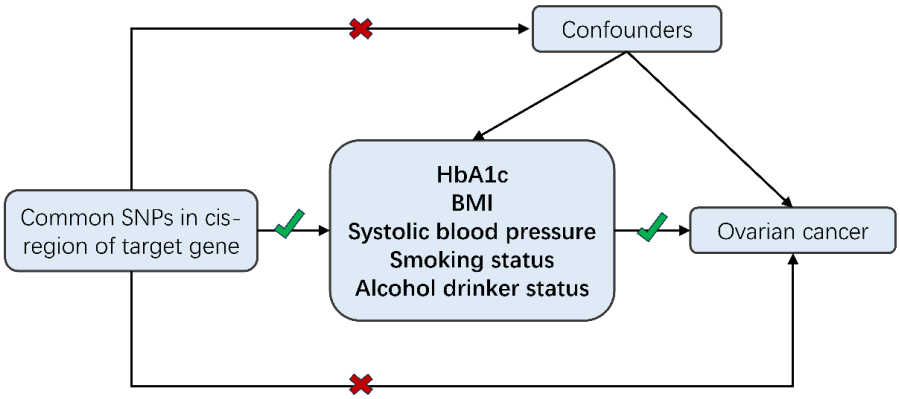

Figure S1. **Multivariable Mendelian Randomization (MVMR) strategy in this study.**
This figure shows the MVMR design of drug-target MR analysis with HbA1c GWAS data adjusted for body mass index (BMI), systolic blood pressure, smoking status, and alcohol drinker status to explore the robustness of genetically predicted levels of HbA1c when targeting a specific gene by the corresponding drug on the risk of ovarian cancer (OC).

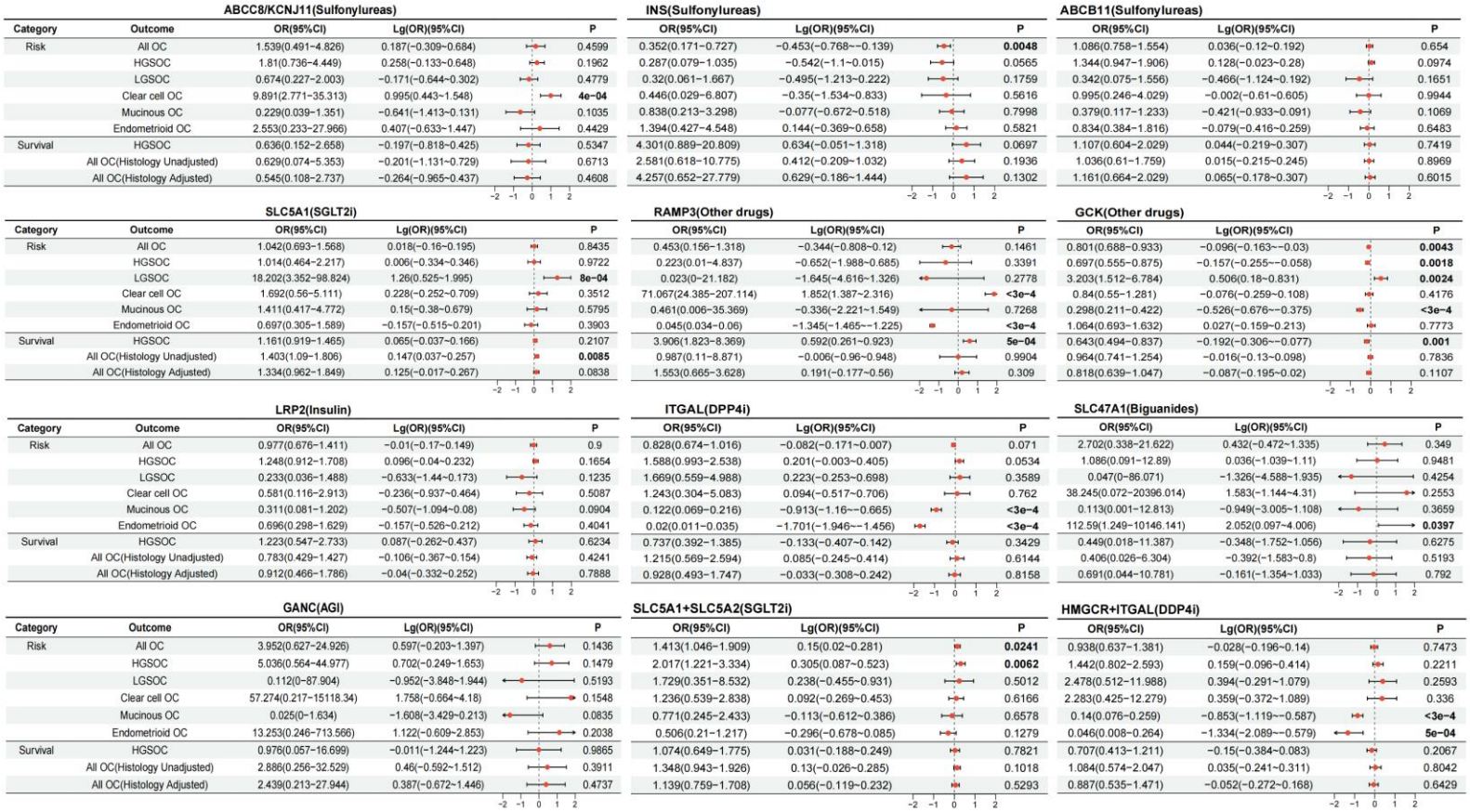

Figure S2. Forest plots of the effects of the antidiabetic drug targets on 9 OC phenotypes.

This Figure was an appendix of Figure 2. All results were derived from the principal MR analysis. The effects (ORs) were adjusted to reflect a per-SD decrease in genetically predicted levels of HbA1c when targeting the specific gene with the corresponding drug on the risk of OC.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	1.086(0.758−1.554)	0.036(−0.12~0.192)	0.654
	All OC	IVW(FE)	1.086(0.711−1.657)	0.036(−0.148~0.219)	0.7035
	All OC	Weighted median	0.905(0.518−1.581)	−0.043(−0.286~0.199)	0.7258
	All OC	Weighted mode	0.778(0.372−1.626)	−0.109(−0.43~0.211)	0.5139
	HGSOC	IVW(MRE)	1.344(0.947−1.906)	0.128(−0.023~0.28)	0.0974
	HGSOC	IVW(FE)	1.344(0.813−2.222)	0.128(−0.09~0.347)	0.2493
	HGSOC	Weighted median	1.253(0.644−2.438)	0.098(−0.191~0.387)	0.5065
	HGSOC	Weighted mode	1.217(0.538−2.754)	0.085(−0.269~0.44)	0.6436
	LGSOC	IVW(MRE)	0.342(0.075−1.556)	−0.466(−1.124~0.192)	0.1651
	LGSOC	IVW(FE)	0.342(0.075−1.561)	−0.466(−1.125~0.193)	0.166
	LGSOC	Weighted median	0.143(0.018−1.141)	−0.846(−1.749~0.057)	0.0664
	LGSOC	Weighted mode	0.099(0.007−1.368)	−1.005(−2.146~0.136)	0.1048
	Clear cell OC	IVW(MRE)	0.995(0.246−4.029)	−0.002(−0.61~0.605)	0.9944
	Clear cell OC	IVW(FE)	0.995(0.279−3.547)	−0.002(−0.554~0.55)	0.9938
	Clear cell OC	Weighted median	0.731(0.117−4.559)	−0.136(−0.931~0.659)	0.7375
	Clear cell OC	Weighted mode	0.458(0.041−5.153)	−0.339(−1.39~0.712)	0.5367
	Mucinous OC	IVW(MRE)	0.379(0.117−1.233)	−0.421(−0.933~0.091)	0.1069
	Mucinous OC	IVW(FE)	0.379(0.144−0.997)	−0.421(−0.841~−0.001)	**0.0492**
	Mucinous OC	Weighted median	0.32(0.076−1.349)	−0.494(−1.119~0.13)	0.1206
	Mucinous OC	Weighted mode	1.327(0.092−19.113)	0.123(−1.035~1.281)	0.838
	Endometrioid OC	IVW(MRE)	0.834(0.384−1.816)	−0.079(−0.416~0.259)	0.6483
	Endometrioid OC	IVW(FE)	0.834(0.336−2.075)	−0.079(−0.474~0.317)	0.697
	Endometrioid OC	Weighted median	0.713(0.202−2.518)	−0.147(−0.695~0.401)	0.5995
	Endometrioid OC	Weighted mode	1.511(0.275−8.302)	0.179(−0.561~0.919)	0.642
Survival	HGSOC	IVW(MRE)	1.107(0.604−2.029)	0.044(−0.219~0.307)	0.7419
	HGSOC	IVW(FE)	1.107(0.576−2.127)	0.044(−0.239~0.328)	0.7599
	HGSOC	Weighted median	1.019(0.403−2.578)	0.008(−0.395~0.411)	0.9683
	HGSOC	Weighted mode	1.099(0.285−4.231)	0.041(−0.545~0.626)	0.893
	All OC(Histology Unadjusted)	IVW(MRE)	1.036(0.61−1.759)	0.015(−0.215~0.245)	0.8969
	All OC(Histology Unadjusted)	IVW(FE)	1.036(0.595−1.803)	0.015(−0.225~0.256)	0.9014
	All OC(Histology Unadjusted)	Weighted median	1.259(0.57−2.784)	0.1(−0.244~0.445)	0.569
	All OC(Histology Unadjusted)	Weighted mode	2.047(0.535−7.824)	0.311(−0.271~0.893)	0.3117
	All OC(Histology Adjusted)	IVW(MRE)	1.161(0.664−2.029)	0.065(−0.178~0.307)	0.6015
	All OC(Histology Adjusted)	IVW(FE)	1.161(0.666−2.023)	0.065(−0.177~0.306)	0.5996
	All OC(Histology Adjusted)	Weighted median	1.443(0.662−3.147)	0.159(−0.179~0.498)	0.3563
	All OC(Histology Adjusted)	Weighted mode	2.303(0.582−9.117)	0.362(−0.235~0.96)	0.2532

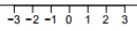

Figure S3. Forest plots of the effects of ABCB11 (Sulfonylureas) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects) weighted median, and weighted mode to assess the association between ABCB11 and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	1.539(0.491−4.826)	0.187(−0.309~0.684)	0.4599
	All OC	IVW(FE)	1.539(0.567−4.178)	0.187(−0.247~0.621)	0.3978
	All OC	Weighted median	1.791(0.587−5.466)	0.253(−0.231~0.738)	0.3058
	All OC	Weighted mode	2.281(0.687−7.572)	0.358(−0.163~0.879)	0.3104
	HGSOC	IVW(MRE)	1.81(0.736−4.449)	0.258(−0.133~0.648)	0.1962
	HGSOC	IVW(FE)	1.81(0.553−5.923)	0.258(−0.257~0.773)	0.3268
	HGSOC	Weighted median	1.967(0.543−7.132)	0.294(−0.266~0.853)	0.3032
	HGSOC	Weighted mode	2.524(0.662−9.629)	0.402(−0.179~0.984)	0.3081
	LGSOC	IVW(MRE)	0.674(0.227−2.003)	−0.171(−0.644~0.302)	0.4779
	LGSOC	IVW(FE)	0.674(0.019−24.184)	−0.171(−1.726~1.384)	0.8291
	LGSOC	Weighted median	0.782(0.019−32.813)	−0.107(−1.73~1.516)	0.8974
	LGSOC	Weighted mode	0.963(0.015−60.053)	−0.017(−1.812~1.779)	0.9872
	Clear cell OC	IVW(MRE)	9.891(2.771−35.313)	0.995(0.443~1.548)	**4e−04**
	Clear cell OC	IVW(FE)	9.891(0.478−204.888)	0.995(−0.321~2.312)	0.1383
	Clear cell OC	Weighted median	11.162(0.459−271.689)	1.048(−0.339~2.434)	0.1385
	Clear cell OC	Weighted mode	15.771(0.472−526.933)	1.198(−0.326~2.722)	0.2633
	Mucinous OC	IVW(MRE)	0.229(0.039−1.351)	−0.641(−1.413~0.131)	0.1035
	Mucinous OC	IVW(FE)	0.229(0.024−2.165)	−0.641(−1.617~0.335)	0.1982
	Mucinous OC	Weighted median	0.264(0.022−3.214)	−0.578(−1.663~0.507)	0.2964
	Mucinous OC	Weighted mode	0.449(0.035−5.784)	−0.348(−1.458~0.762)	0.6015
	Endometrioid OC	IVW(MRE)	2.553(0.233−27.966)	0.407(−0.633~1.447)	0.4429
	Endometrioid OC	IVW(FE)	2.553(0.293−22.26)	0.407(−0.534~1.348)	0.3963
	Endometrioid OC	Weighted median	4.671(0.416−52.468)	0.669(−0.381~1.72)	0.2116
	Endometrioid OC	Weighted mode	5.498(0.359−84.2)	0.74(−0.445~1.925)	0.3455
Survival	HGSOC	IVW(MRE)	0.636(0.152−2.658)	−0.197(−0.818~0.425)	0.5347
	HGSOC	IVW(FE)	0.636(0.135−2.989)	−0.197(−0.869~0.476)	0.5661
	HGSOC	Weighted median	0.845(0.159−4.494)	−0.073(−0.799~0.653)	0.8436
	HGSOC	Weighted mode	1.023(0.157−6.662)	0.01(−0.803~0.824)	0.9829
	All OC(Histology Unadjusted)	IVW(MRE)	0.629(0.074−5.353)	−0.201(−1.131~0.729)	0.6713
	All OC(Histology Unadjusted)	IVW(FE)	0.629(0.168−2.353)	−0.201(−0.774~0.372)	0.491
	All OC(Histology Unadjusted)	Weighted median	1.114(0.242−5.129)	0.047(−0.616~0.71)	0.8901
	All OC(Histology Unadjusted)	Weighted mode	1.205(0.268−5.421)	0.081(−0.572~0.734)	0.8305
	All OC(Histology Adjusted)	IVW(MRE)	0.545(0.108−2.737)	−0.264(−0.965~0.437)	0.4608
	All OC(Histology Adjusted)	IVW(FE)	0.545(0.145−2.046)	−0.264(−0.839~0.311)	0.3683
	All OC(Histology Adjusted)	Weighted median	0.897(0.216−3.726)	−0.047(−0.665~0.571)	0.8814
	All OC(Histology Adjusted)	Weighted mode	0.924(0.201−4.254)	−0.034(−0.698~0.629)	0.9282

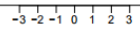

Figure S4. Forest plots of the effects of ABCC8/KCNJ11(Sulfonylureas) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between ABCC8/KCNJ11 and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	1.746(1.414−2.157)	0.242(0.15~0.334)	**<3e−4**
	All OC	IVW(FE)	1.746(0.883−3.453)	0.242(−0.054~0.538)	0.109
	All OC	Weighted median	1.591(0.707−3.58)	0.202(−0.151~0.554)	0.262
	All OC	Weighted mode	1.479(0.511−4.278)	0.17(−0.292~0.631)	0.5105
	HGSOC	IVW(MRE)	1.612(1.319−1.971)	0.207(0.12~0.295)	**<3e−4**
	HGSOC	IVW(FE)	1.612(0.716−3.63)	0.207(−0.145~0.56)	0.2488
	HGSOC	Weighted median	1.73(0.667−4.486)	0.238(−0.176~0.652)	0.2598
	HGSOC	Weighted mode	1.915(0.575−6.379)	0.282(−0.24~0.805)	0.3494
	LGSOC	IVW(MRE)	61.101(24.978−149.466)	1.786(1.398~2.175)	**<3e−4**
	LGSOC	IVW(FE)	61.101(5.299−704.479)	1.786(0.724~2.848)	**0.001**
	LGSOC	Weighted median	47.031(2.683−824.291)	1.672(0.429~2.916)	**0.0084**
	LGSOC	Weighted mode	46.323(1.154−1859.436)	1.666(0.062~3.269)	0.1114
	Clear cell OC	IVW(MRE)	0.765(0.108−5.408)	−0.116(−0.966~0.733)	0.7882
	Clear cell OC	IVW(FE)	0.765(0.097−6.031)	−0.116(−1.013~0.78)	0.7992
	Clear cell OC	Weighted median	1.832(0.146−23.037)	0.263(−0.837~1.362)	0.6395
	Clear cell OC	Weighted mode	1.909(0.113−32.218)	0.281(−0.946~1.508)	0.677
	Mucinous OC	IVW(MRE)	0.306(0.24−0.389)	−0.515(−0.62~−0.41)	**<3e−4**
	Mucinous OC	IVW(FE)	0.306(0.065−1.438)	−0.515(−1.188~0.158)	0.1336
	Mucinous OC	Weighted median	0.304(0.048−1.909)	−0.517(−1.315~0.281)	0.2039
	Mucinous OC	Weighted mode	0.251(0.023−2.729)	−0.6(−1.635~0.436)	0.3198
	Endometrioid OC	IVW(MRE)	4.505(3.15−6.442)	0.654(0.498~0.809)	**<3e−4**
	Endometrioid OC	IVW(FE)	4.505(1.034−19.625)	0.654(0.014~1.293)	**0.045**
	Endometrioid OC	Weighted median	5.324(0.976−29.051)	0.726(−0.011~1.463)	0.0534
	Endometrioid OC	Weighted mode	5.451(0.531−55.98)	0.736(−0.275~1.748)	0.2268
Survival	HGSOC	IVW(MRE)	0.224(0.18−0.28)	−0.649(−0.745~−0.553)	**<3e−4**
	HGSOC	IVW(FE)	0.224(0.078−0.649)	−0.649(−1.11~−0.188)	**0.0058**
	HGSOC	Weighted median	0.206(0.058−0.728)	−0.686(−1.235~−0.138)	**0.0142**
	HGSOC	Weighted mode	0.203(0.043−0.964)	−0.692(−1.369~−0.016)	0.1153
	All OC(Histology Unadjusted)	IVW(MRE)	0.286(0.122−0.67)	−0.543(−0.912~−0.174)	**0.004**
	All OC(Histology Unadjusted)	IVW(FE)	0.286(0.116−0.707)	−0.543(−0.935~−0.151)	**0.0067**
	All OC(Histology Unadjusted)	Weighted median	0.211(0.07−0.64)	−0.676(−1.157~−0.194)	**0.006**
	All OC(Histology Unadjusted)	Weighted mode	0.202(0.052−0.787)	−0.694(−1.285~−0.104)	0.0824
	All OC(Histology Adjusted)	IVW(MRE)	0.237(0.13−0.431)	−0.626(−0.887~−0.365)	**<3e−4**
	All OC(Histology Adjusted)	IVW(FE)	0.237(0.096−0.586)	−0.626(−1.02~−0.232)	**0.0018**
	All OC(Histology Adjusted)	Weighted median	0.192(0.062−0.596)	−0.716(−1.206~−0.225)	**0.0043**
	All OC(Histology Adjusted)	Weighted mode	0.191(0.044−0.837)	−0.719(−1.36~−0.077)	0.093

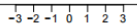

Figure S5. Forest plots of the effects of AKR1A1(Other drugs) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between AKR1A1 and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	3.888(0.713−21.215)	0.59(−0.147~1.327)	0.1167
	All OC	IVW(FE)	3.888(0.805−18.788)	0.59(−0.094~1.274)	0.0911
	HGSOC	IVW(MRE)	1.814(0.193−17.089)	0.259(−0.715~1.233)	0.6026
	HGSOC	IVW(FE)	1.814(0.278−11.845)	0.259(−0.556~1.074)	0.5337
	LGSOC	IVW(MRE)	0.139(0.098−0.198)	−0.857(−1.01~−0.703)	**<3e−4**
	LGSOC	IVW(FE)	0.139(0−47.527)	−0.857(−3.39~1.677)	0.5075
	Clear cell OC	IVW(MRE)	11.932(1.771−80.413)	1.077(0.248~1.905)	**0.0109**
	Clear cell OC	IVW(FE)	11.932(0.098−1454.041)	1.077(−1.009~3.163)	0.3117
	Mucinous OC	IVW(MRE)	0.145(0.001−29.908)	−0.84(−3.155~1.476)	0.4772
	Mucinous OC	IVW(FE)	0.145(0.004−5.481)	−0.84(−2.418~0.739)	0.2971
	Endometrioid OC	IVW(MRE)	55.225(16.221−188.019)	1.742(1.21~2.274)	**<3e−4**
	Endometrioid OC	IVW(FE)	55.225(1.993−1529.952)	1.742(0.3~3.185)	**0.0179**
Survival	HGSOC	IVW(MRE)	0.399(0.276−0.578)	−0.398(−0.559~−0.238)	**<3e−4**
	HGSOC	IVW(FE)	0.399(0.036−4.481)	−0.398(−1.448~0.651)	0.4569
	All OC(Histology Unadjusted)	IVW(MRE)	0.335(0.13−0.86)	−0.475(−0.885~−0.065)	**0.0231**
	All OC(Histology Unadjusted)	IVW(FE)	0.335(0.043−2.612)	−0.475(−1.367~0.417)	0.2966
	All OC(Histology Adjusted)	IVW(MRE)	0.359(0.125−1.031)	−0.445(−0.904~0.013)	0.0571
	All OC(Histology Adjusted)	IVW(FE)	0.359(0.046−2.818)	−0.445(−1.341~0.45)	0.3295

Figure S6. Forest plots of the effects of CPT1A(Sulfonylureas) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects) and IVW (fixed effects) to assess the association between CPT1A and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	Wald ratio	3.952(0.627−24.926)	0.597(−0.203~1.397)	0.1436
	HGSOC	Wald ratio	5.036(0.564−44.977)	0.702(−0.249~1.653)	0.1479
	LGSOC	Wald ratio	0.112(0−87.904)	−0.952(−3.848~1.944)	0.5193
	Clear cell OC	Wald ratio	57.274(0.217−15118.34)	1.758(−0.664~4.18)	0.1548
	Mucinous OC	Wald ratio	0.025(0−1.634)	−1.608(−3.429~0.213)	0.0835
	Endometrioid OC	Wald ratio	13.253(0.246−713.566)	1.122(−0.609~2.853)	0.2038
Survival	HGSOC	Wald ratio	0.976(0.057−16.699)	−0.011(−1.244~1.223)	0.9865
	All OC(Histology Unadjusted)	Wald ratio	2.886(0.256−32.529)	0.46(−0.592~1.512)	0.3911
	All OC(Histology Adjusted)	Wald ratio	2.439(0.213−27.944)	0.387(−0.672~1.446)	0.4737

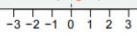

Figure S7. Forest plots of the effects of GANC(AGI) on 9 OC phenotypes with different MR methods.

The analysis employed the wald ratio method to assess the association between GANC and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	0.801(0.688~0.933)	-0.096(-0.163~-0.03)	**0.0043**
	All OC	IVW(FE)	0.801(0.665~0.965)	-0.096(-0.177~-0.016)	**0.0193**
	All OC	Weighted median	0.855(0.651~1.124)	-0.068(-0.187~0.051)	0.261
	All OC	Weighted mode	0.858(0.669~1.099)	-0.067(-0.174~0.041)	0.2325
	HGSOC	IVW(MRE)	0.697(0.555~0.875)	-0.157(-0.255~-0.058)	**0.0018**
	HGSOC	IVW(FE)	0.697(0.559~0.869)	-0.157(-0.253~-0.061)	**0.0014**
	HGSOC	Weighted median	0.738(0.545~1)	-0.132(-0.264~0)	0.0501
	HGSOC	Weighted mode	0.728(0.532~0.996)	-0.138(-0.274~-0.002)	0.0549
	LGSOC	IVW(MRE)	3.203(1.512~6.784)	0.506(0.18~0.831)	**0.0024**
	LGSOC	IVW(FE)	3.203(1.631~6.289)	0.506(0.213~0.799)	**7e-04**
	LGSOC	Weighted median	2.528(0.998~6.405)	0.403(-0.001~0.806)	0.0506
	LGSOC	Weighted mode	2.315(0.939~5.709)	0.365(-0.027~0.757)	0.0769
	Clear cell OC	IVW(MRE)	0.84(0.55~1.281)	-0.076(-0.259~0.108)	0.4176
	Clear cell OC	IVW(FE)	0.84(0.48~1.469)	-0.076(-0.319~0.167)	0.5405
	Clear cell OC	Weighted median	0.737(0.328~1.654)	-0.133(-0.484~0.219)	0.4594
	Clear cell OC	Weighted mode	0.737(0.351~1.548)	-0.132(-0.455~0.19)	0.4261
	Mucinous OC	IVW(MRE)	0.298(0.211~0.422)	-0.526(-0.676~-0.375)	**<3e-4**
	Mucinous OC	IVW(FE)	0.298(0.196~0.454)	-0.526(-0.708~-0.343)	**<3e-4**
	Mucinous OC	Weighted median	0.278(0.148~0.523)	-0.555(-0.829~-0.281)	**<3e-4**
	Mucinous OC	Weighted mode	0.471(0.247~0.898)	-0.327(-0.608~-0.047)	**0.0284**
	Endometrioid OC	IVW(MRE)	1.064(0.693~1.632)	0.027(-0.159~0.213)	0.7773
	Endometrioid OC	IVW(FE)	1.064(0.709~1.596)	0.027(-0.149~0.203)	0.7653
	Endometrioid OC	Weighted median	1.036(0.551~1.95)	0.015(-0.259~0.29)	0.9124
	Endometrioid OC	Weighted mode	1.336(0.779~2.291)	0.126(-0.109~0.36)	0.3002
Survival	HGSOC	IVW(MRE)	0.643(0.494~0.837)	-0.192(-0.306~-0.077)	**0.001**
	HGSOC	IVW(FE)	0.643(0.481~0.859)	-0.192(-0.318~-0.066)	**0.0028**
	HGSOC	Weighted median	0.763(0.501~1.164)	-0.117(-0.3~0.066)	0.2099
	HGSOC	Weighted mode	0.748(0.513~1.092)	-0.126(-0.29~0.038)	0.1417
	All OC(Histology Unadjusted)	IVW(MRE)	0.964(0.741~1.254)	-0.016(-0.13~0.098)	0.7836
	All OC(Histology Unadjusted)	IVW(FE)	0.964(0.738~1.259)	-0.016(-0.132~0.1)	0.7865
	All OC(Histology Unadjusted)	Weighted median	0.928(0.626~1.375)	-0.032(-0.203~0.138)	0.7093
	All OC(Histology Unadjusted)	Weighted mode	1.092(0.744~1.603)	0.038(-0.128~0.205)	0.6547
	All OC(Histology Adjusted)	IVW(MRE)	0.818(0.639~1.047)	-0.087(-0.195~0.02)	0.1107
	All OC(Histology Adjusted)	IVW(FE)	0.818(0.64~1.046)	-0.087(-0.194~0.019)	0.1086
	All OC(Histology Adjusted)	Weighted median	0.9(0.619~1.308)	-0.046(-0.208~0.117)	0.58
	All OC(Histology Adjusted)	Weighted mode	0.94(0.682~1.296)	-0.027(-0.166~0.113)	0.7097

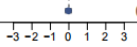

Figure S8. Forest plots of the effects of GCK(Other drugs) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between GCK and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	2.763(0.766−9.961)	0.441(−0.116~0.998)	0.1203
	All OC	IVW(FE)	2.763(0.919−8.311)	0.441(−0.037~0.92)	0.0705
	All OC	Weighted median	2.598(0.704−9.585)	0.415(−0.152~0.982)	0.1518
	All OC	Weighted mode	1.732(0.174−17.245)	0.239(−0.759~1.237)	0.6713
	HGSOC	IVW(MRE)	4.435(1.179−16.679)	0.647(0.072~1.222)	**0.0275**
	HGSOC	IVW(FE)	4.435(1.192−16.506)	0.647(0.076~1.218)	**0.0263**
	HGSOC	Weighted median	3.203(0.654−15.684)	0.506(−0.184~1.195)	0.1509
	HGSOC	Weighted mode	2.627(0.274−25.213)	0.42(−0.563~1.402)	0.4639
	LGSOC	IVW(MRE)	1.513(0.116−19.719)	0.18(−0.935~1.295)	0.7518
	LGSOC	IVW(FE)	1.513(0.029−78.558)	0.18(−1.535~1.895)	0.8371
	LGSOC	Weighted median	0.608(0.007−52.661)	−0.216(−2.153~1.721)	0.827
	LGSOC	Weighted mode	0.336(0.001−196.658)	−0.474(−3.241~2.294)	0.7594
	Clear cell OC	IVW(MRE)	1.937(0.024−156.392)	0.287(−1.62~2.194)	0.7678
	Clear cell OC	IVW(FE)	1.937(0.072−51.914)	0.287(−1.141~1.715)	0.6934
	Clear cell OC	Weighted median	1.316(0.021−82.998)	0.119(−1.681~1.919)	0.8967
	Clear cell OC	Weighted mode	0.884(0.002−419.31)	−0.054(−2.73~2.623)	0.9711
	Mucinous OC	IVW(MRE)	2.063(0.823−5.173)	0.314(−0.085~0.714)	0.1227
	Mucinous OC	IVW(FE)	2.063(0.171−24.846)	0.314(−0.766~1.395)	0.5685
	Mucinous OC	Weighted median	2.216(0.135−36.475)	0.346(−0.871~1.562)	0.5776
	Mucinous OC	Weighted mode	1.018(0.017−60.92)	0.008(−1.77~1.785)	0.9939
	Endometrioid OC	IVW(MRE)	1.304(0.483−3.524)	0.115(−0.316~0.547)	0.6003
	Endometrioid OC	IVW(FE)	1.304(0.122−13.939)	0.115(−0.913~1.144)	0.826
	Endometrioid OC	Weighted median	1.278(0.086−18.969)	0.107(−1.065~1.278)	0.8583
	Endometrioid OC	Weighted mode	2.713(0.064−114.567)	0.433(−1.192~2.059)	0.6373
Survival	HGSOC	IVW(MRE)	3.316(2.885−3.811)	0.521(0.46~0.581)	**<3e−4**
	HGSOC	IVW(FE)	3.316(0.44−25.019)	0.521(−0.357~1.398)	0.245
	HGSOC	Weighted median	3.299(0.309−35.228)	0.518(−0.51~1.547)	0.3233
	HGSOC	Weighted mode	3.244(0.178−59.271)	0.511(−0.751~1.773)	0.5105
	All OC(Histology Unadjusted)	IVW(MRE)	1.688(0.188−15.139)	0.227(−0.725~1.18)	0.6398
	All OC(Histology Unadjusted)	IVW(FE)	1.688(0.211−13.497)	0.227(−0.675~1.13)	0.6214
	All OC(Histology Adjusted)	IVW(MRE)	1.779(0.173−18.246)	0.25(−0.761~1.261)	0.6277
	All OC(Histology Adjusted)	IVW(FE)	1.779(0.22−14.415)	0.25(−0.659~1.159)	0.5895

Figure S9. Forest plots of the effects of GLP1R(GLP−1RA) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between GLP1R and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	2.519(0.308−20.589)	0.401(−0.511~1.314)	0.3887
	All OC	IVW(FE)	2.519(0.52−12.199)	0.401(−0.284~1.086)	0.251
	HGSOC	IVW(MRE)	0.672(0.022−20.213)	−0.173(−1.651~1.306)	0.8188
	HGSOC	IVW(FE)	0.672(0.102−4.424)	−0.173(−0.991~0.646)	0.6791
	LGSOC	IVW(MRE)	50.641(0.008−334167.542)	1.705(−2.115~5.524)	0.3817
	LGSOC	IVW(FE)	50.641(0.175−14661.413)	1.705(−0.757~4.166)	0.1747
	Clear cell OC	IVW(MRE)	243.974(9.712−6128.907)	2.387(0.987~3.787)	**8e−04**
	Clear cell OC	IVW(FE)	243.974(2.155−27627.246)	2.387(0.333~4.441)	**0.0227**
	Mucinous OC	IVW(MRE)	0.429(0.036−5.131)	−0.367(−1.445~0.71)	0.504
	Mucinous OC	IVW(FE)	0.429(0.012−15.587)	−0.367(−1.927~1.193)	0.6444
	Endometrioid OC	IVW(MRE)	40.07(4.419−363.364)	1.603(0.645~2.56)	**0.001**
	Endometrioid OC	IVW(FE)	40.07(1.338−1200.233)	1.603(0.126~3.079)	**0.0334**
Survival	HGSOC	IVW(MRE)	0.541(0.137−2.14)	−0.267(−0.864~0.33)	0.3814
	HGSOC	IVW(FE)	0.541(0.047−6.241)	−0.267(−1.329~0.795)	0.6226
	All OC(Histology Unadjusted)	IVW(MRE)	0.511(0.425−0.614)	−0.292(−0.371~−0.212)	**<3e−4**
	All OC(Histology Unadjusted)	IVW(FE)	0.511(0.065−4.034)	−0.292(−1.189~0.606)	0.5241
	All OC(Histology Adjusted)	IVW(MRE)	0.663(0.597−0.737)	−0.178(−0.224~−0.132)	**<3e−4**
	All OC(Histology Adjusted)	IVW(FE)	0.663(0.083−5.29)	−0.178(−1.08~0.723)	0.6983

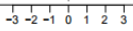

Figure S10. Forest plots of the effects of HMGCR(DPP4i) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects) and IVW (fixed effects) to assess the association between HMGCR and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	0.352(0.171−0.727)	−0.453(−0.768~−0.139)	**0.0048**
	All OC	IVW(FE)	0.352(0.157−0.788)	−0.453(−0.803~−0.104)	**0.0111**
	All OC	Weighted median	0.38(0.145−0.994)	−0.42(−0.838~−0.002)	**0.0487**
	All OC	Weighted mode	0.481(0.155−1.493)	−0.317(−0.809~0.174)	0.295
	HGSOC	IVW(MRE)	0.287(0.079−1.035)	−0.542(−1.1~0.015)	0.0565
	HGSOC	IVW(FE)	0.287(0.11−0.748)	−0.542(−0.958~−0.126)	**0.0106**
	HGSOC	Weighted median	0.367(0.112−1.206)	−0.436(−0.952~0.081)	0.0986
	HGSOC	Weighted mode	0.523(0.138−1.984)	−0.282(−0.861~0.297)	0.4108
	LGSOC	IVW(MRE)	0.32(0.061−1.667)	−0.495(−1.213~0.222)	0.1759
	LGSOC	IVW(FE)	0.32(0.017−5.936)	−0.495(−1.764~0.773)	0.4441
	LGSOC	Weighted median	0.474(0.018−12.261)	−0.324(−1.737~1.089)	0.6529
	LGSOC	Weighted mode	0.657(0.015−29.702)	−0.183(−1.838~1.473)	0.8426
	Clear cell OC	IVW(MRE)	0.446(0.029−6.807)	−0.35(−1.534~0.833)	0.5616
	Clear cell OC	IVW(FE)	0.446(0.038−5.174)	−0.35(−1.415~0.714)	0.5187
	Clear cell OC	Weighted median	0.336(0.014−7.912)	−0.473(−1.845~0.898)	0.4988
	Clear cell OC	Weighted mode	2.146(0.083−55.284)	0.332(−1.079~1.743)	0.6764
	Mucinous OC	IVW(MRE)	0.838(0.213−3.298)	−0.077(−0.672~0.518)	0.7998
	Mucinous OC	IVW(FE)	0.838(0.135−5.18)	−0.077(−0.868~0.714)	0.8487
	Mucinous OC	Weighted median	0.559(0.067−4.701)	−0.253(−1.177~0.672)	0.5925
	Mucinous OC	Weighted mode	0.546(0.045−6.617)	−0.263(−1.346~0.821)	0.6672
	Endometrioid OC	IVW(MRE)	1.394(0.427−4.548)	0.144(−0.369~0.658)	0.5821
	Endometrioid OC	IVW(FE)	1.394(0.243−7.99)	0.144(−0.614~0.903)	0.7094
	Endometrioid OC	Weighted median	1.483(0.182−12.072)	0.171(−0.739~1.082)	0.7124
	Endometrioid OC	Weighted mode	1.446(0.106−19.745)	0.16(−0.975~1.295)	0.8002
Survival	HGSOC	IVW(MRE)	4.301(0.889−20.809)	0.634(−0.051~1.318)	0.0697
	HGSOC	IVW(FE)	4.301(0.827−22.371)	0.634(−0.083~1.35)	0.0829
	HGSOC	Weighted median	3.257(0.402−26.418)	0.513(−0.396~1.422)	0.2688
	HGSOC	Weighted mode	2.656(0.208−33.865)	0.424(−0.681~1.53)	0.5305
	All OC(Histology Unadjusted)	IVW(MRE)	2.581(0.618−10.775)	0.412(−0.209~1.032)	0.1936
	All OC(Histology Unadjusted)	IVW(FE)	2.581(0.899−7.41)	0.412(−0.046~0.87)	0.0781
	All OC(Histology Unadjusted)	Weighted median	1.846(0.47−7.26)	0.266(−0.328~0.861)	0.38
	All OC(Histology Unadjusted)	Weighted mode	1.687(0.43−6.62)	0.227(−0.366~0.821)	0.5076
	All OC(Histology Adjusted)	IVW(MRE)	4.257(0.652−27.779)	0.629(−0.186~1.444)	0.1302
	All OC(Histology Adjusted)	IVW(FE)	4.257(1.044−17.352)	0.629(0.019~1.239)	**0.0434**
	All OC(Histology Adjusted)	Weighted median	2.893(0.446−18.758)	0.461(−0.35~1.273)	0.2653
	All OC(Histology Adjusted)	Weighted mode	2.309(0.217−24.523)	0.363(−0.663~1.39)	0.5594

Figure S11. Forest plots of the effects of INS(Sulfonylureas) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between INS and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	0.828(0.674−1.016)	−0.082(−0.171~0.007)	0.071
	All OC	IVW(FE)	0.828(0.472−1.452)	−0.082(−0.326~0.162)	0.51
	All OC	Weighted median	0.886(0.461−1.702)	−0.053(−0.336~0.231)	0.7159
	All OC	Weighted mode	0.933(0.381−2.287)	−0.03(−0.419~0.359)	0.8846
	HGSOC	IVW(MRE)	1.588(0.993−2.538)	0.201(−0.003~0.405)	0.0534
	HGSOC	IVW(FE)	1.588(0.813−3.1)	0.201(−0.09~0.491)	0.1755
	HGSOC	Weighted median	1.324(0.581−3.014)	0.122(−0.236~0.479)	0.5039
	HGSOC	Weighted mode	1.353(0.524−3.496)	0.131(−0.281~0.544)	0.5555
	LGSOC	IVW(MRE)	1.669(0.559−4.988)	0.223(−0.253~0.698)	0.3589
	LGSOC	IVW(FE)	1.669(0.215−12.974)	0.223(−0.668~1.113)	0.6243
	LGSOC	Weighted median	2.393(0.191−29.956)	0.379(−0.718~1.476)	0.4985
	LGSOC	Weighted mode	3.107(0.138−69.902)	0.492(−0.86~1.844)	0.5023
	Clear cell OC	IVW(MRE)	1.243(0.304−5.083)	0.094(−0.517~0.706)	0.762
	Clear cell OC	IVW(FE)	1.243(0.226−6.848)	0.094(−0.647~0.836)	0.8026
	Clear cell OC	Weighted median	1.507(0.173−13.135)	0.178(−0.762~1.118)	0.7106
	Clear cell OC	Weighted mode	1.788(0.134−23.879)	0.252(−0.873~1.378)	0.6757
	Mucinous OC	IVW(MRE)	0.122(0.069−0.216)	−0.913(−1.16~−0.665)	**<3e−4**
	Mucinous OC	IVW(FE)	0.122(0.035−0.432)	−0.913(−1.461~−0.364)	**0.0011**
	Mucinous OC	Weighted median	0.163(0.033−0.801)	−0.788(−1.479~−0.097)	**0.0255**
	Mucinous OC	Weighted mode	0.2(0.026−1.566)	−0.699(−1.592~0.195)	0.1762
	Endometrioid OC	IVW(MRE)	0.02(0.011−0.035)	−1.701(−1.946~−1.456)	**<3e−4**
	Endometrioid OC	IVW(FE)	0.02(0.006−0.066)	−1.701(−2.223~−1.179)	**<3e−4**
	Endometrioid OC	Weighted median	0.024(0.005−0.104)	−1.628(−2.275~−0.982)	**<3e−4**
	Endometrioid OC	Weighted mode	0.031(0.004−0.249)	−1.512(−2.421~−0.603)	**0.0172**
Survival	HGSOC	IVW(MRE)	0.737(0.392−1.385)	−0.133(−0.407~0.142)	0.3429
	HGSOC	IVW(FE)	0.737(0.284−1.911)	−0.133(−0.547~0.281)	0.5298
	HGSOC	Weighted median	0.671(0.213−2.109)	−0.174(−0.671~0.324)	0.4942
	HGSOC	Weighted mode	0.591(0.129−2.706)	−0.229(−0.89~0.432)	0.5278
	All OC(Histology Unadjusted)	IVW(MRE)	1.215(0.569−2.594)	0.085(−0.245~0.414)	0.6144
	All OC(Histology Unadjusted)	IVW(FE)	1.215(0.543−2.722)	0.085(−0.266~0.435)	0.6356
	All OC(Histology Unadjusted)	Weighted median	1.128(0.407−3.129)	0.052(−0.391~0.495)	0.8167
	All OC(Histology Unadjusted)	Weighted mode	1.12(0.343−3.653)	0.049(−0.464~0.563)	0.8583
	All OC(Histology Adjusted)	IVW(MRE)	0.928(0.493−1.747)	−0.033(−0.308~0.242)	0.8158
	All OC(Histology Adjusted)	IVW(FE)	0.928(0.412−2.087)	−0.033(−0.385~0.32)	0.8557
	All OC(Histology Adjusted)	Weighted median	1.008(0.372−2.726)	0.003(−0.429~0.436)	0.9881
	All OC(Histology Adjusted)	Weighted mode	1.021(0.259−4.02)	0.009(−0.586~0.604)	0.9773

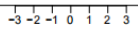

Figure S12. Forest plots of the effects of ITGAL(DPP4i) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between ITGAL and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	0.977(0.676−1.411)	−0.01(−0.17~0.149)	0.9
	All OC	IVW(FE)	0.977(0.609−1.566)	−0.01(−0.215~0.195)	0.9221
	All OC	Weighted median	0.806(0.437−1.487)	−0.093(−0.359~0.172)	0.4905
	All OC	Weighted mode	0.75(0.356−1.581)	−0.125(−0.449~0.199)	0.467
	HGSOC	IVW(MRE)	1.248(0.912−1.708)	0.096(−0.04~0.232)	0.1654
	HGSOC	IVW(FE)	1.248(0.712−2.189)	0.096(−0.148~0.34)	0.439
	HGSOC	Weighted median	1.218(0.601−2.469)	0.086(−0.221~0.392)	0.5849
	HGSOC	Weighted mode	1.151(0.485−2.732)	0.061(−0.314~0.436)	0.7567
	LGSOC	IVW(MRE)	0.233(0.036−1.488)	−0.633(−1.44~0.173)	0.1235
	LGSOC	IVW(FE)	0.233(0.042−1.283)	−0.633(−1.375~0.108)	0.0942
	LGSOC	Weighted median	0.14(0.013−1.503)	−0.853(−1.883~0.177)	0.1045
	LGSOC	Weighted mode	0.1(0.008−1.179)	−1.001(−2.073~0.072)	0.0973
	Clear cell OC	IVW(MRE)	0.581(0.116−2.913)	−0.236(−0.937~0.464)	0.5087
	Clear cell OC	IVW(FE)	0.581(0.14−2.404)	−0.236(−0.853~0.381)	0.4532
	Clear cell OC	Weighted median	0.728(0.102−5.206)	−0.138(−0.992~0.716)	0.7522
	Clear cell OC	Weighted mode	0.42(0.044−4.048)	−0.377(−1.361~0.607)	0.47
	Mucinous OC	IVW(MRE)	0.311(0.081−1.202)	−0.507(−1.094~0.08)	0.0904
	Mucinous OC	IVW(FE)	0.311(0.105−0.92)	−0.507(−0.978~−0.036)	**0.0349**
	Mucinous OC	Weighted median	0.425(0.085−2.138)	−0.371(−1.073~0.33)	0.2994
	Mucinous OC	Weighted mode	1.484(0.088−25.084)	0.172(−1.056~1.399)	0.7897
	Endometrioid OC	IVW(MRE)	0.696(0.298−1.629)	−0.157(−0.526~0.212)	0.4041
	Endometrioid OC	IVW(FE)	0.696(0.252−1.924)	−0.157(−0.598~0.284)	0.4853
	Endometrioid OC	Weighted median	0.625(0.157−2.492)	−0.204(−0.805~0.397)	0.5054
	Endometrioid OC	Weighted mode	0.451(0.067−3.052)	−0.346(−1.176~0.485)	0.4334
Survival	HGSOC	IVW(MRE)	1.223(0.547−2.733)	0.087(−0.262~0.437)	0.6234
	HGSOC	IVW(FE)	1.223(0.59−2.536)	0.087(−0.229~0.404)	0.5882
	HGSOC	Weighted median	1.308(0.477−3.582)	0.117(−0.321~0.554)	0.6017
	HGSOC	Weighted mode	1.277(0.298−5.474)	0.106(−0.526~0.738)	0.7486
	All OC(Histology Unadjusted)	IVW(MRE)	0.783(0.429−1.427)	−0.106(−0.367~0.154)	0.4241
	All OC(Histology Unadjusted)	IVW(FE)	0.783(0.421−1.454)	−0.106(−0.375~0.163)	0.4384
	All OC(Histology Unadjusted)	Weighted median	0.64(0.267−1.534)	−0.194(−0.574~0.186)	0.3166
	All OC(Histology Unadjusted)	Weighted mode	0.697(0.178−2.724)	−0.157(−0.749~0.435)	0.6148
	All OC(Histology Adjusted)	IVW(MRE)	0.912(0.466−1.786)	−0.04(−0.332~0.252)	0.7888
	All OC(Histology Adjusted)	IVW(FE)	0.912(0.49−1.698)	−0.04(−0.31~0.23)	0.7721
	All OC(Histology Adjusted)	Weighted median	1.142(0.468−2.789)	0.058(−0.33~0.446)	0.7702
	All OC(Histology Adjusted)	Weighted mode	1.553(0.389−6.201)	0.191(−0.41~0.792)	0.5473

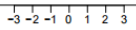

Figure S13. Forest plots of the effects of LRP2(Insulin) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between LRP2 and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	1.108(0.802−1.529)	0.044(−0.096~0.184)	0.5346
	All OC	IVW(FE)	1.108(0.821−1.493)	0.044(−0.085~0.174)	0.5031
	All OC	Weighted median	1.071(0.686−1.673)	0.03(−0.164~0.223)	0.762
	All OC	Weighted mode	1.056(0.627−1.777)	0.024(−0.203~0.25)	0.84
	HGSOC	IVW(MRE)	0.999(0.693−1.441)	0(−0.159~0.159)	0.9964
	HGSOC	IVW(FE)	0.999(0.7−1.426)	0(−0.155~0.154)	0.9963
	HGSOC	Weighted median	0.963(0.578−1.606)	−0.016(−0.238~0.206)	0.886
	HGSOC	Weighted mode	0.99(0.511−1.919)	−0.004(−0.291~0.283)	0.9776
	LGSOC	IVW(MRE)	0.536(0.255−1.126)	−0.271(−0.594~0.052)	0.0996
	LGSOC	IVW(FE)	0.536(0.182−1.58)	−0.271(−0.741~0.199)	0.2581
	LGSOC	Weighted median	0.544(0.122−2.43)	−0.265(−0.915~0.386)	0.425
	LGSOC	Weighted mode	0.555(0.075−4.11)	−0.256(−1.125~0.614)	0.5689
	Clear cell OC	IVW(MRE)	1.165(0.593−2.29)	0.066(−0.227~0.36)	0.6578
	Clear cell OC	IVW(FE)	1.165(0.472−2.878)	0.066(−0.326~0.459)	0.7406
	Clear cell OC	Weighted median	1.493(0.412−5.406)	0.174(−0.385~0.733)	0.5414
	Clear cell OC	Weighted mode	1.936(0.196−19.14)	0.287(−0.708~1.282)	0.5763
	Mucinous OC	IVW(MRE)	2.007(1.041−3.869)	0.303(0.017~0.588)	**0.0375**
	Mucinous OC	IVW(FE)	2.007(1.023−3.937)	0.303(0.01~0.595)	**0.0427**
	Mucinous OC	Weighted median	1.374(0.521−3.625)	0.138(−0.283~0.559)	0.5208
	Mucinous OC	Weighted mode	0.841(0.199−3.547)	−0.075(−0.7~0.55)	0.8154
	Endometrioid OC	IVW(MRE)	2.917(1.596−5.333)	0.465(0.203~0.727)	**5e−04**
	Endometrioid OC	IVW(FE)	2.917(1.528−5.571)	0.465(0.184~0.746)	**0.0012**
	Endometrioid OC	Weighted median	1.99(0.772−5.131)	0.299(−0.113~0.71)	0.1546
	Endometrioid OC	Weighted mode	2.346(0.651−8.463)	0.37(−0.187~0.928)	0.2031
Survival	HGSOC	IVW(MRE)	0.505(0.323−0.79)	−0.297(−0.49~−0.103)	**0.0027**
	HGSOC	IVW(FE)	0.505(0.315−0.811)	−0.297(−0.502~−0.091)	**0.0046**
	HGSOC	Weighted median	0.645(0.315−1.318)	−0.191(−0.502~0.12)	0.2289
	HGSOC	Weighted mode	0.893(0.291−2.734)	−0.049(−0.535~0.437)	0.844
	All OC(Histology Unadjusted)	IVW(MRE)	0.482(0.321−0.724)	−0.317(−0.494~−0.14)	**4e−04**
	All OC(Histology Unadjusted)	IVW(FE)	0.482(0.321−0.723)	−0.317(−0.493~−0.141)	**4e−04**
	All OC(Histology Unadjusted)	Weighted median	0.698(0.385−1.263)	−0.156(−0.414~0.102)	0.2347
	All OC(Histology Unadjusted)	Weighted mode	1.016(0.436−2.37)	0.007(−0.361~0.375)	0.9702
	All OC(Histology Adjusted)	IVW(MRE)	0.618(0.414−0.921)	−0.209(−0.383~−0.036)	**0.018**
	All OC(Histology Adjusted)	IVW(FE)	0.618(0.414−0.921)	−0.209(−0.383~−0.036)	**0.018**
	All OC(Histology Adjusted)	Weighted median	0.845(0.474−1.508)	−0.073(−0.325~0.178)	0.5691
	All OC(Histology Adjusted)	Weighted mode	1.126(0.475−2.668)	0.052(−0.323~0.426)	0.7895

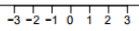

Figure S14. Forest plots of the effects of PPARG(Sulfonylureas/TZDs) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between PPARG and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	7.559(3.378−16.914)	0.878(0.529~1.228)	**<3e−4**
	All OC	IVW(FE)	7.559(3.3−17.314)	0.878(0.518~1.238)	**<3e−4**
	All OC	Weighted median	6.857(2.203−21.336)	0.836(0.343~1.329)	**9e−04**
	All OC	Weighted mode	14.099(2.655−74.873)	1.149(0.424~1.874)	**0.021**
	HGSOC	IVW(MRE)	6.207(2.001−19.256)	0.793(0.301~1.285)	**0.0016**
	HGSOC	IVW(FE)	6.207(2.32−16.603)	0.793(0.366~1.22)	**<3e−4**
	HGSOC	Weighted median	5.482(1.444−20.816)	0.739(0.159~1.318)	**0.0124**
	HGSOC	Weighted mode	17.497(2.144−142.781)	1.243(0.331~2.155)	**0.0369**
	LGSOC	IVW(MRE)	0.015(0.002−0.097)	−1.812(−2.611~−1.013)	**<3e−4**
	LGSOC	IVW(FE)	0.015(0.001−0.302)	−1.812(−3.104~−0.52)	**0.006**
	LGSOC	Weighted median	0.014(0−0.642)	−1.84(−3.488~−0.193)	**0.0286**
	LGSOC	Weighted mode	0.002(0−0.676)	−2.68(−5.19~−0.17)	0.0813
	Clear cell OC	IVW(MRE)	298.729(60.896−1465.444)	2.475(1.785~3.166)	**<3e−4**
	Clear cell OC	IVW(FE)	298.729(21.665−4119.029)	2.475(1.336~3.615)	**<3e−4**
	Clear cell OC	Weighted median	533.723(18.708−15226.884)	2.727(1.272~4.183)	**<3e−4**
	Clear cell OC	Weighted mode	628.429(4.136−95482.34)	2.798(0.617~4.98)	**0.0457**
	Mucinous OC	IVW(MRE)	12.485(5.919−26.333)	1.096(0.772~1.421)	**<3e−4**
	Mucinous OC	IVW(FE)	12.485(1.878−83.018)	1.096(0.274~1.919)	**0.009**
	Mucinous OC	Weighted median	10.693(1.1−103.964)	1.029(0.041~2.017)	**0.0411**
	Mucinous OC	Weighted mode	11.544(0.433−307.589)	1.062(−0.363~2.488)	0.1944
	Endometrioid OC	IVW(MRE)	15.376(2.292−103.138)	1.187(0.36~2.013)	**0.0049**
	Endometrioid OC	IVW(FE)	15.376(2.545−92.892)	1.187(0.406~1.968)	**0.0029**
	Endometrioid OC	Weighted median	6.06(0.519−70.782)	0.782(−0.285~1.85)	0.1508
	Endometrioid OC	Weighted mode	1.591(0.033−76.861)	0.202(−1.482~1.886)	0.8221
Survival	HGSOC	IVW(MRE)	0.838(0.381−1.842)	−0.077(−0.419~0.265)	0.6595
	HGSOC	IVW(FE)	0.838(0.24−2.923)	−0.077(−0.62~0.466)	0.7811
	HGSOC	Weighted median	0.792(0.163−3.853)	−0.101(−0.789~0.586)	0.7725
	HGSOC	Weighted mode	0.351(0.034−3.59)	−0.455(−1.465~0.555)	0.4113
	All OC(Histology Unadjusted)	IVW(MRE)	1.212(0.383−3.837)	0.083(−0.417~0.584)	0.7438
	All OC(Histology Unadjusted)	IVW(FE)	1.212(0.417−3.518)	0.083(−0.379~0.546)	0.7238
	All OC(Histology Unadjusted)	Weighted median	1.636(0.415−6.456)	0.214(−0.382~0.81)	0.4821
	All OC(Histology Unadjusted)	Weighted mode	4.039(0.31−52.631)	0.606(−0.509~1.721)	0.3275
	All OC(Histology Adjusted)	IVW(MRE)	3.006(1.451−6.231)	0.478(0.162~0.795)	**0.0031**
	All OC(Histology Adjusted)	IVW(FE)	3.006(1.032−8.757)	0.478(0.014~0.942)	**0.0436**
	All OC(Histology Adjusted)	Weighted median	3.941(1.053−14.754)	0.596(0.022~1.169)	**0.0417**
	All OC(Histology Adjusted)	Weighted mode	5.506(0.6−50.554)	0.741(−0.222~1.704)	0.1823

Figure S15. Forest plots of the effects of RAMP2(Other drugs) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between RAMP2 and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	0.453(0.156−1.318)	−0.344(−0.808~0.12)	0.1461
	All OC	IVW(FE)	0.453(0.093−2.206)	−0.344(−1.032~0.344)	0.3268
	HGSOC	IVW(MRE)	0.223(0.01−4.837)	−0.652(−1.988~0.685)	0.3391
	HGSOC	IVW(FE)	0.223(0.033−1.488)	−0.652(−1.476~0.172)	0.1212
	LGSOC	IVW(MRE)	0.023(0−21.182)	−1.645(−4.616~1.326)	0.2778
	LGSOC	IVW(FE)	0.023(0−10.006)	−1.645(−4.291~1)	0.2229
	Clear cell OC	IVW(MRE)	71.067(24.385−207.114)	1.852(1.387~2.316)	**<3e−4**
	Clear cell OC	IVW(FE)	71.067(0.813−6211.755)	1.852(−0.09~3.793)	0.0616
	Mucinous OC	IVW(MRE)	0.461(0.006−35.369)	−0.336(−2.221~1.549)	0.7268
	Mucinous OC	IVW(FE)	0.461(0.014−15.302)	−0.336(−1.857~1.185)	0.665
	Endometrioid OC	IVW(MRE)	0.045(0.034−0.06)	−1.345(−1.465~−1.225)	**<3e−4**
	Endometrioid OC	IVW(FE)	0.045(0.001−1.484)	−1.345(−2.862~0.171)	0.0821
Survival	HGSOC	IVW(MRE)	3.906(1.823−8.369)	0.592(0.261~0.923)	**5e−04**
	HGSOC	IVW(FE)	3.906(0.314−48.569)	0.592(−0.503~1.686)	0.2893
	All OC(Histology Unadjusted)	IVW(MRE)	0.987(0.11−8.871)	−0.006(−0.96~0.948)	0.9904
	All OC(Histology Unadjusted)	IVW(FE)	0.987(0.113−8.585)	−0.006(−0.945~0.934)	0.9903
	All OC(Histology Adjusted)	IVW(MRE)	1.553(0.665−3.628)	0.191(−0.177~0.56)	0.309
	All OC(Histology Adjusted)	IVW(FE)	1.553(0.177−13.642)	0.191(−0.752~1.135)	0.6912

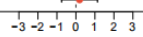

Figure S16. Forest plots of the effects of RAMP3(Other drugs) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects) and IVW (fixed effects) to assess the association between RAMP3 and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	0.528(0.413−0.675)	−0.277(−0.384~−0.171)	**<3e−4**
	All OC	IVW(FE)	0.528(0.394−0.707)	−0.277(−0.404~−0.151)	**<3e−4**
	All OC	Weighted median	0.578(0.382−0.873)	−0.238(−0.418~−0.059)	**0.0091**
	All OC	Weighted mode	0.568(0.321−1.006)	−0.246(−0.494~0.002)	0.0641
	HGSOC	IVW(MRE)	0.378(0.26−0.549)	−0.423(−0.585~−0.26)	**<3e−4**
	HGSOC	IVW(FE)	0.378(0.267−0.534)	−0.423(−0.573~−0.272)	**<3e−4**
	HGSOC	Weighted median	0.359(0.223−0.579)	−0.445(−0.652~−0.238)	**<3e−4**
	HGSOC	Weighted mode	0.344(0.173−0.682)	−0.464(−0.761~−0.166)	**0.0054**
	LGSOC	IVW(MRE)	1.029(0.322−3.287)	0.012(−0.492~0.517)	0.9616
	LGSOC	IVW(FE)	1.029(0.362−2.928)	0.012(−0.442~0.467)	0.9574
	LGSOC	Weighted median	0.834(0.184−3.774)	−0.079(−0.735~0.577)	0.8134
	LGSOC	Weighted mode	0.873(0.094−8.14)	−0.059(−1.029~0.911)	0.9059
	Clear cell OC	IVW(MRE)	1.132(0.506−2.532)	0.054(−0.296~0.404)	0.763
	Clear cell OC	IVW(FE)	1.132(0.47−2.725)	0.054(−0.328~0.435)	0.7823
	Clear cell OC	Weighted median	0.92(0.264−3.21)	−0.036(−0.579~0.506)	0.8961
	Clear cell OC	Weighted mode	0.742(0.112−4.918)	−0.13(−0.951~0.692)	0.7597
	Mucinous OC	IVW(MRE)	0.562(0.272−1.16)	−0.251(−0.566~0.065)	0.1191
	Mucinous OC	IVW(FE)	0.562(0.29−1.086)	−0.251(−0.537~0.036)	0.0865
	Mucinous OC	Weighted median	0.807(0.311−2.091)	−0.093(−0.507~0.32)	0.6587
	Mucinous OC	Weighted mode	1.325(0.29−6.06)	0.122(−0.538~0.782)	0.7199
	Endometrioid OC	IVW(MRE)	0.835(0.45−1.548)	−0.078(−0.347~0.19)	0.5664
	Endometrioid OC	IVW(FE)	0.835(0.443−1.572)	−0.078(−0.353~0.196)	0.5759
	Endometrioid OC	Weighted median	0.987(0.404−2.412)	−0.006(−0.394~0.382)	0.977
	Endometrioid OC	Weighted mode	1.169(0.351−3.898)	0.068(−0.455~0.591)	0.8016
Survival	HGSOC	IVW(MRE)	3.999(3.042−5.256)	0.602(0.483~0.721)	**<3e−4**
	HGSOC	IVW(FE)	3.999(2.521−6.343)	0.602(0.402~0.802)	**<3e−4**
	HGSOC	Weighted median	3.79(2.106−6.823)	0.579(0.323~0.834)	**<3e−4**
	HGSOC	Weighted mode	3.834(1.663−8.841)	0.584(0.221~0.946)	**0.0046**
	All OC(Histology Unadjusted)	IVW(MRE)	1.572(1.249−1.98)	0.197(0.096~0.297)	**<3e−4**
	All OC(Histology Unadjusted)	IVW(FE)	1.572(1.065−2.321)	0.197(0.027~0.366)	**0.0228**
	All OC(Histology Unadjusted)	Weighted median	1.523(0.907−2.557)	0.183(−0.043~0.408)	0.112
	All OC(Histology Unadjusted)	Weighted mode	1.227(0.584−2.577)	0.089(−0.233~0.411)	0.594
	All OC(Histology Adjusted)	IVW(MRE)	2.186(1.656−2.886)	0.34(0.219~0.46)	**<3e−4**
	All OC(Histology Adjusted)	IVW(FE)	2.186(1.474−3.242)	0.34(0.169~0.511)	**<3e−4**
	All OC(Histology Adjusted)	Weighted median	1.911(1.126−3.243)	0.281(0.052~0.511)	**0.0164**
	All OC(Histology Adjusted)	Weighted mode	1.71(0.871−3.359)	0.233(−0.06~0.526)	0.1335

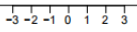

Figure S17. Forest plots of the effects of RXRB(TZDs) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between RXRB and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	1.042(0.693−1.568)	0.018(−0.16~0.195)	0.8435
	All OC	IVW(FE)	1.042(0.571−1.902)	0.018(−0.243~0.279)	0.8934
	All OC	Weighted median	0.93(0.433−1.998)	−0.032(−0.364~0.301)	0.8522
	All OC	Weighted mode	0.972(0.329−2.868)	−0.012(−0.482~0.458)	0.9599
	HGSOC	IVW(MRE)	1.014(0.464−2.217)	0.006(−0.334~0.346)	0.9722
	HGSOC	IVW(FE)	1.014(0.495−2.076)	0.006(−0.305~0.317)	0.9696
	HGSOC	Weighted median	0.956(0.373−2.455)	−0.019(−0.429~0.39)	0.926
	HGSOC	Weighted mode	1.015(0.288−3.576)	0.007(−0.54~0.553)	0.9818
	LGSOC	IVW(MRE)	18.202(3.352−98.824)	1.26(0.525~1.995)	**8e−04**
	LGSOC	IVW(FE)	18.202(2.144−154.546)	1.26(0.331~2.189)	**0.0078**
	LGSOC	Weighted median	5.979(0.357−100.272)	0.777(−0.448~2.001)	0.2138
	LGSOC	Weighted mode	3.573(0.051−251.372)	0.553(−1.294~2.4)	0.5736
	Clear cell OC	IVW(MRE)	1.692(0.56−5.111)	0.228(−0.252~0.709)	0.3512
	Clear cell OC	IVW(FE)	1.692(0.274−10.431)	0.228(−0.562~1.018)	0.571
	Clear cell OC	Weighted median	1.141(0.12−10.845)	0.057(−0.92~1.035)	0.9083
	Clear cell OC	Weighted mode	0.526(0.011−25.232)	−0.279(−1.96~1.402)	0.7533
	Mucinous OC	IVW(MRE)	1.411(0.417−4.772)	0.15(−0.38~0.679)	0.5795
	Mucinous OC	IVW(FE)	1.411(0.362−5.502)	0.15(−0.441~0.741)	0.6198
	Mucinous OC	Weighted median	2.43(0.426−13.856)	0.386(−0.37~1.142)	0.3175
	Mucinous OC	Weighted mode	2.289(0.151−34.594)	0.36(−0.82~1.539)	0.5665
	Endometrioid OC	IVW(MRE)	0.697(0.305−1.589)	−0.157(−0.515~0.201)	0.3903
	Endometrioid OC	IVW(FE)	0.697(0.189−2.563)	−0.157(−0.723~0.409)	0.5865
	Endometrioid OC	Weighted median	0.908(0.178−4.629)	−0.042(−0.749~0.665)	0.9077
	Endometrioid OC	Weighted mode	0.797(0.088−7.182)	−0.098(−1.053~0.856)	0.8449
Survival	HGSOC	IVW(MRE)	1.161(0.919−1.465)	0.065(−0.037~0.166)	0.2107
	HGSOC	IVW(FE)	1.161(0.46−2.926)	0.065(−0.337~0.466)	0.7523
	HGSOC	Weighted median	1.042(0.343−3.16)	0.018(−0.464~0.5)	0.9423
	HGSOC	Weighted mode	0.99(0.192−5.111)	−0.004(−0.717~0.709)	0.9912
	All OC(Histology Unadjusted)	IVW(MRE)	1.403(1.09−1.806)	0.147(0.037~0.257)	**0.0085**
	All OC(Histology Unadjusted)	IVW(FE)	1.403(0.637−3.088)	0.147(−0.196~0.49)	0.4002
	All OC(Histology Unadjusted)	Weighted median	1.469(0.583−3.703)	0.167(−0.234~0.569)	0.4148
	All OC(Histology Unadjusted)	Weighted mode	1.62(0.387−6.781)	0.21(−0.412~0.831)	0.5272
	All OC(Histology Adjusted)	IVW(MRE)	1.334(0.962−1.849)	0.125(−0.017~0.267)	0.0838
	All OC(Histology Adjusted)	IVW(FE)	1.334(0.606−2.937)	0.125(−0.218~0.468)	0.4744
	All OC(Histology Adjusted)	Weighted median	1.341(0.497−3.62)	0.127(−0.304~0.559)	0.5625
	All OC(Histology Adjusted)	Weighted mode	1.207(0.335−4.349)	0.082(−0.475~0.638)	0.7806

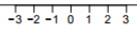

Figure S18. Forest plots of the effects of SLC5A1(SGLT2i) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between SLC5A1 and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	1.799(1.218−2.658)	0.255(0.086~0.425)	**0.0032**
	All OC	IVW(FE)	1.799(1.053−3.074)	0.255(0.023~0.488)	**0.0315**
	All OC	Weighted median	2.179(1.111−4.275)	0.338(0.046~0.631)	**0.0235**
	All OC	Weighted mode	2.364(0.906−6.168)	0.374(−0.043~0.79)	0.1065
	HGSOC	IVW(MRE)	3.474(2.138−5.644)	0.541(0.33~0.752)	**<3e−4**
	HGSOC	IVW(FE)	3.474(1.837−6.568)	0.541(0.264~0.817)	**<3e−4**
	HGSOC	Weighted median	3.665(1.554−8.643)	0.564(0.192~0.937)	**0.003**
	HGSOC	Weighted mode	4.009(1.389−11.571)	0.603(0.143~1.063)	**0.0262**
	LGSOC	IVW(MRE)	0.263(0.037−1.884)	−0.581(−1.437~0.275)	0.1836
	LGSOC	IVW(FE)	0.263(0.039−1.781)	−0.581(−1.412~0.251)	0.171
	LGSOC	Weighted median	0.324(0.022−4.699)	−0.49(−1.651~0.672)	0.4087
	LGSOC	Weighted mode	0.022(0−1.782)	−1.66(−3.571~0.251)	0.1167
	Clear cell OC	IVW(MRE)	0.965(0.284−3.278)	−0.016(−0.547~0.516)	0.9541
	Clear cell OC	IVW(FE)	0.965(0.191−4.865)	−0.016(−0.718~0.687)	0.9653
	Clear cell OC	Weighted median	1.047(0.118−9.26)	0.02(−0.927~0.967)	0.9669
	Clear cell OC	Weighted mode	1.982(0.116−33.938)	0.297(−0.937~1.531)	0.6462
	Mucinous OC	IVW(MRE)	0.476(0.078−2.905)	−0.322(−1.107~0.463)	0.4215
	Mucinous OC	IVW(FE)	0.476(0.141−1.606)	−0.322(−0.85~0.206)	0.2318
	Mucinous OC	Weighted median	0.76(0.124−4.652)	−0.119(−0.906~0.668)	0.7662
	Mucinous OC	Weighted mode	1.347(0.107−17.004)	0.129(−0.972~1.231)	0.8221
	Endometrioid OC	IVW(MRE)	0.392(0.093−1.653)	−0.407(−1.032~0.218)	0.2022
	Endometrioid OC	IVW(FE)	0.392(0.123−1.25)	−0.407(−0.91~0.097)	0.1135
	Endometrioid OC	Weighted median	0.967(0.177−5.29)	−0.014(−0.752~0.723)	0.9695
	Endometrioid OC	Weighted mode	1.529(0.188−12.444)	0.185(−0.726~1.095)	0.6987
Survival	HGSOC	IVW(MRE)	0.962(0.37−2.503)	−0.017(−0.432~0.398)	0.9373
	HGSOC	IVW(FE)	0.962(0.396−2.339)	−0.017(−0.402~0.369)	0.9325
	HGSOC	Weighted median	1.432(0.409−5.017)	0.156(−0.389~0.7)	0.5747
	HGSOC	Weighted mode	1.692(0.381−7.514)	0.228(−0.419~0.876)	0.5068
	All OC(Histology Unadjusted)	IVW(MRE)	1.277(0.683−2.387)	0.106(−0.166~0.378)	0.4443
	All OC(Histology Unadjusted)	IVW(FE)	1.277(0.603−2.703)	0.106(−0.22~0.432)	0.5232
	All OC(Histology Unadjusted)	Weighted median	1.517(0.584−3.945)	0.181(−0.234~0.596)	0.3923
	All OC(Histology Unadjusted)	Weighted mode	1.698(0.469−6.152)	0.23(−0.329~0.789)	0.4407
	All OC(Histology Adjusted)	IVW(MRE)	0.995(0.494−2.004)	−0.002(−0.306~0.302)	0.9897
	All OC(Histology Adjusted)	IVW(FE)	0.995(0.48−2.063)	−0.002(−0.318~0.314)	0.9902
	All OC(Histology Adjusted)	Weighted median	1.138(0.437−2.965)	0.056(−0.36~0.472)	0.7912
	All OC(Histology Adjusted)	Weighted mode	1.801(0.466−6.964)	0.255(−0.332~0.843)	0.4139

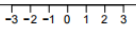

Figure S19. Forest plots of the effects of SLC5A2(SGLT2i) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between SLC5A2 and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	Wald ratio	2.702(0.338−21.622)	0.432(−0.472~1.335)	0.349
	HGSOC	Wald ratio	1.086(0.091−12.89)	0.036(−1.039~1.11)	0.9481
	LGSOC	Wald ratio	0.047(0−86.071)	−1.326(−4.588~1.935)	0.4254
	Clear cell OC	Wald ratio	38.245(0.072−20396.014)	1.583(−1.144~4.31)	0.2553
	Mucinous OC	Wald ratio	0.113(0.001−12.813)	−0.949(−3.005~1.108)	0.3659
	Endometrioid OC	Wald ratio	112.59(1.249−10146.141)	2.052(0.097~4.006)	**0.0397**
Survival	HGSOC	Wald ratio	0.449(0.018−11.387)	−0.348(−1.752~1.056)	0.6275
	All OC(Histology Unadjusted)	Wald ratio	0.406(0.026−6.304)	−0.392(−1.583~0.8)	0.5193
	All OC(Histology Adjusted)	Wald ratio	0.691(0.044−10.781)	−0.161(−1.354~1.033)	0.792

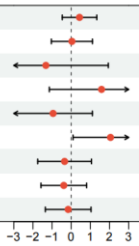

Figure S20. Forest plots of the effects of SLC47A1(Biguanides) on 9 OC phenotypes with different MR methods.

The analysis employed the wald ratio method to assess the association between SLC47A1 and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	1.438(0.902−2.293)	0.158(−0.045~0.36)	0.127
	All OC	IVW(FE)	1.438(0.715−2.892)	0.158(−0.146~0.461)	0.3082
	All OC	Weighted median	1.697(0.764−3.77)	0.23(−0.117~0.576)	0.194
	All OC	Weighted mode	1.903(0.698−5.187)	0.279(−0.156~0.715)	0.2643
	HGSOC	IVW(MRE)	2.128(1.415−3.199)	0.328(0.151~0.505)	**<3e−4**
	HGSOC	IVW(FE)	2.128(0.927−4.883)	0.328(−0.033~0.689)	0.0748
	HGSOC	Weighted median	2.466(0.917−6.635)	0.392(−0.038~0.822)	0.0738
	HGSOC	Weighted mode	2.509(0.734−8.578)	0.399(−0.134~0.933)	0.2024
	LGSOC	IVW(MRE)	0.215(0.014−3.36)	−0.667(−1.861~0.526)	0.2732
	LGSOC	IVW(FE)	0.215(0.017−2.726)	−0.667(−1.77~0.436)	0.2356
	LGSOC	Weighted median	0.815(0.031−21.304)	−0.089(−1.506~1.328)	0.9021
	LGSOC	Weighted mode	1.516(0.029−78.314)	0.181(−1.532~1.894)	0.8444
	Clear cell OC	IVW(MRE)	0.531(0.037−7.679)	−0.275(−1.435~0.885)	0.6426
	Clear cell OC	IVW(FE)	0.531(0.063−4.454)	−0.275(−1.198~0.649)	0.56
	Clear cell OC	Weighted median	0.384(0.022−6.61)	−0.415(−1.651~0.82)	0.5101
	Clear cell OC	Weighted mode	0.569(0.016−20.232)	−0.245(−1.796~1.306)	0.7693
	Mucinous OC	IVW(MRE)	1.633(0.535−4.983)	0.213(−0.272~0.698)	0.3889
	Mucinous OC	IVW(FE)	1.633(0.338−7.889)	0.213(−0.471~0.897)	0.5417
	Mucinous OC	Weighted median	0.932(0.138−6.284)	−0.031(−0.859~0.798)	0.9423
	Mucinous OC	Weighted mode	0.692(0.046−10.424)	−0.16(−1.337~1.018)	0.8011
	Endometrioid OC	IVW(MRE)	1.553(0.559−4.313)	0.191(−0.252~0.635)	0.398
	Endometrioid OC	IVW(FE)	1.553(0.342−7.053)	0.191(−0.466~0.848)	0.5684
	Endometrioid OC	Weighted median	2.133(0.355−12.796)	0.329(−0.449~1.107)	0.4075
	Endometrioid OC	Weighted mode	2.722(0.247−30.026)	0.435(−0.608~1.477)	0.4508
Survival	HGSOC	IVW(MRE)	0.197(0.122−0.317)	−0.706(−0.914~−0.499)	**<3e−4**
	HGSOC	IVW(FE)	0.197(0.067−0.574)	−0.706(−1.172~−0.241)	**0.0029**
	HGSOC	Weighted median	0.227(0.063−0.82)	−0.645(−1.203~−0.086)	**0.0237**
	HGSOC	Weighted mode	0.123(0.022−0.685)	−0.911(−1.659~−0.164)	0.0623
	All OC(Histology Unadjusted)	IVW(MRE)	0.378(0.186−0.771)	−0.422(−0.731~−0.113)	**0.0074**
	All OC(Histology Unadjusted)	IVW(FE)	0.378(0.151−0.945)	−0.422(−0.82~−0.024)	**0.0375**
	All OC(Histology Unadjusted)	Weighted median	0.461(0.148−1.437)	−0.337(−0.831~0.158)	0.1819
	All OC(Histology Unadjusted)	Weighted mode	0.526(0.095−2.921)	−0.279(−1.023~0.466)	0.4957
	All OC(Histology Adjusted)	IVW(MRE)	0.288(0.138−0.6)	−0.541(−0.86~−0.222)	**9e−04**
	All OC(Histology Adjusted)	IVW(FE)	0.288(0.115−0.72)	−0.541(−0.94~−0.143)	**0.0078**
	All OC(Histology Adjusted)	Weighted median	0.351(0.11−1.124)	−0.454(−0.96~0.051)	0.0779
	All OC(Histology Adjusted)	Weighted mode	0.387(0.064−2.336)	−0.413(−1.194~0.368)	0.3479

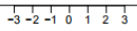

Figure S21. Forest plots of the effects of VEGFA/SLC29A1(Sulfonylureas/TZDs) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between VEGFA/SLC29A1 and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	1.082(0.867−1.35)	0.034(−0.062~0.13)	0.4854
	All OC	IVW(FE)	1.082(0.873−1.341)	0.034(−0.059~0.127)	0.4712
	All OC	Weighted median	1.048(0.766−1.434)	0.02(−0.116~0.157)	0.7694
	All OC	Weighted mode	1(0.614−1.628)	0(−0.212~0.212)	1
	HGSOC	IVW(MRE)	1.101(0.855−1.418)	0.042(−0.068~0.152)	0.4539
	HGSOC	IVW(FE)	1.101(0.854−1.421)	0.042(−0.069~0.153)	0.4578
	HGSOC	Weighted median	1.07(0.745−1.539)	0.03(−0.128~0.187)	0.713
	HGSOC	Weighted mode	1.039(0.596−1.811)	0.017(−0.225~0.258)	0.8936
	LGSOC	IVW(MRE)	0.417(0.228−0.763)	−0.38(−0.642~−0.118)	**0.0045**
	LGSOC	IVW(FE)	0.417(0.192−0.904)	−0.38(−0.716~−0.044)	**0.0268**
	LGSOC	Weighted median	0.502(0.168−1.503)	−0.299(−0.775~0.177)	0.2184
	LGSOC	Weighted mode	0.606(0.094−3.895)	−0.217(−1.025~0.591)	0.6002
	Clear cell OC	IVW(MRE)	1.118(0.616−2.029)	0.049(−0.21~0.307)	0.713
	Clear cell OC	IVW(FE)	1.118(0.585−2.138)	0.049(−0.233~0.33)	0.7352
	Clear cell OC	Weighted median	1.377(0.532−3.562)	0.139(−0.274~0.552)	0.5097
	Clear cell OC	Weighted mode	1.499(0.24−9.37)	0.176(−0.62~0.972)	0.6668
	Mucinous OC	IVW(MRE)	1.049(0.624−1.762)	0.021(−0.205~0.246)	0.8577
	Mucinous OC	IVW(FE)	1.049(0.646−1.703)	0.021(−0.19~0.231)	0.8478
	Mucinous OC	Weighted median	0.756(0.358−1.597)	−0.121(−0.446~0.203)	0.4638
	Mucinous OC	Weighted mode	0.733(0.202−2.656)	−0.135(−0.694~0.424)	0.6381
	Endometrioid OC	IVW(MRE)	1.988(1.295−3.051)	0.298(0.112~0.485)	**0.0017**
	Endometrioid OC	IVW(FE)	1.988(1.251−3.159)	0.298(0.097~0.5)	**0.0036**
	Endometrioid OC	Weighted median	1.987(1.007−3.917)	0.298(0.003~0.593)	**0.0476**
	Endometrioid OC	Weighted mode	2.312(0.709−7.541)	0.364(−0.149~0.877)	0.1697
Survival	HGSOC	IVW(MRE)	0.627(0.448−0.875)	−0.203(−0.348~−0.058)	**0.0061**
	HGSOC	IVW(FE)	0.627(0.446−0.88)	−0.203(−0.351~−0.055)	**0.007**
	HGSOC	Weighted median	0.717(0.439−1.17)	−0.145(−0.357~0.068)	0.1832
	HGSOC	Weighted mode	0.946(0.383−2.339)	−0.024(−0.417~0.369)	0.9054
	All OC(Histology Unadjusted)	IVW(MRE)	0.666(0.488−0.91)	−0.176(−0.312~−0.041)	**0.0106**
	All OC(Histology Unadjusted)	IVW(FE)	0.666(0.501−0.887)	−0.176(−0.301~−0.052)	**0.0054**
	All OC(Histology Unadjusted)	Weighted median	0.949(0.609−1.478)	−0.023(−0.215~0.17)	0.8161
	All OC(Histology Unadjusted)	Weighted mode	1.031(0.449−2.366)	0.013(−0.348~0.374)	0.943
	All OC(Histology Adjusted)	IVW(MRE)	0.724(0.531−0.988)	−0.14(−0.275~−0.005)	**0.0419**
	All OC(Histology Adjusted)	IVW(FE)	0.724(0.543−0.967)	−0.14(−0.265~−0.015)	**0.0284**
	All OC(Histology Adjusted)	Weighted median	0.929(0.598−1.442)	−0.032(−0.223~0.159)	0.7419
	All OC(Histology Adjusted)	Weighted mode	1.093(0.527−2.269)	0.039(−0.278~0.356)	0.8117

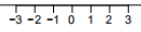

Figure S22. Forest plots of the effects of ABCC8/KCNJ11+ABCB11+CPT1A+INS+PPARG+VEGFA(Sulfonylureas) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between combined targets of (ABCC8/KCNJ11+ABCB11+CPT1A+INS+PPARG+VEGFA) and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	1.413(1.046−1.909)	0.15(0.02~0.281)	**0.0241**
	All OC	IVW(FE)	1.413(0.947−2.109)	0.15(−0.023~0.324)	0.09
	All OC	Weighted median	1.466(0.855−2.512)	0.166(−0.068~0.4)	0.1639
	All OC	Weighted mode	1.775(0.737−4.274)	0.249(−0.133~0.631)	0.2154
	HGSOC	IVW(MRE)	2.017(1.221−3.334)	0.305(0.087~0.523)	**0.0062**
	HGSOC	IVW(FE)	2.017(1.253−3.248)	0.305(0.098~0.512)	**0.0039**
	HGSOC	Weighted median	2.758(1.354−5.617)	0.441(0.132~0.749)	**0.0052**
	HGSOC	Weighted mode	3.194(1.117−9.131)	0.504(0.048~0.961)	**0.0425**
	LGSOC	IVW(MRE)	1.729(0.351−8.532)	0.238(−0.455~0.931)	0.5012
	LGSOC	IVW(FE)	1.729(0.415−7.2)	0.238(−0.382~0.857)	0.4516
	LGSOC	Weighted median	2.751(0.31−24.38)	0.44(−0.508~1.387)	0.3633
	LGSOC	Weighted mode	3.993(0.029−553.252)	0.601(−1.54~2.743)	0.5882
	Clear cell OC	IVW(MRE)	1.236(0.539−2.838)	0.092(−0.269~0.453)	0.6166
	Clear cell OC	IVW(FE)	1.236(0.369−4.142)	0.092(−0.433~0.617)	0.7308
	Clear cell OC	Weighted median	1.411(0.281−7.089)	0.15(−0.551~0.851)	0.6758
	Clear cell OC	Weighted mode	1.132(0.086−14.968)	0.054(−1.067~1.175)	0.9259
	Mucinous OC	IVW(MRE)	0.771(0.245−2.433)	−0.113(−0.612~0.386)	0.6578
	Mucinous OC	IVW(FE)	0.771(0.312−1.91)	−0.113(−0.506~0.281)	0.5747
	Mucinous OC	Weighted median	1.64(0.423−6.351)	0.215(−0.373~0.803)	0.4739
	Mucinous OC	Weighted mode	2.013(0.267−15.188)	0.304(−0.574~1.182)	0.5052
	Endometrioid OC	IVW(MRE)	0.506(0.21−1.217)	−0.296(−0.678~0.085)	0.1279
	Endometrioid OC	IVW(FE)	0.506(0.213−1.202)	−0.296(−0.672~0.08)	0.1226
	Endometrioid OC	Weighted median	0.908(0.262−3.141)	−0.042(−0.581~0.497)	0.8784
	Endometrioid OC	Weighted mode	1.132(0.195−6.582)	0.054(−0.711~0.818)	0.8918
Survival	HGSOC	IVW(MRE)	1.074(0.649−1.775)	0.031(−0.188~0.249)	0.7821
	HGSOC	IVW(FE)	1.074(0.566−2.035)	0.031(−0.247~0.309)	0.8279
	HGSOC	Weighted median	1.342(0.577−3.119)	0.128(−0.239~0.494)	0.4947
	HGSOC	Weighted mode	1.487(0.431−5.132)	0.172(−0.365~0.71)	0.5377
	All OC(Histology Unadjusted)	IVW(MRE)	1.348(0.943−1.926)	0.13(−0.026~0.285)	0.1018
	All OC(Histology Unadjusted)	IVW(FE)	1.348(0.775−2.344)	0.13(−0.111~0.37)	0.2908
	All OC(Histology Unadjusted)	Weighted median	1.52(0.753−3.071)	0.182(−0.123~0.487)	0.2427
	All OC(Histology Unadjusted)	Weighted mode	1.609(0.582−4.448)	0.207(−0.235~0.648)	0.3721
	All OC(Histology Adjusted)	IVW(MRE)	1.139(0.759−1.708)	0.056(−0.119~0.232)	0.5293
	All OC(Histology Adjusted)	IVW(FE)	1.139(0.667−1.945)	0.056(−0.176~0.289)	0.634
	All OC(Histology Adjusted)	Weighted median	1.384(0.652−2.937)	0.141(−0.186~0.468)	0.3976
	All OC(Histology Adjusted)	Weighted mode	1.533(0.519−4.525)	0.185(−0.285~0.656)	0.4491

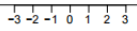

Figure S23. Forest plots of the effects of SLC5A1+SLC5A2(SGLT2i) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between combined targets of (SLC5A1+SLC5A2) and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	0.798(0.645−0.988)	−0.098(−0.19~−0.005)	**0.0383**
	All OC	IVW(FE)	0.798(0.654−0.975)	−0.098(−0.185~−0.011)	**0.0274**
	All OC	Weighted median	0.752(0.569−0.995)	−0.124(−0.245~−0.002)	**0.0458**
	All OC	Weighted mode	0.824(0.515−1.321)	−0.084(−0.289~0.121)	0.4257
	HGSOC	IVW(MRE)	0.672(0.508−0.889)	−0.173(−0.294~−0.051)	**0.0054**
	HGSOC	IVW(FE)	0.672(0.53−0.852)	−0.173(−0.276~−0.069)	**0.0011**
	HGSOC	Weighted median	0.642(0.445−0.927)	−0.192(−0.351~−0.033)	**0.0181**
	HGSOC	Weighted mode	0.654(0.324−1.32)	−0.184(−0.489~0.12)	0.2407
	LGSOC	IVW(MRE)	0.679(0.349−1.32)	−0.168(−0.457~0.121)	0.2535
	LGSOC	IVW(FE)	0.679(0.33−1.396)	−0.168(−0.481~0.145)	0.292
	LGSOC	Weighted median	0.619(0.214−1.791)	−0.209(−0.67~0.253)	0.376
	LGSOC	Weighted mode	0.657(0.12−3.596)	−0.183(−0.921~0.556)	0.6297
	Clear cell OC	IVW(MRE)	1.079(0.64−1.819)	0.033(−0.194~0.26)	0.7765
	Clear cell OC	IVW(FE)	1.079(0.589−1.974)	0.033(−0.23~0.295)	0.806
	Clear cell OC	Weighted median	1.401(0.584−3.356)	0.146(−0.233~0.526)	0.4499
	Clear cell OC	Weighted mode	1.036(0.224−4.791)	0.015(−0.65~0.68)	0.9639
	Mucinous OC	IVW(MRE)	1.086(0.675−1.748)	0.036(−0.17~0.243)	0.7324
	Mucinous OC	IVW(FE)	1.086(0.692−1.707)	0.036(−0.16~0.232)	0.7188
	Mucinous OC	Weighted median	1.115(0.562−2.213)	0.047(−0.25~0.345)	0.7549
	Mucinous OC	Weighted mode	0.981(0.322−2.982)	−0.008(−0.492~0.475)	0.9726
	Endometrioid OC	IVW(MRE)	1.54(1.007−2.357)	0.188(0.003~0.372)	**0.0465**
	Endometrioid OC	IVW(FE)	1.54(0.999−2.376)	0.188(−0.001~0.376)	0.0507
	Endometrioid OC	Weighted median	1.505(0.801−2.827)	0.177(−0.096~0.451)	0.2041
	Endometrioid OC	Weighted mode	1.457(0.492−4.319)	0.164(−0.308~0.635)	0.4994
Survival	HGSOC	IVW(MRE)	1.247(0.847−1.835)	0.096(−0.072~0.264)	0.2637
	HGSOC	IVW(FE)	1.247(0.909−1.709)	0.096(−0.041~0.233)	0.1709
	HGSOC	Weighted median	1.65(0.995−2.737)	0.218(−0.002~0.437)	0.0523
	HGSOC	Weighted mode	3.144(1.483−6.663)	0.497(0.171~0.824)	**0.0042**
	All OC(Histology Unadjusted)	IVW(MRE)	0.851(0.649−1.115)	−0.07(−0.188~0.047)	0.2419
	All OC(Histology Unadjusted)	IVW(FE)	0.851(0.652−1.11)	−0.07(−0.186~0.045)	0.2334
	All OC(Histology Unadjusted)	Weighted median	1.087(0.738−1.6)	0.036(−0.132~0.204)	0.6741
	All OC(Histology Unadjusted)	Weighted mode	1.196(0.662−2.159)	0.078(−0.179~0.334)	0.5552
	All OC(Histology Adjusted)	IVW(MRE)	1.055(0.778−1.429)	0.023(−0.109~0.155)	0.7309
	All OC(Histology Adjusted)	IVW(FE)	1.055(0.807−1.379)	0.023(−0.093~0.14)	0.697
	All OC(Histology Adjusted)	Weighted median	1.263(0.831−1.92)	0.101(−0.08~0.283)	0.2741
	All OC(Histology Adjusted)	Weighted mode	1.471(0.821−2.637)	0.168(−0.086~0.421)	0.2002

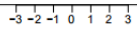

Figure S24. Forest plots of the effects of SLC29A1+RXRB+PPARG(TZDs) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between combined targets of (SLC29A1+RXRB+PPARG) and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

Category	Outcome	Method	OR(95%CI)	Lg(OR)(95%CI)	P
Risk	All OC	IVW(MRE)	0.938(0.637−1.381)	−0.028(−0.196~0.14)	0.7473
	All OC	IVW(FE)	0.938(0.553−1.593)	−0.028(−0.258~0.202)	0.8139
	All OC	Weighted median	0.885(0.456−1.717)	−0.053(−0.341~0.235)	0.7184
	All OC	Weighted mode	0.907(0.398−2.066)	−0.043(−0.4~0.315)	0.8214
	HGSOC	IVW(MRE)	1.442(0.802−2.593)	0.159(−0.096~0.414)	0.2211
	HGSOC	IVW(FE)	1.442(0.768−2.709)	0.159(−0.115~0.433)	0.255
	HGSOC	Weighted median	1.326(0.596−2.95)	0.122(−0.225~0.47)	0.4898
	HGSOC	Weighted mode	1.53(0.572−4.096)	0.185(−0.243~0.612)	0.4216
	LGSOC	IVW(MRE)	2.478(0.512−11.988)	0.394(−0.291~1.079)	0.2593
	LGSOC	IVW(FE)	2.478(0.36−17.039)	0.394(−0.443~1.231)	0.3564
	LGSOC	Weighted median	2.375(0.197−28.568)	0.376(−0.705~1.456)	0.4955
	LGSOC	Weighted mode	2.979(0.126−70.225)	0.474(−0.898~1.846)	0.5174
	Clear cell OC	IVW(MRE)	2.283(0.425−12.279)	0.359(−0.372~1.089)	0.336
	Clear cell OC	IVW(FE)	2.283(0.459−11.367)	0.359(−0.338~1.056)	0.3133
	Clear cell OC	Weighted median	1.634(0.202−13.249)	0.213(−0.696~1.122)	0.6456
	Clear cell OC	Weighted mode	1.644(0.123−22.018)	0.216(−0.911~1.343)	0.7171
	Mucinous OC	IVW(MRE)	0.14(0.076−0.259)	−0.853(−1.119~−0.587)	**<3e−4**
	Mucinous OC	IVW(FE)	0.14(0.043−0.462)	−0.853(−1.37~−0.335)	**0.0012**
	Mucinous OC	Weighted median	0.165(0.037−0.746)	−0.781(−1.435~−0.127)	**0.0192**
	Mucinous OC	Weighted mode	0.18(0.028−1.166)	−0.745(−1.557~0.067)	0.1098
	Endometrioid OC	IVW(MRE)	0.046(0.008−0.264)	−1.334(−2.089~−0.579)	**5e−04**
	Endometrioid OC	IVW(FE)	0.046(0.015−0.144)	−1.334(−1.826~−0.842)	**<3e−4**
	Endometrioid OC	Weighted median	0.029(0.006−0.129)	−1.541(−2.193~−0.89)	**<3e−4**
	Endometrioid OC	Weighted mode	0.024(0.005−0.124)	−1.616(−2.324~−0.907)	**0.0021**
Survival	HGSOC	IVW(MRE)	0.707(0.413−1.211)	−0.15(−0.384~0.083)	0.2067
	HGSOC	IVW(FE)	0.707(0.291−1.719)	−0.15(−0.536~0.235)	0.4448
	HGSOC	Weighted median	0.67(0.216−2.076)	−0.174(−0.665~0.317)	0.4878
	HGSOC	Weighted mode	0.601(0.139−2.605)	−0.221(−0.858~0.416)	0.5181
	All OC(Histology Unadjusted)	IVW(MRE)	1.084(0.574−2.047)	0.035(−0.241~0.311)	0.8042
	All OC(Histology Unadjusted)	IVW(FE)	1.084(0.511−2.297)	0.035(−0.291~0.361)	0.8338
	All OC(Histology Unadjusted)	Weighted median	1.032(0.396−2.689)	0.014(−0.402~0.43)	0.9482
	All OC(Histology Unadjusted)	Weighted mode	0.947(0.291−3.079)	−0.023(−0.535~0.488)	0.9309
	All OC(Histology Adjusted)	IVW(MRE)	0.887(0.535−1.471)	−0.052(−0.272~0.168)	0.6429
	All OC(Histology Adjusted)	IVW(FE)	0.887(0.417−1.888)	−0.052(−0.38~0.276)	0.7563
	All OC(Histology Adjusted)	Weighted median	0.966(0.364−2.564)	−0.015(−0.439~0.409)	0.9439
	All OC(Histology Adjusted)	Weighted mode	0.902(0.255−3.194)	−0.045(−0.594~0.504)	0.8777

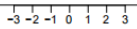

Figure S25. Forest plots of the effects of HMGCR+ITGAL(DDP4i) on 9 OC phenotypes with different MR methods.

The analysis employed the IVW (multiplicative random effects), IVW (fixed effects), weighted median, and weighted mode to assess the association between combined targets of (HMGCR+ITGAL) and OC outcomes. OR and their 95%CI were plotted on a logarithmic scale (Lg(OR)(95%CI)) to illustrate the strength and direction of the association; values greater than 0 indicate a risk factor, while values less than 0 suggest a protective factor.

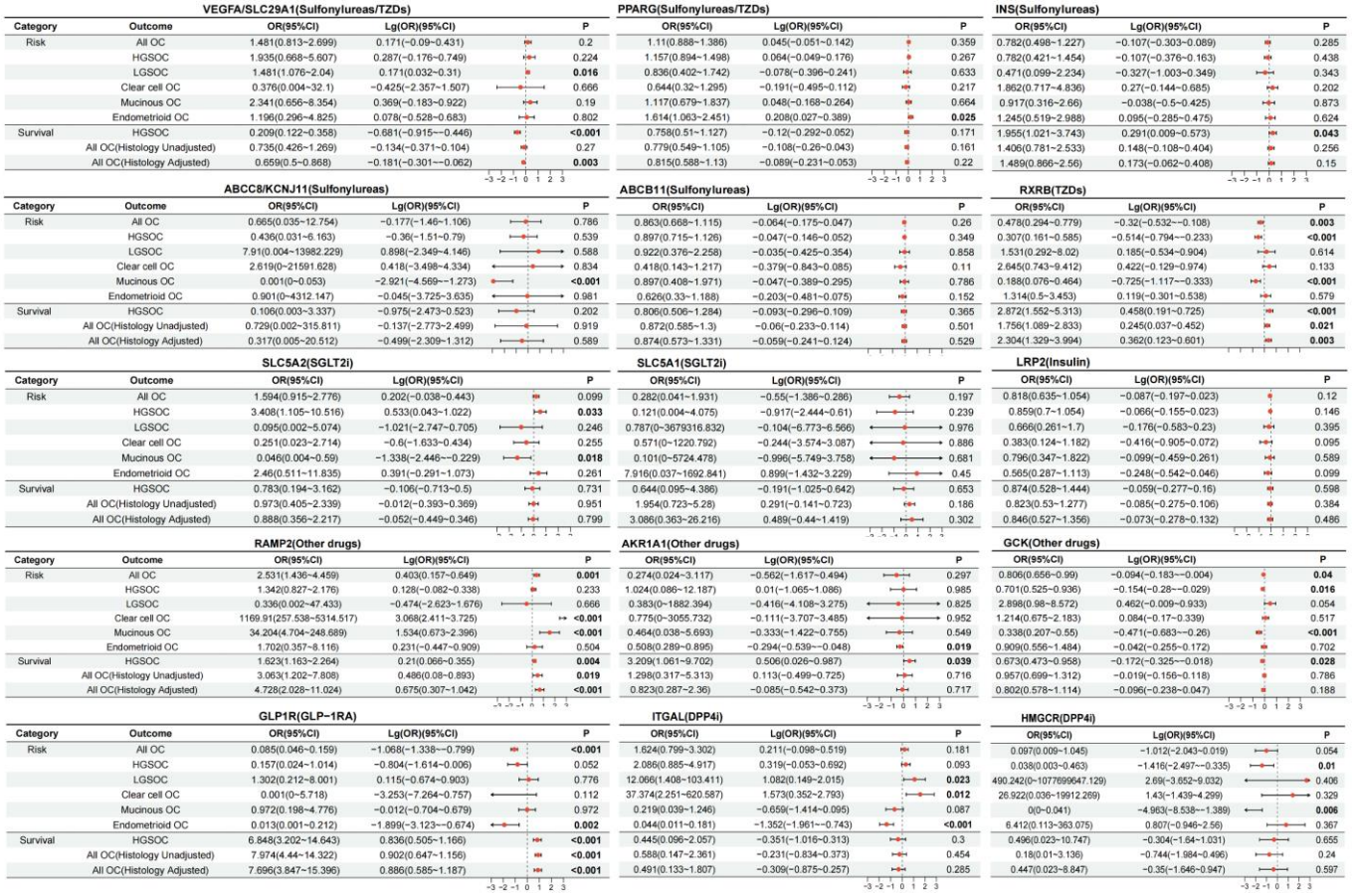

Figure S26. Forest plots of the effects of the antidiabetic drug gene targets on 9 OC phenotypes in the MVMR analysis.

These graphs evaluate the impact of specific genetic targets of antidiabetic drugs on nine different OC phenotypes. Utilizing a MVMR design of drug-target MR analysis with HbA1c GWAS data and adjusted for BMI, systolic blood pressure, smoking status, and alcohol consumption to explore the robustness of the effect of genetically predicted HbA1c levels with specific genes targeted by corresponding drugs, on OC.

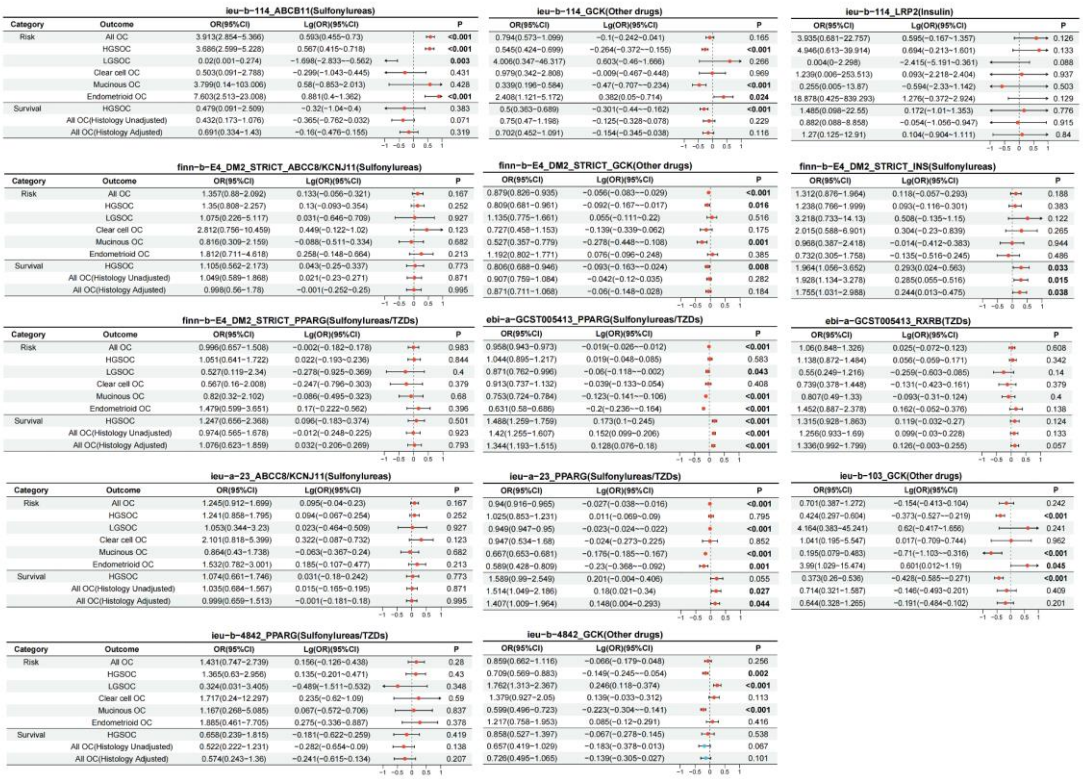

Figure S27. Forest plots of the effects of the antidiabetic drug gene targets on 9 OC phenotypes in replication analysis.

Each heading represents an IEU GWAS ID, including: HbA1c (Within family GWAS consortium, MAGIC), T2DM (DIAGRAM, FinnGen, Sílvia Bonàs-Guarch), and fasting glucose (MAGIC), along with the target gene (drug). All results are derived from the principal MR analysis. The OR reflects the impact of a per-SD reduction in genetically predicted HbA1c, T2DM or fasting glucose levels on OC phenotypes when targeting specific genes with corresponding drugs.

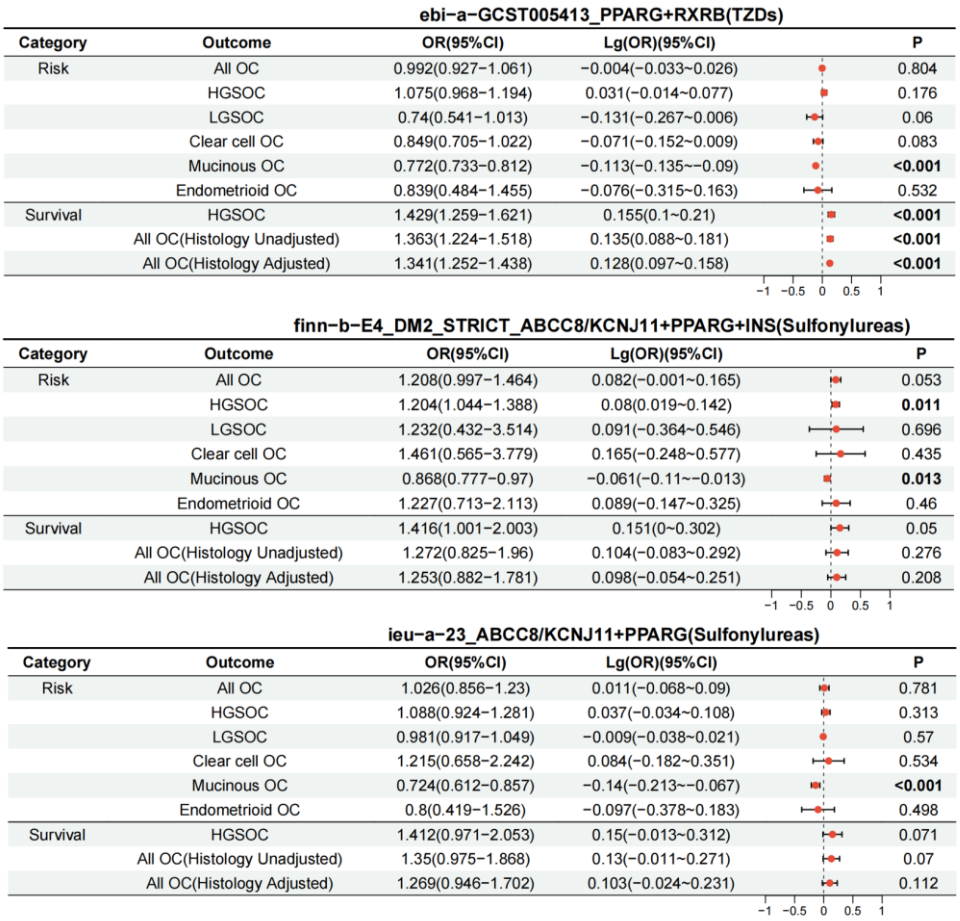

Figure S28. Forest plots of the effects of the combined targets on 9 OC phenotypes in replication analysis.

Each heading represents an IEU GWAS ID, including: HbA1c (Within family GWAS consortium, MAGIC), T2DM (DIAGRAM, FinnGen, Sílvia Bonàs-Guarch), and fasting glucose (MAGIC), along with the combined targets (drug). All results are derived from the principal MR analysis. The OR reflects the impact of a per-SD reduction in genetically predicted HbA1c, T2DM or fasting glucose levels on OC phenotypes when targeting specific genes with corresponding drugs.

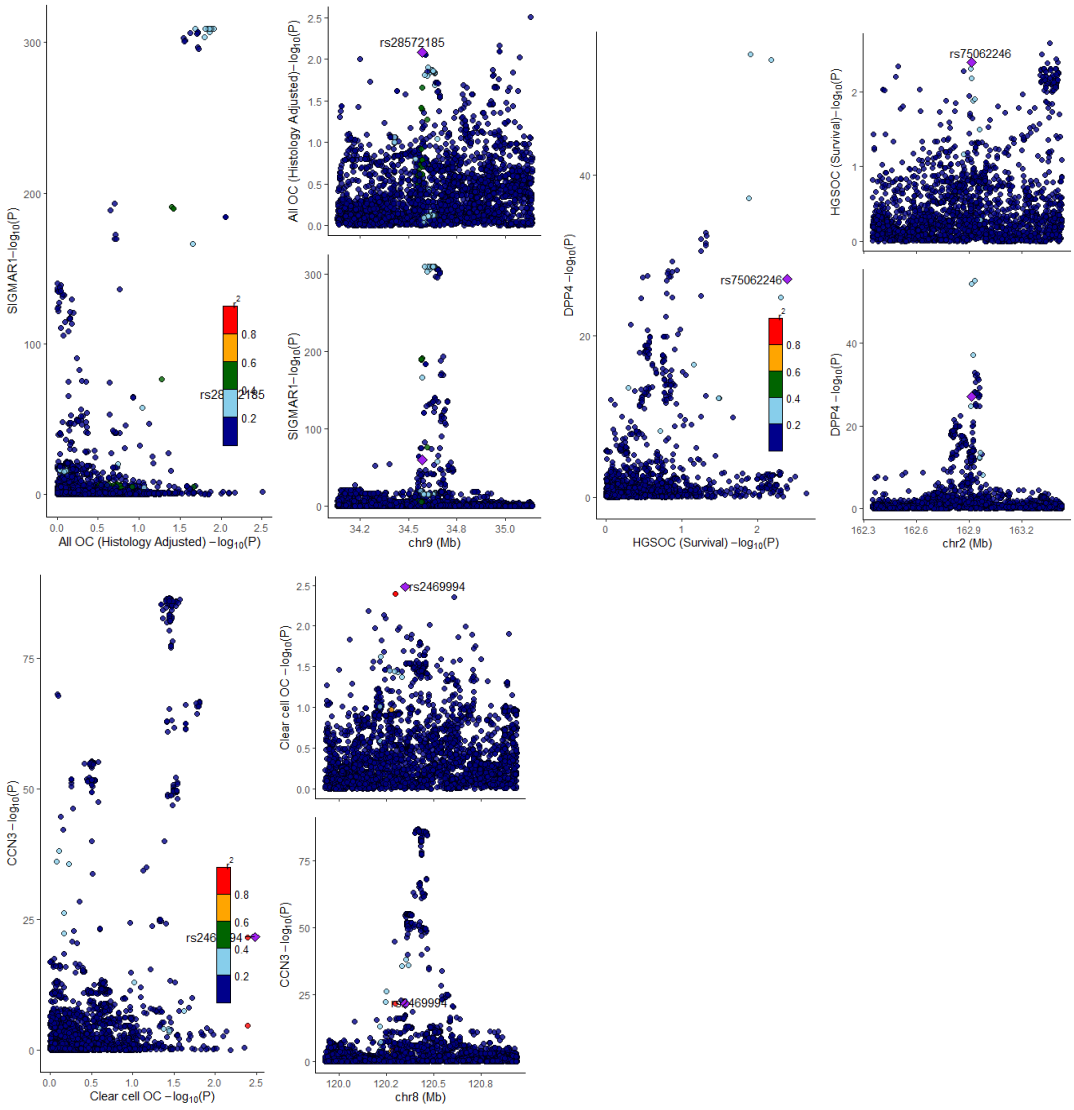

Figure S29. Regional coloclization plot of target genes with OC.

This Figure was an appendix of Figure 4B. Only results with high coloclization (PPH4>0.75) were shown.