

eTable 18. Estimation of causal effects among five genetically predicted respiratory diseases

Exposure	Outcome	Method	nIV	OR	OR.95%CI	P.value	P.adjusted	MR Steiger test	R ²	F
Asthma	COPD	IVW(MRE)	120	1.49	(1.43-1.55)	3.10E-78	6.20E-77	TRUE	0.0064	73.86
Asthma	IPF	IVW(MRE)	123	1.13	(1.03-1.24)	8.70E-03	1.93E-02	TRUE	0.0066	74.32
Asthma	LC	IVW(MRE)	105	1.01	(0.94-1.10)	0.71	8.35E-01	TRUE	0.0056	73.80
Asthma	Snoring	IVW(MRE)	120	1.01	(1.00-1.02)	1.70E-03	5.43E-03	TRUE	0.0063	72.70
COPD	Asthma	IVW(MRE)	19	1.33	(1.26-1.41)	5.90E-26	5.90E-25	TRUE	0.0011	57.72
COPD	IPF	IVW(MRE)	19	1.21	(1.07-1.37)	1.60E-08	1.07E-07	TRUE	0.0015	78.74
COPD	LC	IVW(MRE)	19	1.29	(1.21-1.37)	5.40E-06	2.70E-05	TRUE	0.0010	52.47
COPD	Snoring	IVW(MRE)	27	1.75	(1.44-2.12)	0.91	9.60E-01	TRUE	0.0014	51.71
IPF	Asthma	IVW(MRE)	10	0.99	(0.97-1.02)	0.61	7.63E-01	TRUE	0.0011	105.04
IPF	COPD	IVW(MRE)	10	1.03	(0.99-1.06)	0.16	2.67E-01	TRUE	0.0011	105.04
IPF	LC	IVW(MRE)	7	1.11	(1.04-1.19)	1.90E-03	5.43E-03	TRUE	0.0009	122.75
IPF	Snoring	IVW(MRE)	9	1	(1.00-1.00)	0.95	9.60E-01	TRUE	0.0010	106.09
LC	Asthma	IVW(MRE)	14	1.04	(0.99-1.09)	0.13	2.36E-01	TRUE	0.0134	83.14
LC	COPD	IVW(MRE)	14	1.11	(1.01-1.21)	2.20E-02	4.40E-02	TRUE	0.0089	54.97
LC	IPF	IVW(MRE)	14	1.23	(1.06-1.43)	6.70E-03	1.68E-02	TRUE	0.0134	83.14
LC	Snoring	IVW(MRE)	15	1	(0.99-1.01)	0.96	9.60E-01	TRUE	0.0143	82.89
Snoring	Asthma	IVW(MRE)	33	1.13	(0.78-1.65)	0.51	6.80E-01	TRUE	0.0032	39.72
Snoring	COPD	IVW(MRE)	35	2.48	(1.45-4.23)	8.90E-04	3.56E-03	TRUE	0.0034	39.80
Snoring	IPF	IVW(MRE)	35	0.51	(0.13-1.94)	0.32	4.57E-01	TRUE	0.0034	39.80
Snoring	LC	IVW(MRE)	29	1.91	(0.72-5.03)	0.19	2.92E-01	TRUE	0.0029	40.95
Asthma	COPD	MR Egger	120	1.33	(1.20-1.47)	2.00E-07	NA	TRUE	NA	NA
Asthma	IPF	MR Egger	123	1.05	(0.84-1.32)	0.66	NA	TRUE	NA	NA

Asthma	LC	MR Egger	105	1.29	(1.07-1.54)	8.30E-03	NA	TRUE	NA	NA
Asthma	SNO	MR Egger	120	1.01	(1.00-1.03)	0.09	NA	TRUE	NA	NA
COPD	Asthma	MR Egger	27	2.66	(1.64-4.32)	8.40E-03	NA	TRUE	NA	NA
COPD	IPF	MR Egger	27	1.67	(1.27-2.19)	5.30E-04	NA	TRUE	NA	NA
COPD	LC	MR Egger	20	1.4	(1.21-1.61)	0.13	NA	TRUE	NA	NA
COPD	SNO	MR Egger	20	1.35	(0.93-1.95)	0.58	NA	TRUE	NA	NA
IPF	Asthma	MR Egger	10	1	(0.97-1.04)	0.83	NA	TRUE	NA	NA
IPF	COPD	MR Egger	10	1.04	(0.99-1.10)	0.14	NA	TRUE	NA	NA
IPF	LC	MR Egger	7	1.06	(0.96-1.16)	0.29	NA	TRUE	NA	NA
IPF	SNO	MR Egger	9	1	(0.99-1.01)	0.74	NA	TRUE	NA	NA
LC	Asthma	MR Egger	14	1.06	(0.95-1.17)	0.31	NA	TRUE	NA	NA
LC	COPD	MR Egger	14	1.06	(0.83-1.35)	0.64	NA	TRUE	NA	NA
LC	IPF	MR Egger	14	1.33	(0.96-1.84)	0.12	NA	TRUE	NA	NA
LC	SNO	MR Egger	15	1	(0.98-1.01)	0.52	NA	TRUE	NA	NA
SNO	Asthma	MR Egger	33	3.81	(0.60-24.24)	0.17	NA	TRUE	NA	NA
SNO	COPD	MR Egger	35	10.98	(0.74-163.60)	0.09	NA	TRUE	NA	NA
SNO	IPF	MR Egger	35	0.29	(0.00-274.24)	0.73	NA	TRUE	NA	NA
SNO	LC	MR Egger	29	0.02	(0.00-2.44)	0.12	NA	TRUE	NA	NA
Asthma	COPD	Weighted median	120	1.44	(1.36-1.52)	1.40E-39	NA	TRUE	NA	NA
Asthma	IPF	Weighted median	123	1.13	(0.99-1.30)	0.08	NA	TRUE	NA	NA
Asthma	LC	Weighted median	105	1.05	(0.95-1.17)	0.35	NA	TRUE	NA	NA
Asthma	SNO	Weighted median	120	1.01	(1.00-1.02)	1.80E-02	NA	TRUE	NA	NA
COPD	Asthma	Weighted median	20	1.32	(1.12-1.56)	2.70E-14	NA	TRUE	NA	NA
COPD	IPF	Weighted median	26	1	(0.99-1.01)	2.20E-04	NA	TRUE	NA	NA
COPD	LC	Weighted median	26	0.99	(0.97-1.02)	9.90E-04	NA	TRUE	NA	NA

COPD	SNO	Weighted median	26	0.99	(0.98-1.01)	0.39	NA	TRUE	NA	NA
IPF	Asthma	Weighted median	10	1	(0.98-1.02)	0.86	NA	TRUE	NA	NA
IPF	COPD	Weighted median	10	1.03	(1.00-1.05)	2.80E-02	NA	TRUE	NA	NA
IPF	LC	Weighted median	7	1.09	(1.03-1.15)	2.60E-03	NA	TRUE	NA	NA
IPF	SNO	Weighted median	9	1	(1.00-1.00)	0.65	NA	TRUE	NA	NA
LC	Asthma	Weighted median	14	1.08	(1.03-1.12)	5.20E-04	NA	TRUE	NA	NA
LC	COPD	Weighted median	14	1.06	(0.98-1.16)	0.14	NA	TRUE	NA	NA
LC	IPF	Weighted median	14	1.24	(1.09-1.42)	1.50E-03	NA	TRUE	NA	NA
LC	SNO	Weighted median	15	1	(0.99-1.01)	0.79	NA	TRUE	NA	NA
SNO	Asthma	Weighted median	33	1.02	(0.70-1.49)	0.93	NA	TRUE	NA	NA
SNO	COPD	Weighted median	35	2.66	(1.55-4.56)	3.90E-04	NA	TRUE	NA	NA
SNO	IPF	Weighted median	35	0.38	(0.09-1.70)	0.21	NA	TRUE	NA	NA
SNO	LC	Weighted median	29	2.23	(0.79-6.28)	0.13	NA	TRUE	NA	NA

Abbreviations: nIV, the number of instrumental SNPs selected for Mendelian randomization analysis; R², proportion of variance of phenotype explained by variants; OR, odds ratio; IVW(MRE), Multiplicative Random Effects Inverse variance weighted; AST, Asthma; COPD, Chronic obstructive pulmonary disease; IPF, Idiopathic Pulmonary Fibrosis; LC, Lung Cancer; SNO, Snoring.

^a P.adjusted represents the FDR-corrected P.value.