

eTable 5. Genetic correlations and genetic overlap between the five trait pairs were estimated by bivariate LDSC^a

Trait pair	Genetic correlation			Genetic overlap		
	Genetic correlation(se)	<i>P</i> .rg	<i>P</i> .rg(adjusted)	Intercept(se)	<i>P</i> .intercept	<i>P</i> .intercept(adjusted)
AST-COPD	0.7052(0.0190)	1.24×10^{-300}	1.24×10^{-299}	0.3082 (0.0090)	5.28×10^{-257}	5.28×10^{-256}
AST-IPF	0.1843(0.0578)	1.40×10^{-03}	1.75×10^{-03}	0.0426 (0.0060)	1.25×10^{-12}	4.17×10^{-12}
AST-LC	0.1438(0.0419)	6.00×10^{-04}	8.57×10^{-04}	0.0024 (0.0065)	7.12×10^{-1}	7.91×10^{-1}
AST-SNO	0.1129(0.0240)	2.59×10^{-06}	5.18×10^{-06}	0.0232 (0.0060)	1.10×10^{-04}	2.75×10^{-04}
COPD-IPF	0.4198(0.0673)	4.34×10^{-10}	1.45×10^{-09}	0.1279 (0.0052)	1.39×10^{-133}	6.95×10^{-133}
COPD-LC	0.5944(0.0431)	2.73×10^{-43}	1.37×10^{-42}	0.0015 (0.0064)	8.15×10^{-1}	8.15×10^{-1}
COPD-SNO	0.1522(0.0282)	6.70×10^{-08}	1.68×10^{-07}	0.0103 (0.0060)	8.60×10^{-2}	1.43×10^{-1}
IPF-LC	0.1788(0.0883)	4.30×10^{-02}	4.30×10^{-02}	0.0038 (0.0046)	4.09×10^{-1}	5.11×10^{-1}
IPF-SNO	0.2093(0.0566)	2.00×10^{-04}	3.33×10^{-04}	-0.0109 (0.0053)	3.97×10^{-02}	7.94×10^{-2}
LC-SNO	0.1100(0.0406)	6.80×10^{-03}	7.56×10^{-03}	-0.0064 (0.0056)	2.53×10^{-1}	3.62×10^{-1}

Abbreviations: LDSC, linkage disequilibrium score regression; rg, genetic correlation; se, standard error; AST, Asthma; COPD, Chronic obstructive pulmonary disease; IPF, Idiopathic Pulmonary Fibrosis; LC, Lung Cancer; SNO, Snoring.

^a Bivariate LDSC was used to estimate the genetic correlation between between the five trait pairs with the intercept indicating potential sample overlap between two GWASs. A false discovery rate (FDR) was used to correct all *P*.value. The significance threshold was set at *P*.adjusted<0.05. Significant genetic associations (*P*.adjusted<0.05) were found for all 10 pairs of traits in five respiratory diseases.