0.8783	0.4998	0.1184	2.66E-05
10	44307717	rs7920802	A	T	0.0927	1.0018	-0.2058	0.0487	2.67E-05
15	70817307	rs8033277	T	C	0.2062	1.0309	0.1447	0.0343	2.68E-05
3	30631458	rs80138614	T	G	0.0628	0.8581	-0.2654	0.0629	2.71E-05
5	142438134	rs2190778	A	T	0.0228	1.0247	0.3937	0.0936	2.84E-05
17	71153536	rs62071603	A	G	0.1958	0.9777	-0.151	0.0359	2.84E-05
16	65840560	rs72786512	T	C	0.0577	0.9803	0.2588	0.0616	2.88E-05
5	142437071	rs2270067	G	A	0.0228	1.0256	0.393	0.0935	2.91E-05
9	135187714	rs142304305	T	C	0.017	0.7625	0.5264	0.1253	2.92E-05
16	65797622	rs9938100	T	C	0.0912	0.9844	0.2076	0.0494	2.92E-05
7	157930979	rs3752367	G	C	0.3237	0.9758	0.1279	0.0304	2.94E-05
12	83670415	rs187048210	A	C	0.0111	0.8438	0.6124	0.1459	2.96E-05
7	87071530	rs45539339	G	T	0.072	0.9872	0.2321	0.0553	2.98E-05



7	87071639	rs45579433	A	G	0.072	0.9872	0.2321	0.0553	2.98E-05
12	114298643	rs12231525	T	A	0.1693	0.9518	0.1621	0.0386	2.98E-05
7	157931119	rs1130500	G	A	0.3235	0.9781	0.1276	0.0304	2.98E-05
7	157931144	rs1130499	T	C	0.3235	0.9781	0.1276	0.0304	2.98E-05
8	1287425	rs189301764	T	G	0.0238	0.9864	-0.3914	0.0933	2.98E-05
7	87072226	rs17149601	T	C	0.072	0.9873	0.2321	0.0553	2.99E-05
7	87072505	rs17149606	A	C	0.072	0.9873	0.232	0.0553	2.99E-05
7	87072140	rs45503798	C	T	0.072	0.9873	0.232	0.0553	2.99E-05
12	85520152	rs73182415	T	A	0.0131	0.8348	0.5728	0.1365	3.00E-05
19	50818252	rs115192757	C	G	0.0849	0.9513	-0.2192	0.0523	3.01E-05
7	157894119	rs4909223	G	A	0.3278	0.9604	0.1282	0.0306	3.03E-05
22	36643428	rs71314972	C	G	0.2096	0.9621	0.1481	0.0353	3.04E-05
11	99038365	rs10892836	G	A	0.4914	0.9256	-0.1233	0.0294	3.04E-05
4	10145910	rs34448220	G	A	0.0705	0.9863	0.233	0.0556	3.06E-05
16	65795849	rs72784560	T	C	0.0918	0.9806	0.2067	0.0494	3.11E-05
10	104499232	rs12762176	T	A	0.3185	0.9569	0.1294	0.0309	3.14E-05
2	46179662	rs12471357	C	T	0.595	1.0231	-0.1187	0.0284	3.17E-05
2	46179662	rs12471357	C	T	0.595	1.0231	-0.1187	0.0284	3.17E-05
18	12487778	rs79993352	C	T	0.0105	0.8713	0.6169	0.1476	3.20E-05
16	63154176	rs1625555	C	T	0.7131	0.9667	0.1342	0.0321	3.21E-05
3	60011473	rs183872205	G	A	0.0525	0.9799	0.2674	0.064	3.22E-05
7	157931928	rs11763130	A	G	0.581	1.0035	-0.1188	0.0284	3.24E-05
8	80585763	rs143460322	A	C	0.0124	0.8563	-0.5765	0.138	3.26E-05
6	25466324	rs144503707	T	C	0.0123	0.8478	0.5802	0.1389	3.26E-05
4	161872848	rs10011575	T	C	0.3483	0.9845	0.1246	0.0299	3.28E-05
18	47372315	rs58349995	A	G	0.0627	0.9517	0.2488	0.0596	3.28E-05
14	34634563	rs10144484	A	C	0.4679	0.9545	-0.1206	0.0289	3.29E-05
18	47367536	rs2276169	G	C	0.0627	0.9519	0.2488	0.0596	3.29E-05
5	16632304	rs77937257	C	A	0.0756	0.8549	0.2404	0.0576	3.29E-05
18	47359787	rs870590	A	G	0.0627	0.952	0.2487	0.0596	3.29E-05

18	47359444	rs16951101	G	A	0.0627	0.9519	0.2487	0.0596	3.30E-05
13	93516511	rs9301840	C	G	0.2963	0.9829	0.1299	0.0312	3.35E-05
18	47311513	rs17657133	G	A	0.0573	0.9537	0.2595	0.0623	3.37E-05
1	212102560	rs115291660	G	A	0.0499	0.8249	-0.2985	0.0716	3.39E-05
4	10155484	rs9991911	G	A	0.9273	0.984	-0.2287	0.0549	3.40E-05
2	102728004	rs1861284	T	C	0.3275	0.9642	-0.1289	0.031	3.44E-05
2	102728004	rs1861284	T	C	0.3275	0.9642	-0.1289	0.031	3.44E-05
13	29328193	rs7331284	A	T	0.4617	1.0144	-0.1169	0.0281	3.47E-05
1	59535812	rs7530655	A	G	0.1477	0.9925	0.166	0.0399	3.49E-05
11	61961938	rs7926905	A	G	0.02	0.9568	0.4274	0.1027	3.50E-05
22	36643986	rs35150149	T	A	0.21	0.9612	0.1468	0.0353	3.59E-05
7	87061534	rs6977739	T	G	0.0731	0.9838	0.2283	0.055	3.60E-05
7	87056011	rs1017054	C	T	0.073	0.9848	0.2283	0.055	3.60E-05
11	14251440	rs61883840	A	G	0.2056	0.9898	-0.1465	0.0353	3.62E-05
16	65794420	rs58827016	A	C	0.092	0.9785	0.2051	0.0494	3.62E-05
5	159364062	rs78695043	C	A	0.0415	0.9764	0.2974	0.0716	3.62E-05
13	45263685	rs7331853	C	A	0.3794	1.0189	-0.1201	0.0289	3.62E-05
4	10194377	rs76850735	C	T	0.0252	0.9464	0.3847	0.0927	3.63E-05
5	159363996	rs76342362	C	A	0.0415	0.9764	0.2974	0.0716	3.63E-05
9	135209595	rs137935435	T	G	0.0171	0.7709	0.5155	0.1242	3.65E-05
5	159362973	rs80043756	C	T	0.0415	0.9768	0.2972	0.0716	3.67E-05
9	135207272	rs149838860	G	A	0.0171	0.7695	0.5161	0.1244	3.69E-05
3	151438811	rs75124309	A	C	0.0361	0.9938	0.3169	0.0764	3.70E-05
5	159362184	rs76615609	C	T	0.0415	0.977	0.297	0.0716	3.71E-05
3	150670866	rs60340247	T	C	0.0137	0.9143	0.5444	0.1313	3.71E-05
5	159361847	rs114842646	A	G	0.0415	0.9769	0.2969	0.0716	3.73E-05
12	114396307	rs73401074	C	T	0.1224	1.0136	0.1776	0.0429	3.74E-05
2	102722402	rs13388182	T	C	0.3209	0.9856	-0.1277	0.0308	3.79E-05
2	102722402	rs13388182	T	C	0.3209	0.9856	-0.1277	0.0308	3.79E-05
17	3600433	rs117973460	T	C	0.1625	0.8853	0.168	0.0406	3.79E-05

22	36644151	rs35345680	A	G	0.2103	0.9594	0.1464	0.0353	3.79E-05
17	71127132	rs8075806	C	A	0.1809	0.9695	-0.1539	0.0372	3.80E-05
9	23714264	rs113488840	G	A	0.015	1.0019	0.4798	0.1159	3.83E-05
18	58821028	rs117766488	A	G	0.0205	0.8271	0.4524	0.1093	3.84E-05
5	142432311	rs62374604	A	C	0.0226	1.0196	0.3897	0.0942	3.86E-05
8	1275473	rs73170458	G	C	0.0237	1.0336	-0.3775	0.0913	3.87E-05
22	36644251	rs35769663	A	G	0.2108	0.9595	0.1461	0.0353	3.87E-05
13	93652913	rs308231	T	C	0.8849	0.9413	-0.1886	0.0456	3.90E-05
10	8647358	rs72777027	T	C	0.0247	1.0013	0.3754	0.0908	3.92E-05
8	104423011	rs118081385	A	G	0.0146	0.9491	0.5024	0.1216	3.92E-05
2	102712236	rs56193008	A	G	0.3183	0.9757	-0.1283	0.031	3.93E-05
2	102712236	rs56193008	A	G	0.3183	0.9757	-0.1283	0.031	3.93E-05
5	116483701	rs35928434	T	C	0.0179	0.8694	-0.4707	0.1139	3.93E-05
13	93653818	rs308236	T	C	0.885	0.9419	-0.1884	0.0456	3.94E-05
7	87056176	rs2230028	C	T	0.0733	0.9864	0.2267	0.0549	3.94E-05
13	93654114	rs308237	T	C	0.885	0.9422	-0.1884	0.0456	3.97E-05
4	10090931	rs3775931	T	C	0.0823	0.9785	0.2146	0.052	3.97E-05
13	93654272	rs170103	G	A	0.8851	0.9425	-0.1883	0.0456	3.98E-05
13	93654351	rs308238	C	A	0.8851	0.9427	-0.1883	0.0456	3.98E-05
6	45820214	rs142310373	G	A	0.0289	0.9226	0.362	0.0877	3.99E-05
13	29326727	rs9508131	A	G	0.462	1.015	-0.1159	0.0281	4.00E-05
2	102711009	rs933494	A	G	0.318	0.979	-0.1279	0.031	4.03E-05
2	102711009	rs933494	A	G	0.318	0.979	-0.1279	0.031	4.03E-05
18	47335627	rs138571974	T	C	0.0643	0.9404	0.2443	0.0592	4.04E-05
10	104296419	rs78657278	G	T	0.11	0.9315	0.1929	0.0467	4.04E-05
10	104296418	rs79159857	G	C	0.11	0.9316	0.1929	0.0467	4.04E-05
13	93655194	rs308239	T	C	0.8852	0.9436	-0.1881	0.0456	4.04E-05
13	29326036	rs12184861	T	G	0.4621	1.0154	-0.1158	0.0281	4.04E-05
5	142431653	rs7727861	G	A	0.0226	1.0189	0.389	0.0943	4.05E-05
13	29325932	rs12184835	T	C	0.462	1.0157	-0.1158	0.0281	4.06E-05

13	29325914	rs12184834	T	C	0.4621	1.0158	-0.1158	0.0281	4.06E-05
13	93655620	rs308240	G	T	0.8852	0.944	-0.1881	0.0456	4.06E-05
13	93655647	rs308241	T	C	0.8852	0.9442	-0.188	0.0456	4.08E-05
13	93655675	rs308242	A	G	0.8852	0.9443	-0.188	0.0456	4.08E-05
13	93655803	rs308243	G	A	0.8853	0.9445	-0.188	0.0456	4.09E-05
13	22713611	rs4769203	T	C	0.8052	0.8349	0.1614	0.0392	4.09E-05
13	93655843	rs308244	A	C	0.8853	0.9446	-0.188	0.0456	4.10E-05
13	93656075	rs308246	T	C	0.8853	0.9453	-0.1879	0.0456	4.12E-05
17	71154910	rs2044718	A	C	0.2019	0.9764	-0.1462	0.0355	4.14E-05
8	104462801	rs117575603	C	T	0.0147	0.9253	0.5041	0.1223	4.14E-05
13	93656534	rs308247	C	T	0.8854	0.9462	-0.1877	0.0456	4.18E-05
13	93656633	rs457190	C	T	0.8854	0.9465	-0.1876	0.0456	4.20E-05
13	93656800	rs308248	T	C	0.8855	0.947	-0.1875	0.0456	4.22E-05
2	58086587	rs78703671	C	A	0.0177	0.9039	0.4636	0.1127	4.23E-05
2	58086587	rs78703671	C	A	0.0177	0.9039	0.4636	0.1127	4.23E-05
13	93657064	rs167390	A	T	0.8855	0.9472	-0.1875	0.0456	4.24E-05
13	29324426	rs9579229	T	A	0.4624	1.0177	-0.1154	0.028	4.25E-05
13	29324203	rs9579228	G	A	0.4624	1.018	-0.1153	0.028	4.27E-05
17	37196446	rs55646995	T	C	0.0288	1.0263	0.3432	0.0834	4.28E-05
13	93657160	rs160147	A	T	0.8855	0.9475	-0.1874	0.0456	4.28E-05
13	93657855	rs401043	C	G	0.8856	0.9481	-0.1873	0.0456	4.29E-05
13	93657860	rs400535	A	C	0.8856	0.9482	-0.1873	0.0456	4.29E-05
12	48775764	rs10783249	C	T	0.2633	0.9825	0.1321	0.0321	4.30E-05
13	93658331	rs160135	T	G	0.8856	0.9492	-0.1872	0.0455	4.33E-05
2	18435253	rs140060408	G	T	0.0172	1.0478	-0.4355	0.106	4.33E-05
2	18435253	rs140060408	G	T	0.0172	1.0478	-0.4355	0.106	4.33E-05
13	93658420	rs160136	G	A	0.8856	0.9493	-0.1872	0.0455	4.33E-05
13	93658505	rs160137	C	T	0.8857	0.9497	-0.1871	0.0455	4.35E-05
2	18459672	rs141660103	C	T	0.0172	1.0473	-0.4355	0.106	4.35E-05
2	18459672	rs141660103	C	T	0.0172	1.0473	-0.4355	0.106	4.35E-05

2	18435641	rs12467096	G	C	0.0172	1.0475	-0.4355	0.106	4.35E-05
2	18435641	rs12467096	G	C	0.0172	1.0475	-0.4355	0.106	4.35E-05
2	18459610	rs114366824	A	C	0.0172	1.0476	-0.4355	0.106	4.35E-05
2	18459610	rs114366824	A	C	0.0172	1.0476	-0.4355	0.106	4.35E-05
2	102713621	rs72817889	T	C	0.3181	0.9755	-0.1276	0.0311	4.36E-05
2	102713621	rs72817889	T	C	0.3181	0.9755	-0.1276	0.0311	4.36E-05
20	44474810	rs197664	T	C	0.0272	0.9435	0.3659	0.0891	4.38E-05
2	18442302	rs146749043	G	A	0.0172	1.0466	-0.4355	0.106	4.38E-05
2	18442302	rs146749043	G	A	0.0172	1.0466	-0.4355	0.106	4.38E-05
13	93658638	rs160138	T	C	0.8857	0.95	-0.187	0.0455	4.38E-05
13	29319116	rs7338057	T	C	0.4543	1.0193	-0.1152	0.0281	4.40E-05
5	11381876	rs188888729	G	A	0.0122	0.9248	0.5497	0.1339	4.40E-05
2	18439607	rs115539892	A	C	0.0172	1.0471	-0.4352	0.106	4.40E-05
2	18439607	rs115539892	A	C	0.0172	1.0471	-0.4352	0.106	4.40E-05
11	14251553	rs4757243	A	G	0.2054	0.9853	-0.1453	0.0354	4.40E-05
13	29319711	rs7339280	A	C	0.4543	1.0196	-0.1151	0.028	4.41E-05
8	22820753	rs113286888	C	G	0.0162	0.8492	0.5018	0.1223	4.46E-05
2	2066677	rs756282	G	T	0.3884	0.9523	0.1221	0.0298	4.49E-05
2	2066677	rs756282	G	T	0.3884	0.9523	0.1221	0.0298	4.49E-05
14	73466566	rs10138746	C	G	0.0302	1.0372	0.3336	0.0814	4.51E-05
7	157927316	rs6943714	G	A	0.326	0.9757	0.1247	0.0304	4.51E-05
2	177005519	rs79120932	T	G	0.0128	0.9857	0.5219	0.1273	4.51E-05
2	177005519	rs79120932	T	G	0.0128	0.9857	0.5219	0.1273	4.51E-05
19	50821781	rs28479615	C	T	0.0856	0.9334	-0.2152	0.0525	4.52E-05
7	87052479	rs6977539	C	T	0.0694	0.9942	0.2296	0.056	4.52E-05
7	87052605	rs6957680	G	A	0.0694	0.9942	0.2296	0.056	4.52E-05
13	29323164	rs1928502	T	C	0.4626	1.0197	-0.1148	0.028	4.52E-05
2	102714540	rs11685997	T	C	0.3178	0.9766	-0.1273	0.0311	4.54E-05
2	102714540	rs11685997	T	C	0.3178	0.9766	-0.1273	0.0311	4.54E-05
5	10109385	rs906071	C	T	0.2794	0.9657	0.1313	0.032	4.55E-05

20	31861671	rs6141908	G	C	0.2224	0.9811	0.1406	0.0343	4.55E-05
16	9677797	rs12444198	T	A	0.1454	0.9927	0.1645	0.0401	4.58E-05
13	93660312	rs172590	A	G	0.8859	0.9542	-0.1863	0.0455	4.60E-05
21	39223881	rs12483485	T	C	0.033	1.0158	0.321	0.0784	4.60E-05
7	87053611	rs45609336	C	G	0.0694	0.9933	0.2293	0.056	4.61E-05
4	112335436	rs114307289	A	C	0.0108	0.9627	-0.5698	0.1392	4.62E-05
13	29316654	rs9314917	G	A	0.4549	1.018	-0.1149	0.0281	4.64E-05
13	29319840	rs1928501	T	C	0.4627	1.02	-0.1146	0.028	4.70E-05
13	29319871	rs7139542	T	C	0.4627	1.0201	-0.1145	0.028	4.70E-05
13	29320287	rs7324361	A	G	0.4626	1.0201	-0.1145	0.028	4.72E-05
1	59530164	rs12016651	A	G	0.2319	0.9833	-0.1383	0.0338	4.73E-05
13	93652425	rs308230	G	A	0.8792	0.9243	-0.1843	0.0451	4.73E-05
13	29320286	rs7325403	C	T	0.4626	1.02	-0.1145	0.028	4.73E-05
20	31874257	rs3827028	G	A	0.2694	0.9314	0.1346	0.0329	4.74E-05
7	157928817	rs7799902	A	G	0.3194	0.9706	0.1252	0.0306	4.78E-05
13	29320084	rs7323963	C	G	0.4627	1.0207	-0.1144	0.028	4.78E-05
13	29314645	rs9508125	A	G	0.5381	1.014	0.1147	0.0281	4.78E-05
13	29320342	rs7324041	G	A	0.4628	1.0213	-0.1143	0.028	4.80E-05
13	93652387	rs308229	C	A	0.8792	0.924	-0.1842	0.0451	4.81E-05
13	93662149	rs160140	G	A	0.8862	0.9581	-0.1855	0.0454	4.81E-05
13	29320935	rs1539056	G	A	0.4628	1.0223	-0.1143	0.028	4.81E-05
13	29320883	rs1539057	A	G	0.4628	1.0223	-0.1143	0.028	4.82E-05
10	107638257	rs17236454	G	T	0.021	0.8569	0.437	0.107	4.82E-05
11	65635559	rs594689	A	G	0.5198	0.9932	-0.1156	0.0283	4.84E-05
13	93662235	rs160141	C	T	0.8862	0.9585	-0.1854	0.0454	4.84E-05
18	47318473	rs17713584	C	G	0.0577	0.9526	0.2536	0.0621	4.84E-05
2	64364632	rs6733160	C	T	0.5338	0.9962	-0.1159	0.0284	4.85E-05
2	64364632	rs6733160	C	T	0.5338	0.9962	-0.1159	0.0284	4.85E-05
8	22636936	rs112910828	A	T	0.0155	0.8965	0.4984	0.1221	4.85E-05
19	40038334	rs143814327	A	G	0.0142	0.9582	0.4987	0.1222	4.86E-05

20	31862280	rs1964852	T	C	0.2752	0.9472	0.1325	0.0325	4.86E-05
2	64367694	rs6730262	T	C	0.5338	0.9963	-0.1159	0.0284	4.88E-05
2	64367694	rs6730262	T	C	0.5338	0.9963	-0.1159	0.0284	4.88E-05
3	43808049	rs190927863	C	G	0.0104	1.0546	0.5547	0.1359	4.89E-05
13	93662748	rs466561	T	G	0.8862	0.9596	-0.1852	0.0454	4.91E-05
13	29314452	rs9508124	G	A	0.5384	1.0159	0.1145	0.0281	4.91E-05
13	93662845	rs462910	C	T	0.8862	0.9597	-0.1852	0.0454	4.92E-05
13	93663635	rs464563	A	T	0.8862	0.9597	-0.1852	0.0454	4.92E-05
13	93663970	rs460846	C	T	0.8862	0.9597	-0.1852	0.0454	4.92E-05
13	93664425	rs445462	T	C	0.8862	0.9597	-0.1852	0.0454	4.92E-05
13	93664775	rs452880	G	C	0.8862	0.9597	-0.1852	0.0454	4.92E-05
13	93664954	rs399314	G	A	0.8862	0.9597	-0.1852	0.0454	4.92E-05
2	8030276	rs17838382	C	T	0.0164	0.9597	0.4643	0.1138	4.92E-05
2	8030276	rs17838382	C	T	0.0164	0.9597	0.4643	0.1138	4.92E-05
13	93663210	rs463719	G	A	0.8862	0.9596	-0.1852	0.0454	4.92E-05
2	2031036	rs1213579	C	T	0.3539	0.9506	0.1239	0.0304	4.92E-05
2	2031036	rs1213579	C	T	0.3539	0.9506	0.1239	0.0304	4.92E-05
5	159308481	rs116749599	T	C	0.0159	0.9497	0.4722	0.1158	4.93E-05
2	2007981	rs68087472	A	G	0.3665	0.9505	0.1231	0.0302	4.93E-05
2	2007981	rs68087472	A	G	0.3665	0.9505	0.1231	0.0302	4.93E-05
13	93665488	rs374894	A	T	0.8862	0.9597	-0.1851	0.0454	4.96E-05
13	93665712	rs405994	C	T	0.8862	0.9596	-0.1851	0.0454	4.98E-05
13	93665835	rs424228	T	C	0.8862	0.9596	-0.185	0.0454	4.99E-05
2	102725013	rs17767183	T	C	0.3179	0.9759	-0.1267	0.0311	5.00E-05
2	102725013	rs17767183	T	C	0.3179	0.9759	-0.1267	0.0311	5.00E-05
13	29316836	rs9314918	A	G	0.4548	1.0187	-0.1143	0.028	5.00E-05
13	93665860	rs374048	T	C	0.8862	0.9596	-0.185	0.0454	5.00E-05
13	93665924	rs447741	G	C	0.8862	0.9596	-0.185	0.0454	5.01E-05
13	29315831	rs9506037	T	C	0.4552	1.0223	-0.1141	0.028	5.02E-05
13	93665955	rs451715	T	G	0.8862	0.9596	-0.185	0.0454	5.02E-05

16	68255037	rs145240988	G	T	0.0123	0.9234	0.5449	0.1337	5.02E-05
12	114396345	rs73401076	C	A	0.1198	1.021	0.1758	0.0432	5.03E-05
5	167458946	rs13158058	T	G	0.4063	0.9251	-0.1229	0.0302	5.06E-05
2	102718225	rs17818195	C	T	0.3179	0.9737	-0.1267	0.0311	5.06E-05
2	102718225	rs17818195	C	T	0.3179	0.9737	-0.1267	0.0311	5.06E-05
12	114388301	rs3816579	G	A	0.1199	1.0216	0.1757	0.0431	5.08E-05
12	114389242	rs10850253	C	T	0.1199	1.0216	0.1757	0.0431	5.08E-05
13	93666328	rs462792	T	C	0.8863	0.9595	-0.1849	0.0454	5.09E-05
13	29321378	rs9508128	G	T	0.4626	1.0204	-0.114	0.028	5.12E-05
12	106335822	rs75404309	T	A	0.0459	0.8534	0.2983	0.0733	5.12E-05
13	93666857	rs467354	G	A	0.8863	0.9595	-0.1848	0.0454	5.13E-05
1	192355216	rs10159276	C	G	0.2819	0.9868	-0.1292	0.0318	5.14E-05
13	29316991	rs9314919	C	G	0.4544	1.0188	-0.1141	0.0281	5.18E-05
13	29316941	rs9506039	C	T	0.4544	1.0187	-0.1141	0.0281	5.18E-05
2	177008484	rs79440139	A	T	0.0134	0.9784	0.5063	0.1245	5.20E-05
2	177008484	rs79440139	A	T	0.0134	0.9784	0.5063	0.1245	5.20E-05
2	84184053	rs116366566	T	C	0.0123	0.9375	0.538	0.1323	5.20E-05
2	84184053	rs116366566	T	C	0.0123	0.9375	0.538	0.1323	5.20E-05
9	26698957	rs142256843	T	C	0.012	0.9436	0.5438	0.1337	5.21E-05
9	76909652	rs11143897	G	T	0.1538	1.043	-0.1565	0.0385	5.21E-05
2	64369336	rs10496107	C	A	0.5333	0.9988	-0.1152	0.0283	5.22E-05
2	64369336	rs10496107	C	A	0.5333	0.9988	-0.1152	0.0283	5.22E-05
14	73462076	rs4903085	G	A	0.0304	1.0324	0.3306	0.0813	5.22E-05
12	106233178	rs10861522	C	T	0.3458	1.0646	0.1172	0.0288	5.23E-05
13	113207608	rs76588804	A	C	0.0164	0.8344	0.4921	0.1211	5.23E-05
3	131415723	rs75119553	C	T	0.0473	0.9271	0.28	0.0689	5.24E-05
20	31874869	rs6119362	A	C	0.2742	0.9369	0.1326	0.0326	5.28E-05
21	39223696	rs12483570	C	T	0.0332	1.0203	0.3167	0.078	5.32E-05
2	102719104	rs72996520	T	C	0.3175	0.9756	-0.1263	0.0311	5.32E-05
2	102719104	rs72996520	T	C	0.3175	0.9756	-0.1263	0.0311	5.32E-05



8	22818529	rs2872346	C	A	0.2849	0.9604	-0.1297	0.0319	5.32E-05
13	93668983	rs191044	T	A	0.8863	0.9593	-0.1844	0.0454	5.34E-05
13	93669289	rs160150	T	C	0.8863	0.9593	-0.1844	0.0454	5.36E-05
20	31867032	rs6059230	T	C	0.2753	0.9455	0.1319	0.0325	5.36E-05
5	16858282	rs2625206	C	T	0.3119	0.9526	-0.1269	0.0313	5.36E-05
3	116193370	rs143848409	T	C	0.0171	1.0078	0.4404	0.1085	5.39E-05
20	31867840	rs941682	G	A	0.2756	0.9465	0.1317	0.0325	5.40E-05
18	3114419	rs11081010	A	G	0.8943	0.9678	0.1898	0.0468	5.40E-05
2	102721117	rs1019296	C	T	0.3177	0.9759	-0.1261	0.0311	5.43E-05
2	102721117	rs1019296	C	T	0.3177	0.9759	-0.1261	0.0311	5.43E-05
14	81561209	rs117631391	G	A	0.024	0.849	-0.4065	0.1002	5.43E-05
4	10082515	rs737678	T	C	0.0684	0.9774	0.2302	0.0568	5.45E-05
1	192351359	rs7549244	A	T	0.2817	0.9726	-0.1297	0.032	5.49E-05
17	71132748	rs62071582	C	A	0.1836	1.021	-0.1461	0.0361	5.52E-05
15	32088895	rs117740173	T	C	0.0117	0.8738	0.5677	0.1401	5.52E-05
5	55142537	rs10737957	A	C	0.7023	0.9255	0.131	0.0323	5.55E-05
16	65830216	rs1118653	C	G	0.1057	0.9816	0.1879	0.0464	5.55E-05
17	71153739	rs9906459	T	C	0.1941	0.9743	-0.1462	0.0361	5.58E-05
20	31859395	rs1884883	C	T	0.2232	0.9798	0.1388	0.0343	5.60E-05
9	113931440	rs183439396	A	G	0.0107	0.7941	0.6248	0.1543	5.61E-05
3	153366389	rs116429691	T	C	0.0161	0.8771	0.4882	0.1206	5.61E-05
22	42949748	rs3213548	G	C	0.2455	0.8275	-0.1458	0.036	5.61E-05
2	102717337	rs10490571	T	C	0.318	0.979	-0.1256	0.031	5.62E-05
2	102717337	rs10490571	T	C	0.318	0.979	-0.1256	0.031	5.62E-05
20	31854547	rs6141379	T	C	0.2231	0.9793	0.1389	0.0343	5.63E-05
11	61964425	rs17577608	T	C	0.0208	0.9505	0.41	0.1013	5.64E-05
9	24911447	rs75221401	G	A	0.028	0.8022	-0.3872	0.0957	5.66E-05
17	71133864	rs12602530	T	A	0.1837	1.0245	-0.1456	0.036	5.67E-05
13	93673083	rs308253	C	G	0.8863	0.9591	-0.1838	0.0454	5.69E-05
21	37550509	rs2845753	C	G	0.3277	0.9854	-0.1229	0.0304	5.70E-05

14	73468970	rs12323834	A	G	0.0294	1.0474	0.3315	0.082	5.72E-05
2	102728716	rs1861283	T	C	0.3272	0.9706	-0.1249	0.0309	5.72E-05
2	102728716	rs1861283	T	C	0.3272	0.9706	-0.1249	0.0309	5.72E-05
10	35556466	rs79940628	G	A	0.0162	0.8953	0.4775	0.1181	5.77E-05
2	241170677	rs147288234	A	G	0.0182	0.8209	0.4706	0.1165	5.79E-05
2	241170677	rs147288234	A	G	0.0182	0.8209	0.4706	0.1165	5.79E-05
13	93673921	rs184254	G	C	0.8863	0.959	-0.1836	0.0454	5.79E-05
7	87055635	rs11768699	T	G	0.0699	0.9931	0.2255	0.0558	5.80E-05
7	87057699	rs6956661	A	G	0.0699	0.9931	0.2255	0.0558	5.80E-05
17	3556471	rs188118937	T	C	0.0135	0.886	0.5238	0.1297	5.80E-05
12	114396518	rs73401078	T	G	0.1193	1.0222	0.1744	0.0432	5.86E-05
2	223645982	rs74367692	T	A	0.0509	0.7511	-0.2986	0.074	5.86E-05
2	223645982	rs74367692	T	A	0.0509	0.7511	-0.2986	0.074	5.86E-05
1	192351321	rs12143695	C	T	0.2814	0.9707	-0.1294	0.0321	5.87E-05
6	148104634	rs12664057	G	A	0.0802	0.9385	0.2168	0.0537	5.88E-05
2	241170675	rs113694575	C	T	0.0184	0.8167	0.4699	0.1164	5.89E-05
2	241170675	rs113694575	C	T	0.0184	0.8167	0.4699	0.1164	5.89E-05
7	87058570	rs45466200	T	G	0.0699	0.9925	0.2254	0.0558	5.90E-05
6	166331331	rs12528241	A	G	0.0601	0.9896	0.2429	0.0602	5.99E-05
7	157888228	rs9654673	C	G	0.3241	0.9403	0.125	0.031	6.00E-05
7	87059700	rs45474405	A	G	0.0699	0.9919	0.2252	0.0559	6.02E-05
10	104493444	rs11191381	T	C	0.3174	0.9499	0.1253	0.0311	6.05E-05
2	177008161	rs148638470	T	C	0.0127	0.973	0.5175	0.1284	6.06E-05
2	177008161	rs148638470	T	C	0.0127	0.973	0.5175	0.1284	6.06E-05
19	40027464	rs117900938	G	A	0.0221	1.0299	0.3826	0.0949	6.06E-05
2	8022943	rs61235986	A	G	0.0145	0.9902	0.4797	0.1191	6.07E-05
2	8022943	rs61235986	A	G	0.0145	0.9902	0.4797	0.1191	6.07E-05
12	114381499	rs73399070	A	G	0.1043	0.9782	0.1887	0.0468	6.08E-05
2	8023073	rs6721147	A	C	0.0145	0.9899	0.4798	0.1191	6.09E-05
2	8023073	rs6721147	A	C	0.0145	0.9899	0.4798	0.1191	6.09E-05

22	26517670	rs139445921	A	G	0.0141	0.8302	0.5295	0.1314	6.09E-05
22	36644522	rs35829971	T	C	0.2103	0.961	0.1423	0.0353	6.12E-05
14	73456238	rs28609654	C	T	0.0306	1.0296	0.3269	0.0812	6.14E-05
10	104266239	rs113451617	A	G	0.2294	0.9408	0.1394	0.0346	6.21E-05
8	84195830	rs143117419	A	T	0.0133	0.8172	0.5477	0.1362	6.24E-05
7	87061753	rs45547639	T	G	0.0699	0.9909	0.2249	0.0559	6.26E-05
7	87061974	rs45473093	G	A	0.0699	0.9909	0.2249	0.0559	6.27E-05
17	71142994	rs7213907	C	T	0.7731	1.0224	0.1339	0.0333	6.27E-05
7	87062112	rs1034821	G	T	0.0699	0.9909	0.2249	0.0559	6.28E-05
1	211732947	rs6663436	T	A	0.8828	0.9624	0.1803	0.0448	6.29E-05
3	172572471	rs1553176	T	C	0.1521	0.9012	0.1661	0.0413	6.34E-05
2	88418770	rs74832257	G	A	0.0143	0.8651	0.5144	0.128	6.37E-05
2	88418770	rs74832257	G	A	0.0143	0.8651	0.5144	0.128	6.37E-05
1	54852036	rs151070537	G	C	0.0109	0.8592	0.5908	0.1471	6.38E-05
16	68316582	rs139936925	A	G	0.0127	0.9253	0.5283	0.1315	6.39E-05
17	71143527	rs10852744	G	T	0.7731	1.0213	0.1338	0.0333	6.40E-05
1	192351266	rs12142904	G	A	0.2818	0.9728	-0.1286	0.032	6.41E-05
7	87049583	rs45540936	G	C	0.0741	0.9746	0.2209	0.055	6.42E-05
17	8290362	rs112443430	T	C	0.0291	0.9514	0.3473	0.0865	6.44E-05
3	8806526	rs115356575	A	G	0.0179	0.8575	0.4599	0.1145	6.44E-05
3	153381359	rs147808876	C	T	0.011	0.8277	0.6012	0.1497	6.44E-05
7	96425603	rs118081765	C	T	0.0147	0.9952	0.4723	0.1177	6.50E-05
13	29316482	rs1792049	G	A	0.4582	1.0102	-0.113	0.0282	6.51E-05
4	10082464	rs4478188	A	C	0.0689	0.9763	0.2273	0.0567	6.51E-05
2	48012027	rs3136239	C	G	0.0285	0.8533	0.369	0.092	6.55E-05
2	48012027	rs3136239	C	G	0.0285	0.8533	0.369	0.092	6.55E-05
5	75233405	rs11958971	G	A	0.4816	0.9723	-0.1155	0.0288	6.63E-05
4	77869872	rs75272931	C	G	0.0372	0.9125	0.3134	0.0782	6.63E-05
1	238772108	rs61829290	T	G	0.0396	0.8882	0.3085	0.077	6.64E-05
1	91249095	rs78851948	T	C	0.0248	0.8743	0.3884	0.0969	6.64E-05

2	239463148	rs6726956	A	G	0.321	1.006	-0.122	0.0304	6.65E-05
2	239463148	rs6726956	A	G	0.321	1.006	-0.122	0.0304	6.65E-05
7	138733340	rs11981663	C	T	0.0233	1.0177	0.3744	0.0934	6.68E-05
16	23743126	rs117701014	G	T	0.0203	0.7901	0.4528	0.113	6.69E-05
14	73477629	rs143319887	C	T	0.0285	1.0086	0.3393	0.0847	6.69E-05
11	14252728	rs7951630	G	T	0.7978	0.9792	0.1434	0.0358	6.69E-05
5	75232389	rs1357997	G	A	0.4814	0.9734	-0.1154	0.0288	6.69E-05
5	159713955	rs72812242	C	A	0.1001	0.8351	-0.206	0.0514	6.71E-05
7	138733313	rs11978040	T	C	0.0233	1.0182	0.3742	0.0934	6.73E-05
17	71136248	rs9911292	G	A	0.1835	1.0319	-0.1436	0.0359	6.75E-05
17	71135860	rs55944075	G	T	0.1835	1.032	-0.1436	0.0359	6.75E-05
17	71135791	rs56053845	A	G	0.1835	1.0323	-0.1436	0.0359	6.76E-05
17	71138465	rs55739021	A	T	0.1834	1.0312	-0.1436	0.0359	6.82E-05
17	71138696	rs55832596	A	G	0.1833	1.0313	-0.1436	0.0359	6.87E-05
10	104398895	rs12764219	T	G	0.279	0.9799	0.1278	0.032	6.89E-05
9	135181695	rs118172942	A	G	0.0346	0.8772	0.3337	0.0835	6.92E-05
6	78791379	rs3904384	A	C	0.0426	0.9207	0.2929	0.0733	6.94E-05
13	93661677	rs9301847	C	T	0.1111	0.9629	0.1829	0.0458	6.99E-05
13	29311798	rs12855922	C	T	0.4589	1.0183	-0.112	0.028	7.02E-05
8	81253576	rs148737414	T	C	0.0105	0.8375	-0.6066	0.1519	7.02E-05
2	102747313	rs1024794	G	A	0.2974	0.9689	-0.127	0.0318	7.04E-05
2	102747313	rs1024794	G	A	0.2974	0.9689	-0.127	0.0318	7.04E-05
15	79601742	rs146192528	A	G	0.0136	0.8418	-0.5294	0.1326	7.04E-05
4	10436482	rs7675445	C	T	0.1476	0.9515	0.1627	0.0408	7.10E-05
2	64360433	rs7573532	A	G	0.5401	0.99	-0.1138	0.0285	7.11E-05
2	64360433	rs7573532	A	G	0.5401	0.99	-0.1138	0.0285	7.11E-05
3	72610393	rs114820373	T	C	0.0205	0.8863	0.4229	0.106	7.15E-05
10	104303748	rs67646802	T	C	0.2701	0.953	0.1301	0.0326	7.15E-05
7	87070089	rs11768036	A	G	0.0698	0.9893	0.2234	0.056	7.17E-05
13	23884476	rs2770055	T	C	0.4941	0.9738	-0.1148	0.0288	7.20E-05

2	84236178	rs115405840	G	A	0.0126	0.9211	0.5277	0.1324	7.24E-05
2	84236178	rs115405840	G	A	0.0126	0.9211	0.5277	0.1324	7.24E-05
13	29316948	rs1305103	C	A	0.4578	1.011	-0.1123	0.0282	7.26E-05
3	25438248	rs144594145	A	T	0.0156	0.7515	-0.5254	0.1318	7.28E-05
5	75234881	rs4235688	G	C	0.4815	0.9726	-0.1149	0.0288	7.28E-05
7	87070298	rs45533331	A	G	0.0698	0.9893	0.2232	0.056	7.29E-05
3	151517616	rs76034984	T	C	0.0332	0.9643	0.32	0.0803	7.30E-05
13	93663214	rs9516149	C	A	0.111	0.9651	0.1822	0.0457	7.30E-05
19	52493717	rs1241462	A	G	0.9144	0.8707	0.2148	0.0539	7.33E-05
1	116491488	rs114879091	T	C	0.0172	0.7889	-0.4875	0.1224	7.34E-05
1	1069535	rs113355263	A	G	0.0921	0.8583	-0.2096	0.0526	7.36E-05
20	44445880	rs113035198	C	T	0.0271	0.9353	0.3573	0.0897	7.37E-05
10	104532828	rs12776506	G	A	0.3198	0.9363	0.1244	0.0312	7.44E-05
2	162653362	rs1551051	A	T	0.7445	1.0144	-0.1281	0.0322	7.45E-05
2	233490999	rs2091250	T	C	0.6912	0.9878	-0.1234	0.031	7.45E-05
2	162653362	rs1551051	A	T	0.7445	1.0144	-0.1281	0.0322	7.45E-05
2	233490999	rs2091250	T	C	0.6912	0.9878	-0.1234	0.031	7.45E-05
4	10462231	rs183203239	T	G	0.0106	0.896	0.5772	0.145	7.45E-05
1	59515972	rs79349044	C	A	0.2033	0.9206	-0.1461	0.0367	7.48E-05
3	176857157	rs57242082	C	A	0.0235	1.0094	-0.3677	0.0924	7.50E-05
3	176858770	rs1316286	T	G	0.0235	1.0092	-0.3677	0.0924	7.50E-05
12	93406190	rs12231012	G	T	0.0232	1.0162	0.3729	0.0937	7.50E-05
5	75227767	rs4704268	G	A	0.4682	0.9799	-0.1142	0.0287	7.50E-05
7	87070096	rs11767995	T	C	0.0699	0.9888	0.2227	0.056	7.51E-05
4	10073785	rs12509082	A	G	0.081	0.9863	0.2075	0.0522	7.60E-05
11	100564126	rs17095341	A	G	0.0106	0.8416	0.6001	0.151	7.61E-05
13	29310643	rs9578058	T	A	0.4596	1.0168	-0.1115	0.0281	7.61E-05
13	29310467	rs9578057	A	T	0.4596	1.0167	-0.1115	0.0281	7.62E-05
4	17375165	rs34004560	T	C	0.1378	0.92	0.1705	0.0429	7.62E-05
2	2479617	rs116194950	T	A	0.0106	0.83	0.599	0.1507	7.63E-05

2	2479617	rs116194950	T	A	0.0106	0.83	0.599	0.1507	7.63E-05
11	65641033	rs10896064	C	G	0.5549	1.0257	-0.1112	0.028	7.64E-05
5	94141845	rs75081050	G	A	0.0135	0.8094	0.5387	0.1356	7.68E-05
8	102479654	rs507852	A	G	0.9689	1.0702	-0.3112	0.0783	7.71E-05
11	25382598	rs529834045	A	G	0.0112	0.8431	-0.5794	0.1459	7.72E-05
14	73470524	rs10134432	A	G	0.0316	1.0396	0.3157	0.0795	7.72E-05
4	10106798	rs12509609	T	C	0.07	0.9743	0.2229	0.0561	7.77E-05
17	71148027	rs8064740	T	C	0.1826	1.0348	-0.1425	0.0359	7.78E-05
5	11365825	rs61750663	C	A	0.0125	0.9677	0.5148	0.1297	7.78E-05
5	11364595	rs61750672	T	G	0.0125	0.9675	0.5148	0.1297	7.78E-05
9	102291854	rs10819685	C	G	0.1052	0.875	0.1957	0.0493	7.79E-05
16	65806627	rs11648644	C	T	0.1053	0.9842	0.1842	0.0464	7.79E-05
5	11363004	rs61750682	A	G	0.0125	0.9676	0.5147	0.1297	7.80E-05
2	8025686	rs11693863	T	C	0.0164	0.9621	0.4511	0.1137	7.81E-05
2	8025686	rs11693863	T	C	0.0164	0.9621	0.4511	0.1137	7.81E-05
17	71148059	rs9893457	T	C	0.1825	1.0343	-0.1425	0.0359	7.83E-05
5	11362061	rs61750690	T	C	0.0125	0.9682	0.5143	0.1296	7.83E-05
5	11369794	rs79976016	A	T	0.0125	0.9664	0.5145	0.1297	7.87E-05
14	73472776	rs4903088	T	C	0.0329	1.0296	0.3109	0.0784	7.88E-05
7	138731343	rs3187141	A	G	0.0233	1.0249	0.3697	0.0932	7.90E-05
17	71147968	rs8082088	C	G	0.1826	1.0355	-0.1423	0.0359	7.90E-05
5	79548131	rs147804141	A	G	0.0359	0.8866	0.3231	0.0815	7.90E-05
17	71147889	rs8064580	T	C	0.1826	1.0355	-0.1423	0.0359	7.92E-05
17	71147734	rs8069963	T	C	0.1826	1.0365	-0.1422	0.0359	7.92E-05
16	68027854	rs142421824	G	C	0.013	0.9362	0.5121	0.1291	7.93E-05
4	99138280	rs116515688	T	G	0.0155	0.7876	0.512	0.1292	7.94E-05
22	36646839	rs5756114	T	C	0.2109	0.9615	0.1399	0.0353	7.95E-05
14	73475755	rs4903091	T	C	0.0329	1.0302	0.3107	0.0784	7.96E-05
10	104528509	rs11191394	C	A	0.3199	0.9358	0.1239	0.0313	7.96E-05
17	71147862	rs8069173	C	T	0.1826	1.0369	-0.1421	0.0359	7.98E-05

10	104523634	rs12775376	A	G	0.3199	0.937	0.1238	0.0312	7.99E-05
12	106306914	rs74969942	G	A	0.0157	0.8155	0.4962	0.1252	8.01E-05
15	92444871	rs72750075	C	T	0.086	0.986	-0.201	0.0507	8.01E-05
14	73466463	rs10138468	T	C	0.0318	1.0318	0.3152	0.0795	8.02E-05
3	71990143	rs138114136	G	A	0.0182	0.9036	0.4391	0.1108	8.02E-05
10	104513049	rs11191385	T	G	0.3188	0.9447	0.1234	0.0311	8.04E-05
17	71147708	rs8070513	G	A	0.1826	1.0365	-0.1421	0.0359	8.04E-05
8	20146260	rs7012277	T	C	0.0692	0.9482	0.2281	0.0576	8.05E-05
2	125330422	rs1542918	T	A	0.9805	0.9659	-0.4122	0.1041	8.07E-05
2	125330422	rs1542918	T	A	0.9805	0.9659	-0.4122	0.1041	8.07E-05
4	10277869	rs11736814	C	T	0.0265	0.9538	0.3568	0.0901	8.12E-05
10	104288777	rs1536308	G	T	0.3232	0.9843	-0.1202	0.0304	8.13E-05
20	62120948	rs1757785	T	C	0.5234	0.9617	0.1148	0.029	8.23E-05
21	37547518	rs11702069	C	T	0.4707	1.0111	-0.1114	0.0281	8.24E-05
16	15499997	rs12927590	G	A	0.0799	0.7502	0.2378	0.0601	8.25E-05
4	10097446	rs3796820	A	G	0.0692	0.9593	0.2249	0.0569	8.26E-05
13	93672943	rs308254	A	T	0.8857	0.9553	-0.1797	0.0454	8.27E-05
5	16852734	rs7719940	C	T	0.2842	0.9447	-0.1275	0.0322	8.30E-05
21	37553209	rs7275804	C	T	0.3302	0.9877	-0.1198	0.0303	8.30E-05
21	37553248	rs2835299	T	C	0.3304	0.9895	-0.1197	0.0303	8.32E-05
16	9684775	rs12921634	G	A	0.1439	1.0025	0.1587	0.0401	8.32E-05
12	114281011	rs3782427	A	G	0.1657	0.9491	0.1545	0.0391	8.35E-05
3	9552457	rs145987757	C	A	0.0359	0.9236	-0.3121	0.079	8.39E-05
13	25562174	rs12585964	C	T	0.1431	0.9754	0.1619	0.041	8.41E-05
8	23935531	rs78669873	G	A	0.0101	0.9901	0.5633	0.1426	8.42E-05
4	10110878	rs76754641	C	T	0.0706	0.9662	0.2218	0.0562	8.50E-05
13	29328854	rs1536900	C	T	0.4653	1.0098	-0.1112	0.0282	8.51E-05
6	148103855	rs17077323	G	A	0.0789	0.9441	0.2132	0.054	8.53E-05
3	176718089	rs62298919	C	G	0.0221	0.8677	-0.4055	0.1027	8.53E-05
18	61135583	rs7233385	C	G	0.4606	0.9851	-0.1129	0.0286	8.54E-05

4	10115139	rs71603987	A	G	0.0708	0.9664	0.2214	0.0561	8.56E-05
5	142878977	rs73797758	A	C	0.0111	0.9872	-0.5373	0.1361	8.57E-05
5	75232842	rs34268756	C	T	0.4663	0.9815	-0.1132	0.0287	8.59E-05
19	43324908	rs147520235	T	A	0.0324	0.7984	0.3527	0.0894	8.59E-05
3	108908581	rs6797888	C	T	0.0243	1.011	0.3598	0.0912	8.60E-05
5	111015405	rs1673758	T	C	0.7924	0.9675	-0.1398	0.0354	8.61E-05
6	97766783	rs369767725	A	G	0.0109	0.8097	0.5956	0.151	8.62E-05
2	241035359	rs116099385	G	A	0.0455	0.7913	0.2997	0.076	8.64E-05
2	241035359	rs116099385	G	A	0.0455	0.7913	0.2997	0.076	8.64E-05
15	33116047	rs77312922	C	T	0.0101	0.9284	0.5773	0.1464	8.64E-05
4	10295852	rs74723388	T	C	0.0286	0.9504	0.3423	0.0868	8.67E-05
14	73453530	rs7154084	A	G	0.0301	1.0309	0.3225	0.0818	8.68E-05
4	10054337	rs12108388	A	T	0.0812	0.9789	0.2064	0.0523	8.68E-05
12	114294019	rs11066791	C	G	0.1665	0.9521	0.1537	0.039	8.68E-05
17	71146408	rs9892282	T	C	0.1825	1.0355	-0.1415	0.0359	8.70E-05
9	90500224	rs58932350	T	C	0.0419	0.9773	0.2833	0.0719	8.71E-05
5	159378582	rs6884129	C	G	0.0936	0.9792	0.1937	0.0491	8.73E-05
2	162640725	rs2892792	G	A	0.7447	1.025	-0.1262	0.032	8.74E-05
2	162640725	rs2892792	G	A	0.7447	1.025	-0.1262	0.032	8.74E-05
4	10143250	rs71603991	G	A	0.071	1.0022	0.2169	0.055	8.75E-05
1	59524507	rs17118653	A	G	0.2307	0.9774	-0.134	0.034	8.75E-05
3	172533725	rs4491935	A	G	0.1715	1.0117	0.1468	0.0372	8.76E-05
21	37547256	rs11701901	T	G	0.47	1.0133	-0.1108	0.0281	8.76E-05
12	114294570	rs1559836	T	C	0.1665	0.9522	0.1536	0.039	8.78E-05
1	59528234	rs9970411	T	C	0.2302	0.9817	-0.1338	0.034	8.78E-05
17	71145132	rs72846723	A	G	0.1826	1.0331	-0.1415	0.0359	8.80E-05
14	73401196	rs10134292	C	T	0.966	1.0124	-0.3076	0.0781	8.81E-05
4	10060984	rs11727418	T	C	0.0691	0.9739	0.223	0.0566	8.84E-05
5	142883391	rs73797766	C	G	0.0111	0.9868	-0.5354	0.136	8.86E-05
5	75236560	rs10038303	A	G	0.4703	0.9713	-0.1137	0.0289	8.88E-05



12	130888473	rs73150881	A	G	0.0134	1.0601	0.4722	0.1199	8.89E-05
21	37550116	rs2845751	C	T	0.3313	0.9823	-0.1195	0.0304	8.96E-05
3	97402639	rs75355167	A	G	0.0129	0.7948	0.5516	0.1402	8.98E-05
7	87047813	rs7788404	C	T	0.0738	0.9852	0.2158	0.0548	8.99E-05
7	87047039	rs35737120	T	C	0.0738	0.9852	0.2158	0.0548	8.99E-05
7	87040296	rs45521742	T	G	0.0738	0.9853	0.2158	0.0548	8.99E-05
7	87045565	rs45505301	A	G	0.0738	0.9853	0.2158	0.0548	8.99E-05
7	87046470	rs4148829	G	A	0.0738	0.9853	0.2158	0.0548	8.99E-05
11	23582746	rs16911535	C	T	0.0192	0.9356	0.4283	0.1089	9.00E-05
7	87036227	rs45543841	T	C	0.0738	0.9852	0.2158	0.0548	9.00E-05
4	31195130	rs116216646	T	C	0.03	0.8218	-0.3586	0.0912	9.05E-05
3	48531227	rs12491849	T	C	0.4079	1.0143	0.1123	0.0286	9.06E-05
2	177001962	rs79025511	T	C	0.0126	0.9768	0.5069	0.1289	9.08E-05
2	177001962	rs79025511	T	C	0.0126	0.9768	0.5069	0.1289	9.08E-05
1	234795238	rs24185	A	T	0.4066	1.01	0.113	0.0287	9.08E-05
14	73400038	rs8004641	G	A	0.966	1.0116	-0.3073	0.0782	9.09E-05
12	111356134	rs61943011	C	T	0.0113	0.9632	0.5417	0.1378	9.09E-05
6	166315261	rs117667378	T	C	0.0584	0.9881	0.2402	0.0611	9.10E-05
1	59526686	rs12409598	T	G	0.2303	0.982	-0.1335	0.034	9.10E-05
15	78247331	rs62008631	A	G	0.1464	0.8845	0.1668	0.0424	9.12E-05
8	126995981	rs148815837	C	A	0.0126	0.833	0.5446	0.1385	9.13E-05
17	71144700	rs113091587	A	G	0.1826	1.035	-0.1411	0.0359	9.13E-05
22	28178694	rs45623132	C	G	0.0125	0.8336	0.5453	0.1388	9.15E-05
3	172533919	rs4264754	C	T	0.1709	1.0117	0.1466	0.0373	9.17E-05
12	111351651	rs61940352	A	G	0.0113	0.9747	0.539	0.1372	9.17E-05
16	68069280	rs77184626	A	G	0.0128	0.9289	0.515	0.1311	9.18E-05
17	71143988	rs66497426	C	T	0.8172	1.0343	0.141	0.0359	9.18E-05
6	110620177	rs41288584	C	T	0.0158	1.0398	0.4358	0.1109	9.18E-05
2	241039187	rs114533404	G	T	0.0456	0.7908	0.2982	0.0759	9.24E-05
2	241039187	rs114533404	G	T	0.0456	0.7908	0.2982	0.0759	9.24E-05

10	104219908	rs76085620	C	T	0.0418	0.9152	0.2916	0.0743	9.25E-05
17	37865659	rs56114611	T	C	0.0124	0.8676	0.5366	0.1367	9.28E-05
12	114312417	rs11066798	C	T	0.1695	0.9586	0.1513	0.0385	9.29E-05
16	68068768	rs147014076	A	G	0.0128	0.928	0.5151	0.1312	9.30E-05
15	92447710	rs55772252	C	T	0.0857	0.9851	-0.1995	0.0508	9.32E-05
2	177007102	rs67435554	T	G	0.0765	0.9897	0.2089	0.0532	9.33E-05
2	177007102	rs67435554	T	G	0.0765	0.9897	0.2089	0.0532	9.33E-05
7	138726856	rs59047924	C	A	0.0155	0.9673	0.4599	0.1172	9.35E-05
5	134742235	rs7731133	T	C	0.0225	0.9389	-0.3843	0.0979	9.37E-05
4	10314188	rs727996	T	G	0.0263	0.9554	0.3553	0.0905	9.39E-05
7	79561556	rs37170	C	T	0.902	1.0394	-0.1832	0.0467	9.39E-05
7	79558403	rs9649000	C	A	0.902	1.0398	-0.1831	0.0467	9.40E-05
5	142887902	rs73301884	G	C	0.0112	0.9803	-0.533	0.1359	9.42E-05
7	87037158	rs45443210	C	G	0.0744	0.9842	0.2145	0.0547	9.42E-05
7	87038074	rs17149539	G	A	0.0744	0.9842	0.2145	0.0547	9.42E-05
7	87041856	rs11761050	A	C	0.0744	0.9842	0.2145	0.0547	9.42E-05
7	87043583	rs7807638	G	A	0.0744	0.9842	0.2145	0.0547	9.42E-05
21	37548110	rs9983855	G	A	0.453	1.0154	-0.1105	0.0282	9.45E-05
18	47318885	rs150342704	A	G	0.039	0.9733	0.2907	0.0741	9.46E-05
16	67938523	rs545838710	A	G	0.0125	0.9141	0.5232	0.1334	9.47E-05
13	29312555	rs1305095	T	C	0.4626	1.0082	-0.1105	0.0282	9.49E-05
13	29312541	rs1305096	A	C	0.4626	1.0082	-0.1105	0.0282	9.49E-05
3	151540101	rs76248492	G	A	0.0319	0.9548	0.3227	0.0823	9.49E-05
5	75231497	rs4703689	A	G	0.4639	0.9865	-0.1123	0.0286	9.52E-05
20	62119875	rs7265428	C	T	0.4187	0.9545	-0.1159	0.0296	9.54E-05
2	18427456	rs115923952	T	A	0.0211	1.031	-0.3794	0.0968	9.55E-05
2	18427456	rs115923952	T	A	0.0211	1.031	-0.3794	0.0968	9.55E-05
7	87034845	rs11773089	T	C	0.0744	0.9831	0.2143	0.0547	9.56E-05
2	18426454	rs12466959	G	A	0.0211	1.0304	-0.3794	0.0968	9.56E-05
2	18426454	rs12466959	G	A	0.0211	1.0304	-0.3794	0.0968	9.56E-05

11	65603252	rs7107912	A	G	0.525	0.9927	-0.1112	0.0284	9.57E-05
4	67654510	rs115002912	T	C	0.0243	0.8426	-0.3918	0.1	9.57E-05
3	30603093	rs17567548	G	A	0.0687	0.8353	-0.2399	0.0612	9.58E-05
3	151535976	rs9810654	A	C	0.0333	0.9512	0.3163	0.0807	9.59E-05
2	235505900	rs7573410	C	A	0.6826	0.9206	0.1237	0.0316	9.59E-05
2	235505900	rs7573410	C	A	0.6826	0.9206	0.1237	0.0316	9.59E-05
4	10111341	rs12498746	T	C	0.0708	0.9708	0.2195	0.056	9.61E-05
5	28620309	rs4867148	C	A	0.1322	0.974	0.1666	0.0425	9.63E-05
12	111346613	rs61940349	T	C	0.0112	0.983	0.5374	0.1372	9.63E-05
4	10313755	rs116613191	G	A	0.0263	0.9563	0.3544	0.0905	9.63E-05
5	159716449	rs73308692	G	C	0.0909	0.866	-0.2062	0.0526	9.64E-05
4	10085301	rs2241471	T	C	0.0706	0.9728	0.2195	0.056	9.64E-05
9	117992142	rs150433143	A	C	0.0153	1.0331	0.4436	0.1133	9.66E-05
3	172536130	rs71310525	T	A	0.171	1.0088	0.1463	0.0374	9.69E-05
1	234819747	rs485615	T	C	0.4705	1.0104	0.1106	0.0282	9.69E-05
4	10101104	rs2241487	C	A	0.0706	0.9729	0.2193	0.056	9.73E-05
12	4482973	rs10744644	C	T	0.9765	1.007	-0.3658	0.0934	9.75E-05
1	234819800	rs485790	A	G	0.4705	1.0108	0.1105	0.0282	9.75E-05
10	104422046	rs4522108	T	C	0.3185	0.9642	0.1215	0.031	9.77E-05
1	192354156	rs1936711	T	A	0.2705	0.9802	-0.1262	0.0322	9.77E-05
12	111350807	rs61940351	A	G	0.0111	0.9866	0.5368	0.1371	9.77E-05
4	10089121	rs2241479	C	T	0.0706	0.9726	0.2193	0.056	9.77E-05
12	111345404	rs61940348	T	C	0.0112	0.9817	0.5373	0.1373	9.78E-05
12	4483139	rs7295857	C	T	0.9765	1.0075	-0.3657	0.0934	9.79E-05
6	9436198	rs76835941	A	G	0.0193	0.8211	0.4433	0.1133	9.80E-05
10	19386040	rs10826941	T	C	0.2542	0.9988	-0.1271	0.0325	9.81E-05
6	148113931	rs55908285	A	G	0.0825	0.9258	0.209	0.0534	9.82E-05
4	10099018	rs3822238	G	T	0.0706	0.9726	0.2192	0.056	9.82E-05
5	11380024	rs78575730	A	C	0.0126	0.9523	0.5091	0.1301	9.82E-05
10	104421679	rs12570611	C	G	0.3185	0.9643	0.1214	0.031	9.82E-05

12	111343279	rs61940347	T	C	0.0112	0.9778	0.5375	0.1374	9.84E-05
12	111351204	rs146401175	G	T	0.0111	0.9854	0.5367	0.1372	9.85E-05
7	31996149	rs73310525	G	A	0.1768	0.9499	-0.1486	0.038	9.86E-05
7	87032251	rs45437295	T	G	0.0746	0.9818	0.2139	0.0547	9.90E-05
2	239469653	rs62194972	A	G	0.3069	1.0143	-0.1197	0.0306	9.92E-05
2	239469653	rs62194972	A	G	0.3069	1.0143	-0.1197	0.0306	9.92E-05
12	111351932	rs148639029	A	C	0.0111	0.9842	0.5366	0.1372	9.92E-05
4	10141515	rs11735463	C	T	0.0709	1.0064	0.2148	0.0549	9.92E-05
12	111339307	rs61940346	A	C	0.0112	0.9716	0.5382	0.1376	9.93E-05
10	44304600	rs78931007	C	A	0.0553	0.9974	-0.2416	0.0618	9.93E-05
12	111373510	rs61943022	A	C	0.0145	0.9295	0.4843	0.1239	9.93E-05
12	111337298	rs144597752	G	A	0.0112	0.9679	0.5386	0.1378	9.94E-05
6	148113313	rs3966656	A	G	0.0824	0.9257	0.2088	0.0534	9.94E-05
21	37548099	rs9984009	A	G	0.4671	1.0081	-0.1102	0.0282	9.95E-05
10	104241983	rs12763720	C	T	0.2314	0.9313	0.1358	0.0347	9.95E-05
2	8018940	rs73153537	G	T	0.0146	1.008	0.4612	0.118	9.96E-05
2	8018940	rs73153537	G	T	0.0146	1.008	0.4612	0.118	9.96E-05
15	92448712	rs72750081	C	G	0.0858	0.9869	-0.1984	0.0507	9.98E-05
1	192352776	rs1936712	T	C	0.2704	0.9826	-0.1259	0.0322	9.98E-05
15	31973676	rs147900146	G	A	0.0124	0.867	0.5362	0.1372	9.99E-05
21	37553132	rs11911615	G	T	0.3295	0.9838	-0.1187	0.0304	9.99E-05

## References

1. Abu Zaid MI, Menendez AG, El Charif O, Fung C, Monahan PO, Feldman DR, Hamilton RJ, Vaughn DJ, Beard C, Cook R, Althouse SK, Sesso HD, Ardeshirrouhanifard S, Dinh PC, Einhorn L, Fosså S, Travis LB, and For the Platinum Study Group. Adverse health outcomes in relationship to hypogonadism (HG) after platinum-based chemotherapy: A multicenter study of North American testicular cancer survivors (TCS). *Journal of Clinical Oncology* 2017 35:18\_suppl, LBA10012-LBA10012.
2. Kerns SL, Fung C, Monahan PO, Ardeshir-Rouhani-Fard S, Abu Zaid MI, Williams AM, et al. Cumulative Burden of Morbidity Among Testicular Cancer Survivors After Standard Cisplatin-Based Chemotherapy: A Multi-Institutional Study. *J Clin Oncol.* 2018;36:1505-123.
3. Dolan ME, El Charif O, Wheeler HE, Gamazon ER, Ardeshir-Rouhani-Fard S, Monahan P, et al. Clinical and Genome-Wide Analysis of Cisplatin-Induced Peripheral Neuropathy in Survivors of Adult-Onset Cancer. *Clin Cancer Res.* 2017;23:5757-68.
4. Frisina RD, Wheeler HE, Fossa SD, Kerns SL, Fung C, Sesso HD, et al. Comprehensive Audiometric Analysis of Hearing Impairment and Tinnitus After Cisplatin-Based Chemotherapy in Survivors of Adult-Onset Cancer. *J Clin Oncol.* 2016;34:2712-20.