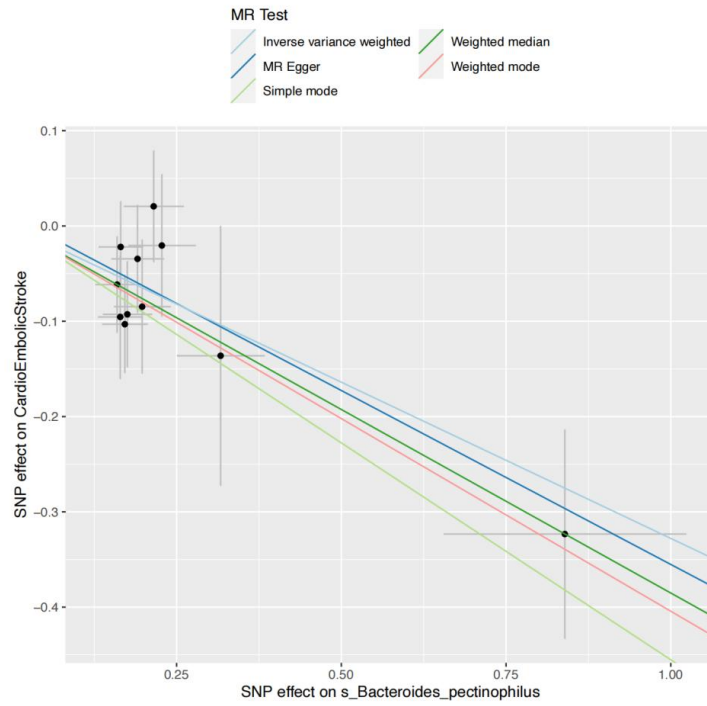
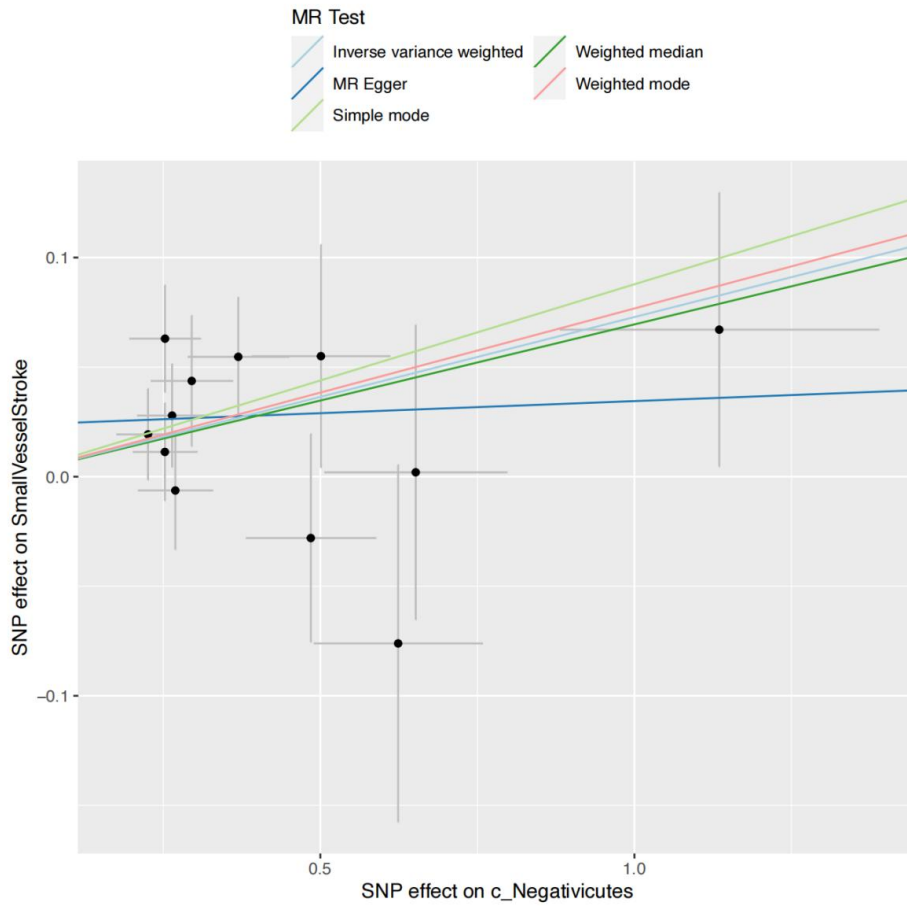


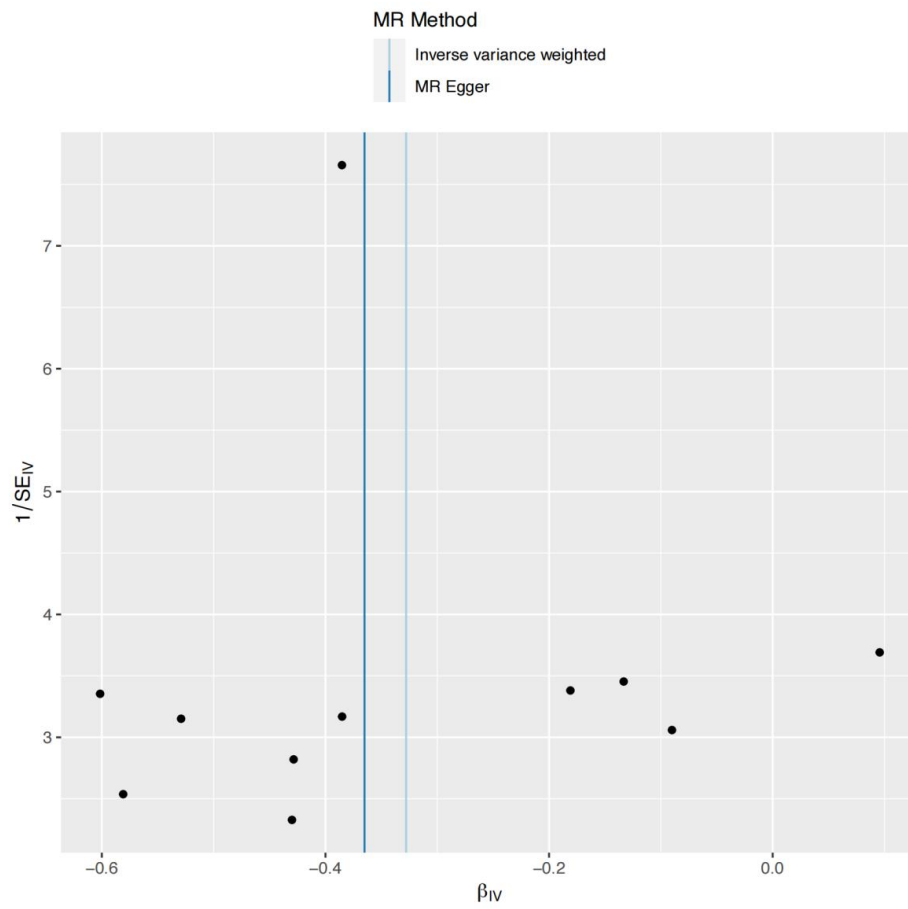
**Fig. S1** The overview of the causality between stroke and gut microbiome, the results are based on IWV method. **A** the result for stroke to the gut microbiome in EAS population(species level), **B** the result for stroke to gut microbiome in EAS population(class, family, genus, MF, order, phylum) and part **C** the result for stroke to gut microbiome in EU population. Only associations existed in the relationship between stroke and gut microbiome are listed in the **Fig. S1**.



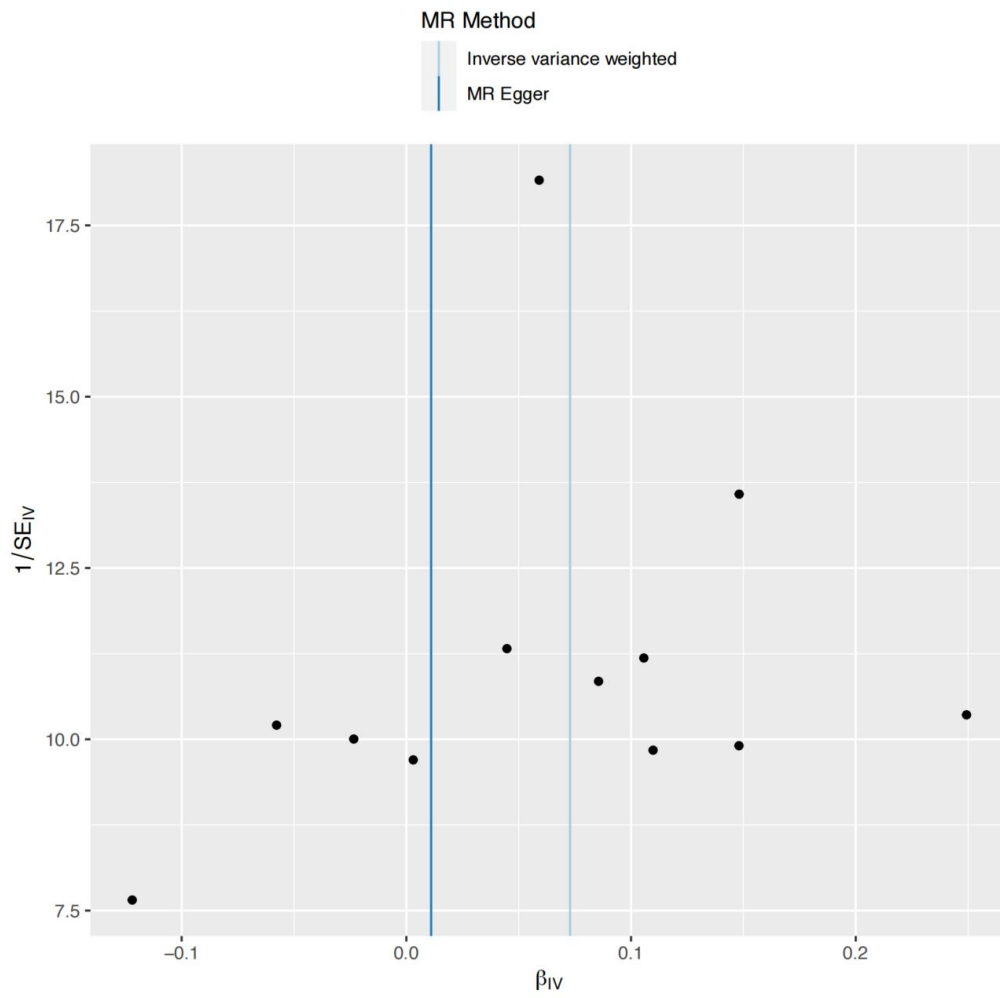
**Fig. S2** Scatter plot of individual SNP effects and estimates from different MR methods, species *Bacteroides pectinophilus* to CES



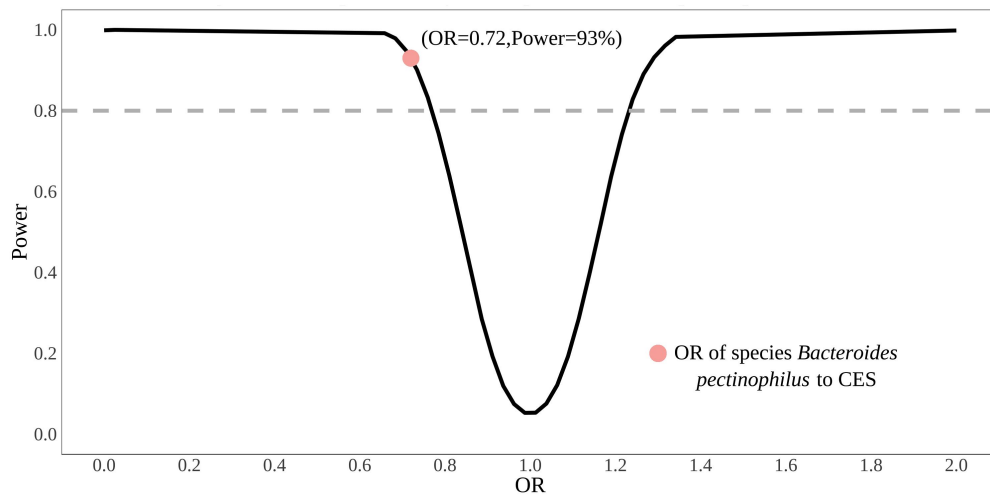
**Fig. S3** Scatter plot of individual SNP effects and estimates from different MR methods, class *Negativicutes* to SVS



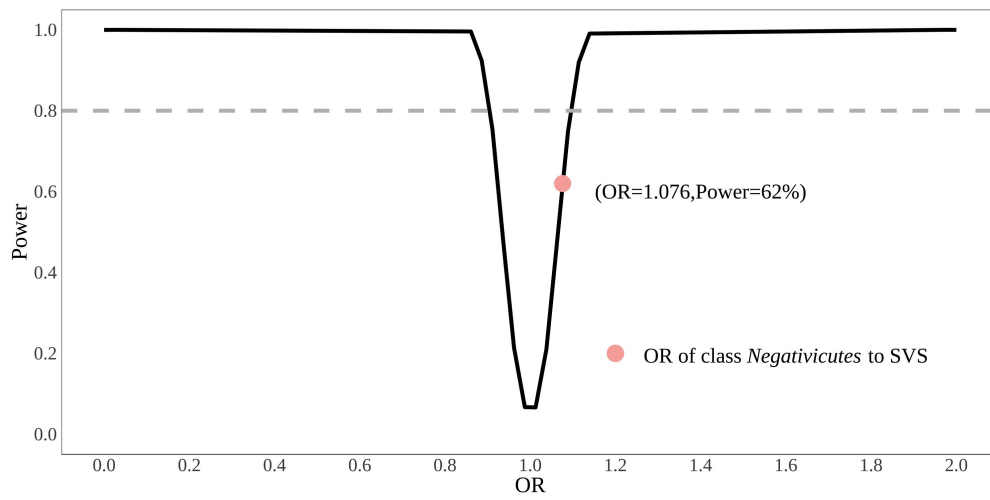
**Fig. S4** Funnel plot of species *Bacteroides pectinophilus* to CES



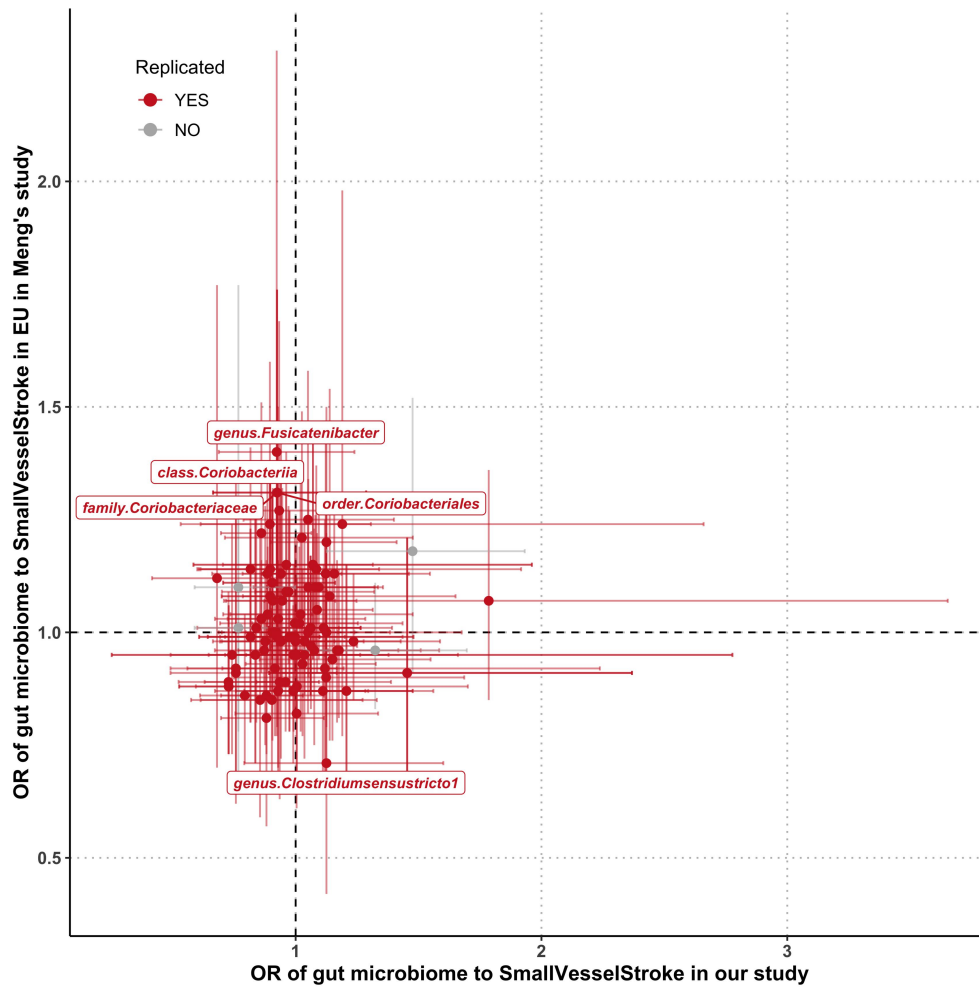
**Fig. S5** Funnel plot of class *Negativicutes* to SVS



**Figure S6.** The power analysis of species *Bacteroides pectinophilus* to CES in different estimated OR, the red point showed the estimated OR in our analysis, which is 0.72 and the phenotype variance explained (PVE) is 0.161.

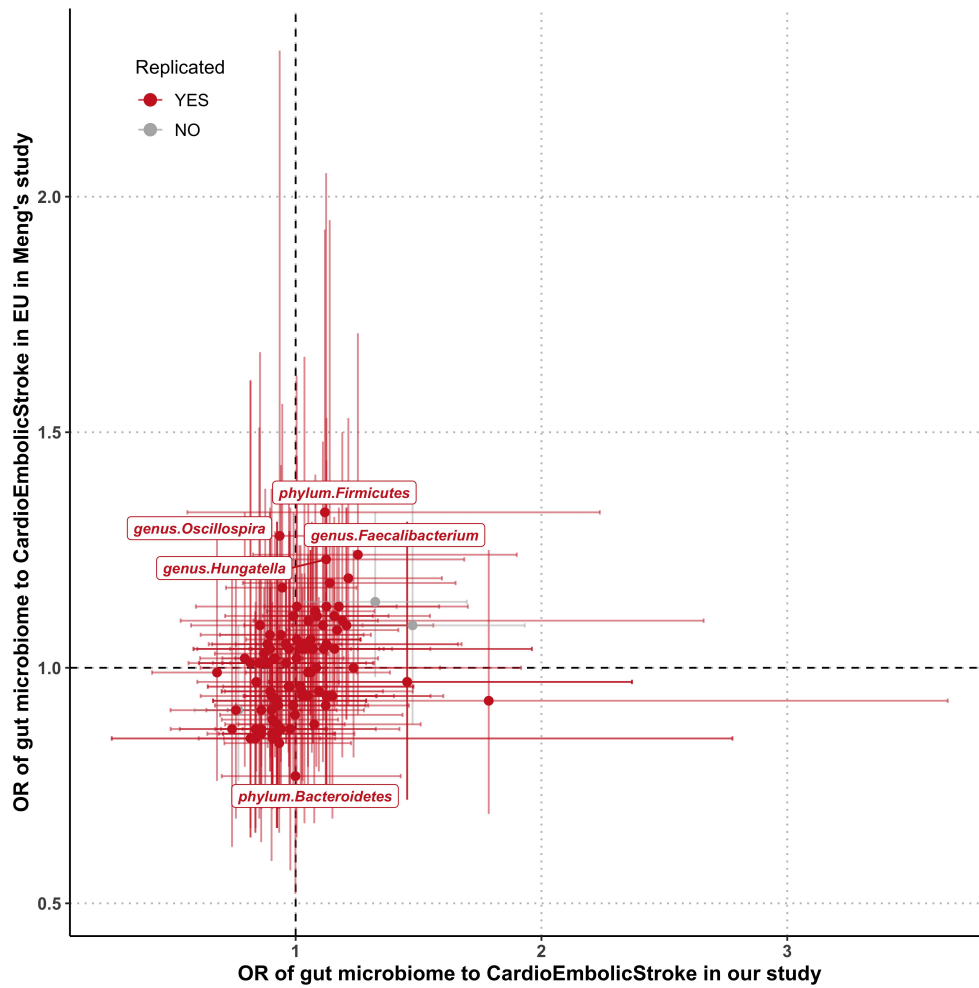


**Figure S7.** The power analysis of class *Negativicutes* to CES in different estimated OR, the red point showed the estimated OR in our analysis, which is 1.076 and the phenotype variance explained (PVE) is 0.163.

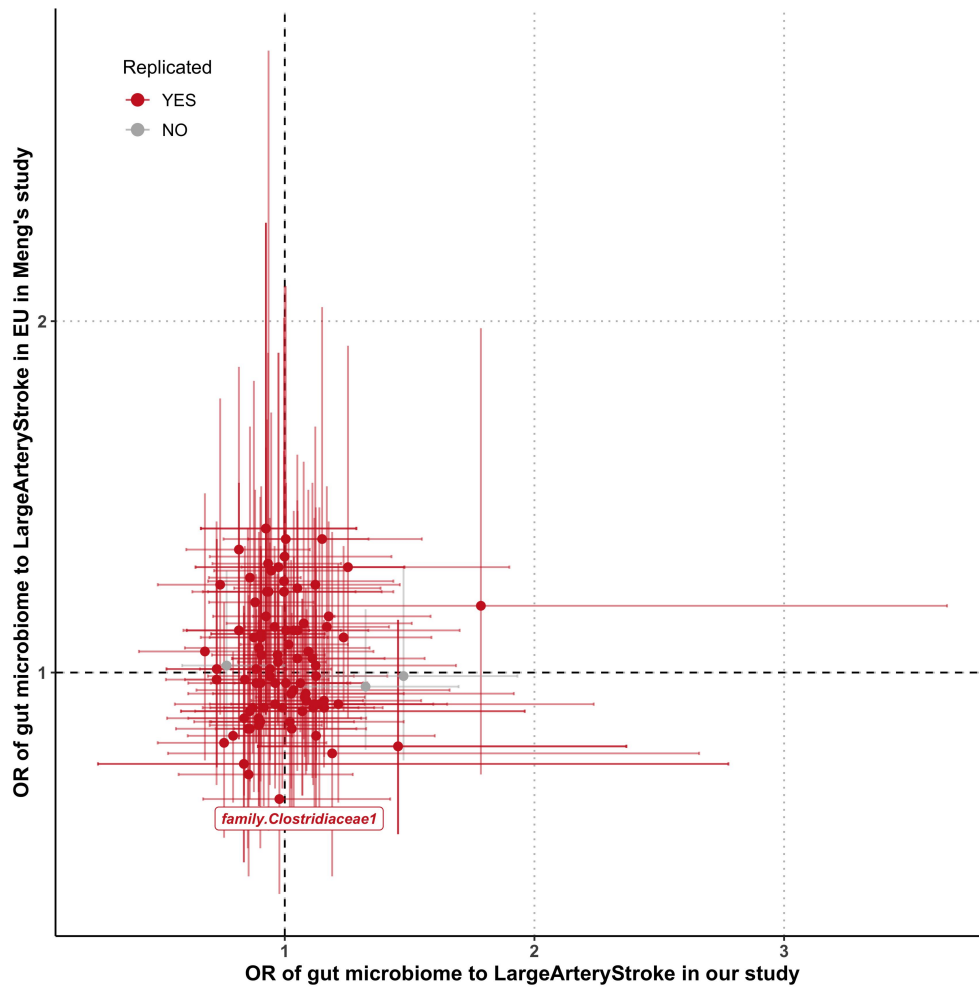


**Fig. S8** the negative control of gut microbiome to SVS in EU. the red points stand for the positive control for the same significance in our study and Meng's and the grey points stand for the inconsistent in significance in our study and Meng's.

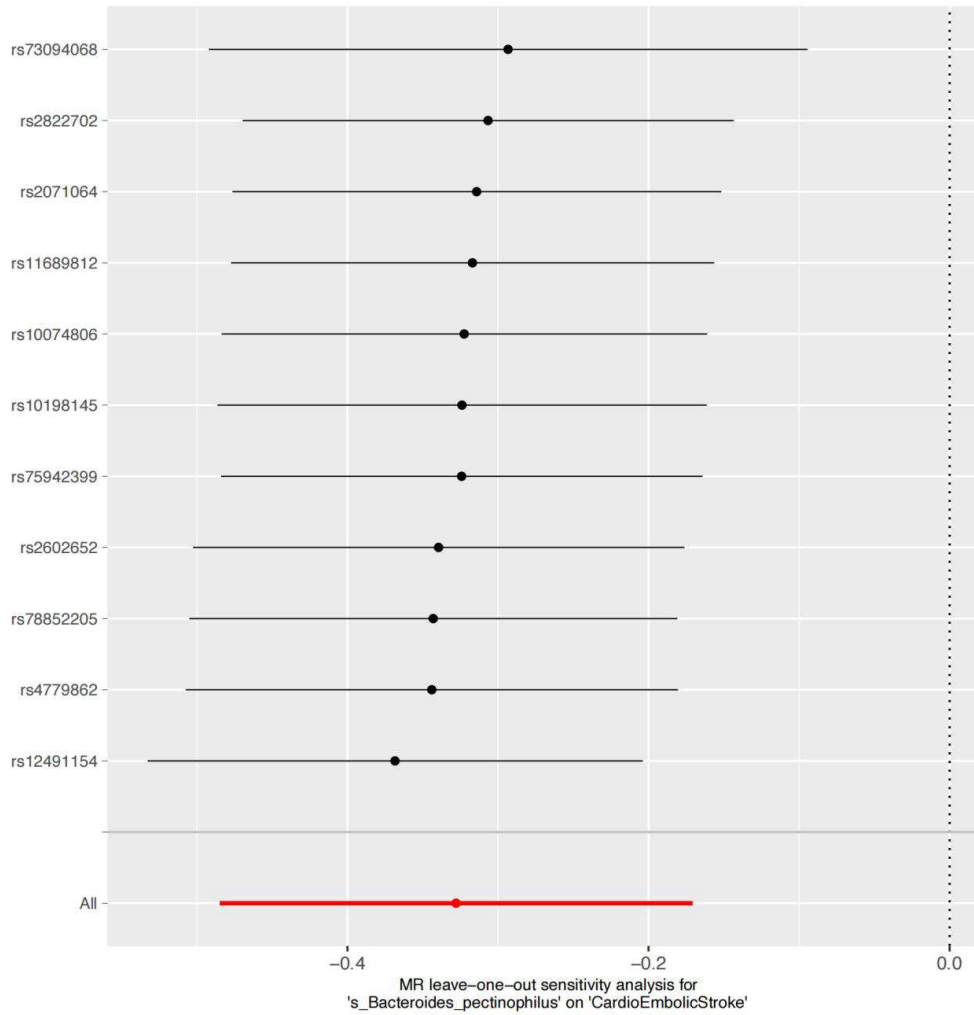




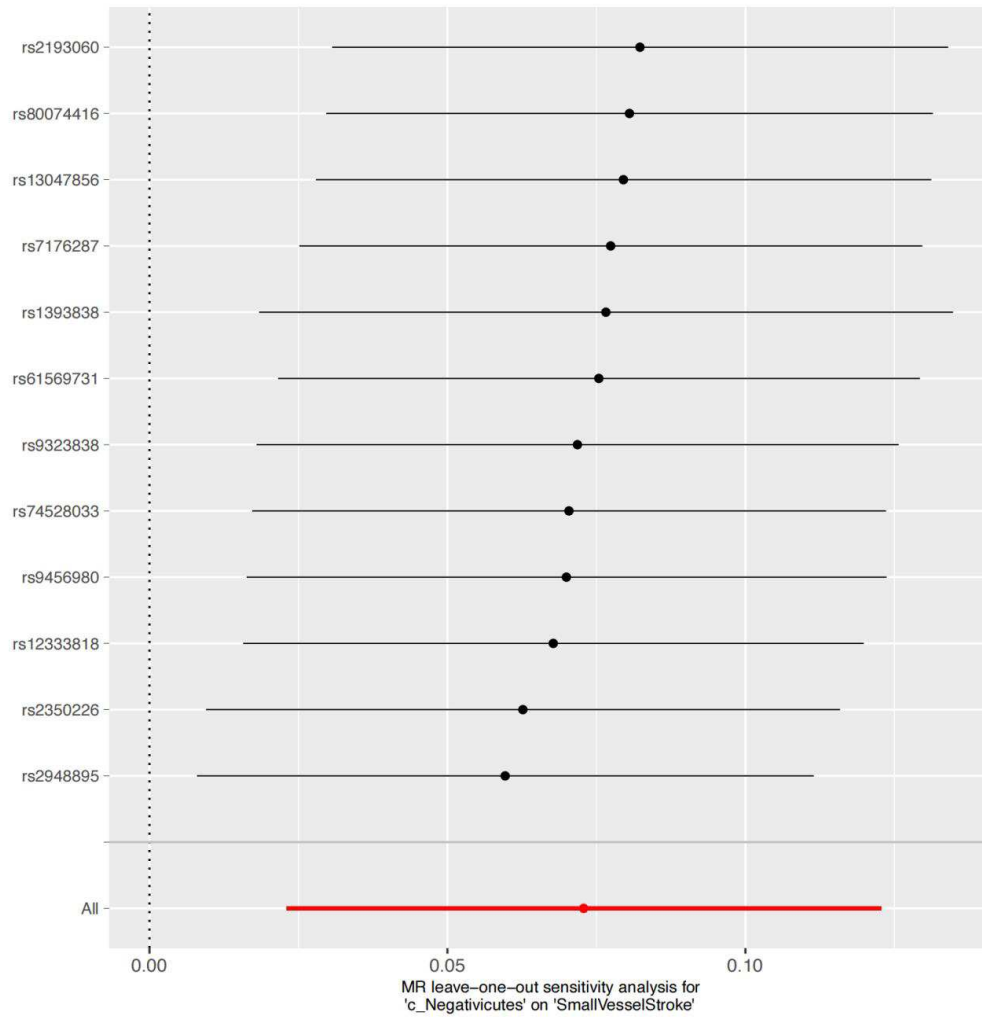
**Fig. S9** the negative control of gut microbiome to CES in EU. the red points stand for the positive control for the same significance in our study and Meng's and the grey points stand for the inconsistent in significance in our study and Meng's.



**Fig. S10** the negative control of gut microbiome to LAS in EU. the red points stand for the positive control for the same significance in our study and Meng's and the grey points stand for the inconsistent in significance in our study and Meng's.



**Fig. S11** MR leave-one-out sensitivity analysis of species *Bacteroides pectinophilus* to CES



**Fig. S12** MR leave-one-out sensitivity analysis of class *Negativicutes* to SVS