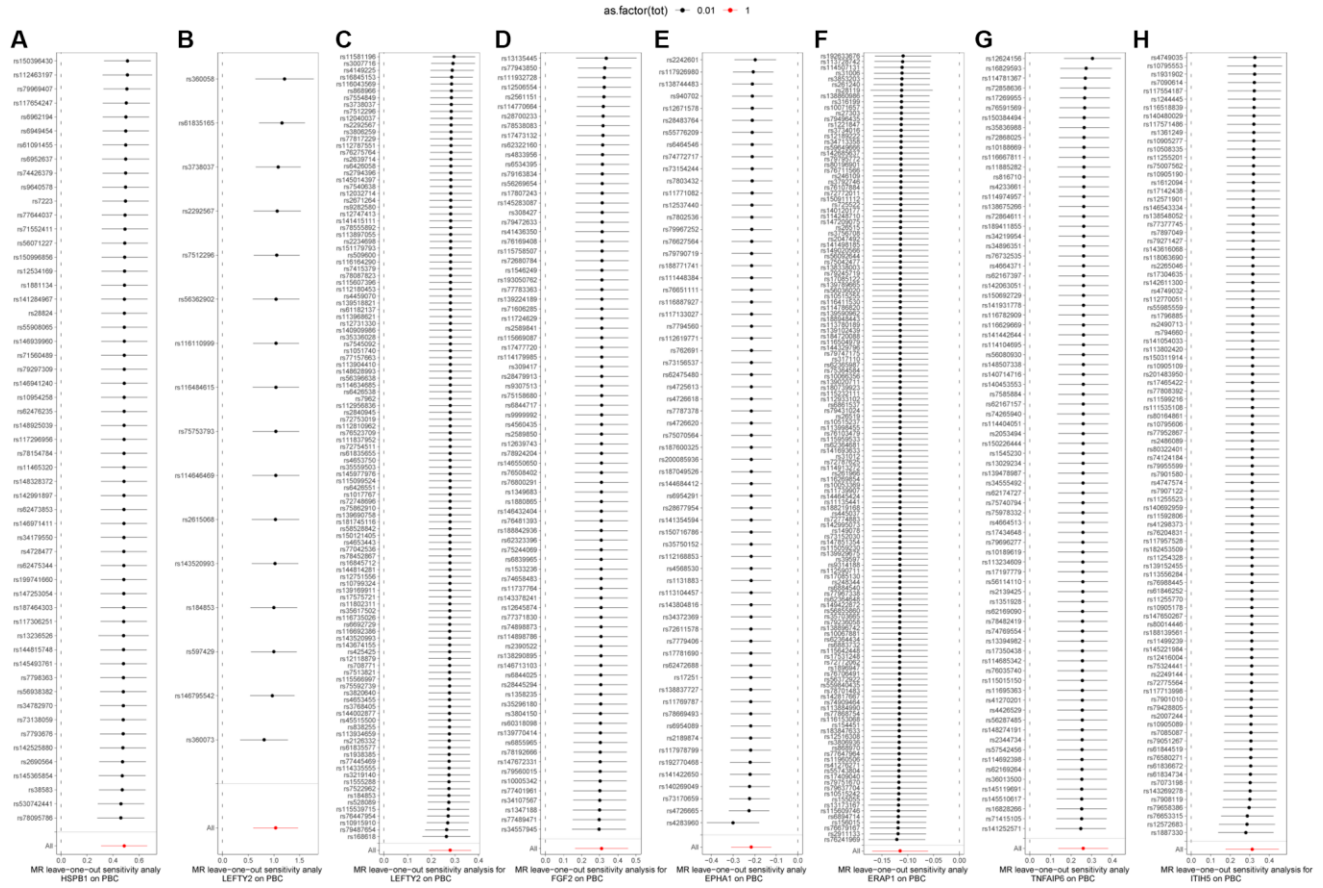
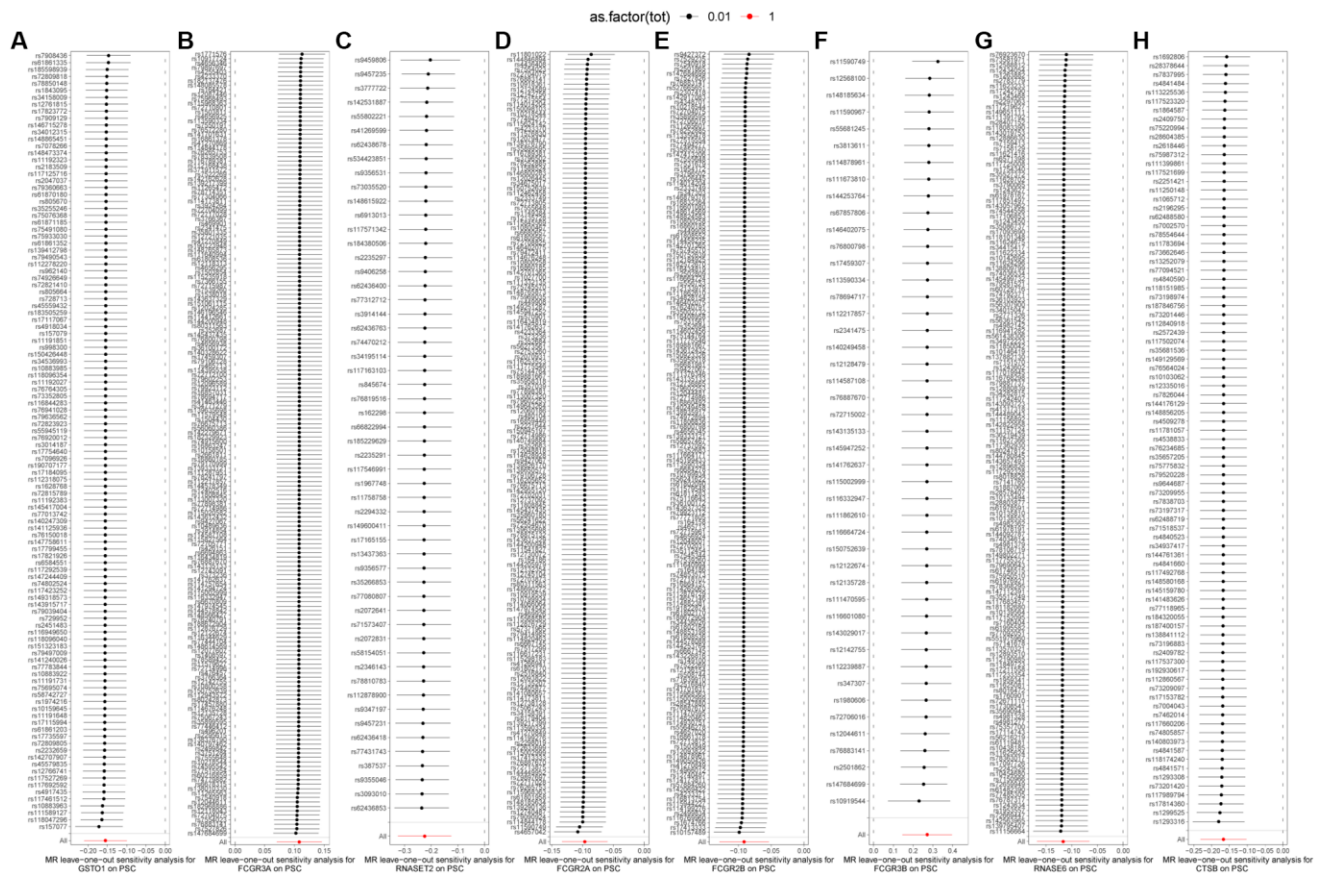


SUPPLEMENTARY FIGURES



**Supplementary Figure 1. Leave-one-out sensitivity analysis for potential druggable genes and PBC.** (A) HSPB1; (B) LEFTY2 with primer 15503\_15; (C) LEFTY2 with primer 15503\_20; (D) FGF2; (E) EPHA1; (F) ERAP1; (G) TNFAIP6; (H) ITIH5. The dot and bar demonstrate the sensitivity of IV by removing SNPs one at a time. IV, instrument variable; SNPs, single nucleotide polymorphisms; PBC: primary biliary cholangitis.



**Supplementary Figure 2. Leave-one-out sensitivity analysis for potential druggable genes and PSC.** (A) GSTO1; (B) FCGR3A; (C) RNASET2; (D) FCGR2A; (E) FCGR2B; (F) FCGR3B; (G) RNASE6; (H) CTSB. The dot and bar demonstrate the sensitivity of IV by removing SNPs one at a time. IV, instrument variable; SNPs, single nucleotide polymorphisms; PSC: primary sclerosing cholangitis.