

Supplementary Table 1 Information about the 18 single-nucleotide polymorphisms included in the analysis

Name	Gene	Location	dbSNP	Allele	
			identifier	Mutant	Wild-type
Methylenetetrahydrofolate reductase	<i>MTHFR</i>	Chr1_11856378	rs1801133	G	A
		Chr1_11854476	rs1801131	G	T
		Chr1_11850927	rs2274976	T	C
Dihydrofolate reductase	<i>DHFR</i>	Chr5_80655314	rs408626	T	C
Methionine synthase reductase	<i>MTRR</i>	Chr5_7870973	rs1801394	G	A
Methionine synthetase	<i>MTR</i>	Chr1_237048500	rs1805087	G	A
Folate carrier-1	<i>RFC-1</i>	Chr21_46957794	rs1051266	T	C
methylenetetrahydrofolate dehydrogenase	<i>MTHFD1</i>	Chr14_64908845	rs2236225	A	G
Serine hydroxymethyl transferase1	<i>SHMT1</i>	Chr17_18232096	rs1979277	A	G
Glutamate carboxypeptidase II	<i>GCP II</i>	Chr11_49227620	rs202676	G	A
		Chr11_92975544	rs10830963	G	C
Melatonin receptor 1B	<i>MTNR1B</i>	Chr11_92940662	rs1387153	T	C
Cyclin-dependent kinase 5 regulatory subunit-associated protein 1-like, CDKAL1	<i>CDKAL1</i>	Chr6_20679478	rs7756992	A	G

Peroxisome proliferator-activated receptor γ	<i>PPARG</i>	Chr3_12393125	rs1801282	G	C
Adiponectin	<i>ADIPOQ</i>	Chr3_186853103	rs2241766	G	T
		Chr3_186559474	rs266729	G	C
Hematopoietically expressed homeobox	<i>HHEX</i>	Chr10_94465559	rs5015480	C	T
Chemerin	<i>Chemerin</i>	Chr7_150035526	rs4721	G	T

SNP: Single-nucleotide polymorphism.

Supplementary Table 2 Correlation analysis of single-nucleotide polymorphisms with risk for gestational diabetes mellitus under the additive model

Gene	SNPs	Effector	Univariate logistic regression				Multivariate logistic regression ¹			
			aOR	95%CI	<i>P</i>	<i>P</i> _{adjusted} ²	aOR	95%CI	<i>P</i>	<i>P</i> _{adjusted} ²
			value				value			
<i>RFC-1</i>	rs1051266	T	1.00	0.82-1.21	0.961	0.963	1.12	0.89-1.40	0.347	0.934
<i>MTHFR</i>	rs1801131	G	0.89	0.69-1.16	0.390	0.696	0.99	0.73-1.33	0.932	0.942
	rs1801133	G	0.94	0.78-1.13	0.503	0.696	0.92	0.74-1.15	0.471	0.934
	rs2274976	T	0.85	0.57-1.27	0.422	0.696	0.98	0.62-1.57	0.942	0.942
<i>MTRR</i>	rs1801394	G	1.09	0.87-1.36	0.449	0.696	1.11	0.86-1.43	0.413	0.934
<i>DHFR</i>	rs408626	T	1.01	0.83-1.23	0.929	0.963	1.06	0.84-1.33	0.623	0.934
<i>MTR</i>	rs1805087	G	0.79	0.56-1.11	0.171	0.513	0.94	0.63-1.41	0.779	0.942
<i>SHMT1</i>	rs1979277	A	0.74	0.50-1.10	0.138	0.513	0.87	0.55-1.37	0.544	0.934
<i>GCP II</i>	rs202676	G	1.18	0.96-1.46	0.122	0.513	1.21	0.95-1.55	0.130	0.607
<i>MTHFD1</i>	rs2236225	A	0.99	0.78-1.25	0.901	0.963	0.93	0.71-1.22	0.609	0.934
<i>ADIPOQ</i>	rs2241766	G	0.93	0.74-1.16	0.503	0.696	0.93	0.72-1.20	0.559	0.934
	rs266729	G	1.02	0.82-1.27	0.862	0.963	0.98	0.75-1.27	0.854	0.942

<i>MTNR1B</i>	rs10830963	G	1.46	1.19-1.78	0.000	0.004	1.43	1.13-1.80	0.003	0.046
	rs1387153	T	1.28	1.05-1.57	0.017	0.153	1.22	0.97-1.54	0.087	0.607
<i>CDKAL1</i>	rs7756992	A	1.00	0.83-1.22	0.963	0.963	1.05	0.83-1.32	0.700	0.942
<i>PPARG</i>	rs1801282	G	0.80	0.55-1.18	0.259	0.666	0.73	0.47-1.14	0.169	0.607
<i>Chemerin</i>	rs4721	G	0.91	0.75-1.11	0.345	0.696	0.97	0.77-1.21	0.789	0.942
<i>HHEX</i>	rs5015480	C	1.20	0.93-1.54	0.155	0.513	1.23	0.92-1.65	0.167	0.607

¹The multivariate model, adjusted for delivery age, pre-pregnancy body mass index, maternal ethnicity, education, per capita annual family income, whether primipara, gestational diabetes mellitus history, family history of diabetes, amount of exercise, staple food habits, and folic acid supplementation.

²The *P* values were corrected using the Benjamini-Hochberg method.

SNP: Single-nucleotide polymorphism.

Supplementary Table 3 Correlation analysis of single-nucleotide polymorphisms with risk for gestational diabetes mellitus under the dominant model

Gene	SNPs	Effector	Univariate logistic regression			Multivariate logistic regression ¹				
			aOR	95%CI	<i>P</i>	<i>P</i> _{adjusted} ²	aOR	95%CI	<i>P</i>	<i>P</i> _{adjusted} ²
					value				value	
<i>RFC-1</i>	rs1051266	T	1.00	0.75-1.34	1.000	1.000	1.08	0.76-1.52	0.684	0.877
<i>MTHFR</i>	rs1801131	G	0.92	0.67-1.25	0.580	0.746	1.08	0.75-1.54	0.677	0.877
	rs1801133	G	0.89	0.67-1.20	0.454	0.681	0.90	0.63-1.27	0.541	0.877
	rs2274976	T	0.83	0.54-1.27	0.392	0.681	1.03	0.63-1.68	0.922	0.922
<i>MTRR</i>	rs1801394	G	1.17	0.89-1.54	0.271	0.681	1.14	0.83-1.58	0.424	0.877
<i>DHFR</i>	rs408626	T	0.92	0.69-1.22	0.546	0.746	0.94	0.68-1.31	0.715	0.877
<i>MTR</i>	rs1805087	G	0.80	0.56-1.14	0.213	0.639	0.95	0.63-1.43	0.790	0.877
<i>SHMT1</i>	rs1979277	A	0.69	0.45-1.06	0.089	0.477	0.85	0.52-1.39	0.512	0.877
<i>GCP II</i>	rs202676	G	1.26	0.95-1.65	0.106	0.477	1.26	0.91-1.74	0.159	0.716
<i>MTHFD1</i>	rs2236225	A	0.95	0.72-1.25	0.717	0.811	0.87	0.63-1.20	0.393	0.877
<i>ADIPOQ</i>	rs2241766	G	0.95	0.72-1.25	0.721	0.811	0.96	0.70-1.33	0.828	0.877

	rs266729	G	1.02	0.77-1.34	0.899	0.952	0.94	0.68-1.30	0.698	0.877
<i>MTNR1B</i>	rs10830963	G	1.65	1.23-2.22	0.001	0.018	1.68	1.19-2.38	0.003	0.062
	rs1387153	T	1.44	1.07-1.93	0.015	0.135	1.41	1.00-1.99	0.049	0.445
<i>CDKAL1</i>	rs7756992	A	0.89	0.65-1.21	0.451	0.681	0.92	0.64-1.33	0.664	0.877
<i>PPARG</i>	rs1801282	G	0.84	0.56-1.24	0.381	0.681	0.75	0.47-1.19	0.227	0.816
<i>Chemerin</i>	rs4721	G	0.89	0.66-1.20	0.430	0.681	0.95	0.66-1.35	0.756	0.877
<i>HHEX</i>	rs5015480	C	1.24	0.93-1.67	0.147	0.529	1.33	0.94-1.88	0.103	0.618

¹The multivariate model adjusted for delivery age, pre-pregnancy body mass index, maternal ethnicity, education, per capita annual family income, whether primipara, gestational diabetes mellitus history, family history of diabetes, amount of exercise, staple food habits, and folic acid supplementation.

²The *P* values were corrected using the Benjamini-Hochberg method.

SNP: Single-nucleotide polymorphism.

Supplementary Table 4 Correlation analysis of single-nucleotide polymorphisms with risk for gestational diabetes mellitus under the recessive model

Gene	SNPs	Effector	Univariate logistic regression				Multivariate logistic regression ¹			
			aOR	95%CI	P	P _{adjusted} ²	aOR	95%CI	P	P _{adjusted} ²
<i>RFC-1</i>	rs1051266	T	0.99	0.70-1.39	0.931	0.989	1.27	0.86-1.89	0.235	0.820
<i>MTHFR</i>	rs1801131	G	0.64	0.29-5.38	0.252	0.916	0.56	0.23-1.39	0.212	0.820
	rs1801133	G	0.95	0.68-6.31	0.737	0.923	0.89	0.61-1.31	0.564	0.872
	rs2274976	T	1.00	0.14-13.15	0.998	0.998	0.31	0.02-4.49	0.390	0.828
<i>MTRR</i>	rs1801394	G	0.92	0.53-8.58	0.760	0.923	1.15	0.63-2.12	0.649	0.919
<i>DHFR</i>	rs408626	T	1.21	0.83-15.77	0.326	0.916	1.38	0.89-2.13	0.155	0.820
<i>MTR</i>	rs1805087	G	0.33	0.03-9.21	0.341	0.916	0.83	0.07-9.42	0.883	0.999
<i>SHMT1</i>	rs1979277	A	1.50	0.25-10.05	0.656	0.923	1.01	0.13-7.82	0.993	0.999
<i>GCP II</i>	rs202676	G	1.18	0.74-11.86	0.485	0.916	1.30	0.76-2.24	0.338	0.820
<i>MTHFD1</i>	rs2236225	A	1.20	0.61-12.37	0.595	0.920	1.27	0.59-2.74	0.547	0.872
<i>ADIPOQ</i>	rs2241766	G	0.77	0.45-2.33	0.347	0.916	0.72	0.38-1.37	0.317	0.820
	rs266729	G	1.05	0.61-14.82	0.859	0.973	1.11	0.58-2.10	0.753	0.985

<i>MTNR1B</i>	rs10830963	G	1.63	1.13-3.33	0.008	0.136	1.50	0.99-2.26	0.055	0.820
	rs1387153	T	1.28	0.89-4.86	0.184	0.916	1.16	0.76-1.77	0.489	0.872
<i>CDKAL1</i>	rs7756992	A	1.16	0.83-19.60	0.385	0.916	1.24	0.84-1.82	0.275	0.820
<i>PPARG</i>	rs1801282	G	-	-	-	-	-	-	-	-
<i>Chemerin</i>	rs4721	G	0.88	0.63-16.23	0.452	0.916	0.98	0.66-1.44	0.905	0.999
<i>HHEX</i>	rs5015480	C	1.23	0.59-17.60	0.580	0.920	1.00	0.42-2.36	0.999	0.999

¹The multivariate model adjusted for delivery age, pre-pregnancy body mass index, maternal ethnicity, education, per capita annual family income, whether primipara, gestational diabetes mellitus history, family history of diabetes, amount of exercise, staple food habits, and folic acid supplementation.

²The *P* values were corrected using the Benjamini-Hochberg method.

SNP: Single-nucleotide polymorphism.

Supplementary Table 5 Association between single-nucleotide polymorphisms related to folate metabolic enzyme and risk for gestational diabetes mellitus under the additive model

Gene	SNPs	Effector	aOR	95%CI	<i>P</i> ¹	<i>P</i> _{adjusted} ²
<i>RFC-1</i>	rs1051266	T	1.10	(0.86,1.39)	0.448	0.696
<i>MTHFR</i>	rs1801131	G	0.92	(0.68,1.26)	0.623	0.696

	rs1801133	G	0.90	(0.71,1.13)	0.347	0.696
	rs2274976	T	0.89	(0.55,1.44)	0.626	0.696
<i>MTRR</i>	rs1801394	G	1.14	(0.87,1.48)	0.347	0.696
<i>DHFR</i>	rs408626	T	1.06	(0.83,1.36)	0.620	0.696
<i>MTR</i>	rs1805087	G	0.99	(0.65,1.51)	0.972	0.972
<i>SHMT1</i>	rs1979277	A	0.79	(0.48,1.30)	0.353	0.696
<i>GCP II</i>	rs202676	G	1.25	(0.96,1.61)	0.096	0.696
<i>MTHFD1</i>	rs2236225	A	0.92	(0.69,1.23)	0.593	0.696

¹The multivariate model was adjusted for delivery age, pre-pregnancy body mass index, maternal ethnicity, education, per capita annual family income, whether primipara, gestational diabetes mellitus history, family history of diabetes, amount of exercise, staple food habits, and folic acid supplementation, rs2241766, rs266729, rs10830963, rs1387153, rs7756992, rs1801282, rs4721, rs5015480, and rs10830963 × rs4721 interaction risk type.

²The *P* values were corrected using the Benjamini-Hochberg method.