



**Supplementary Figure 5. Comprehensive association tests in Chinese CFM patients and healthy Chinese.** A) Manhattan plot post-conditional analysis. Variants used as conditioners are labeled with their rsIDs and plotted with rhombuses. Blue dots denote variants analyzed without conditioning, and red dots those with conditioning. B) Conditional analysis on carriers of 11 presumptively pathogenic variants (5 pathogenic variants + 6 deleterious variants). Blue dots represent unconditioned analysis, while red dots show conditioned analysis. C) Conditional analysis on carriers of all rare variants within 1kb of cis-regulatory elements. Variants are depicted with blue dots (unconditioned) and red dots (conditioned). D) Manhattan plot highlighting CFM-associated variants after excluding *SHROOM3*-related CFM patients. Original *P*-values of variants are in red, with blue indicating *P*-values after removing 361 *SHROOM3*-contributed CFM patients. This allows direct comparison of variant significance before and after the analysis. E) Manhattan plot for 361 *SHROOM3*-related CFM patients. Illustrates CFM-associated variants, with original *P*-values in blue and *P*-values post-analysis (focusing on 361 *SHROOM3*-contributing patients) in red, facilitating a comparison of variant significance pre- and post-analysis.