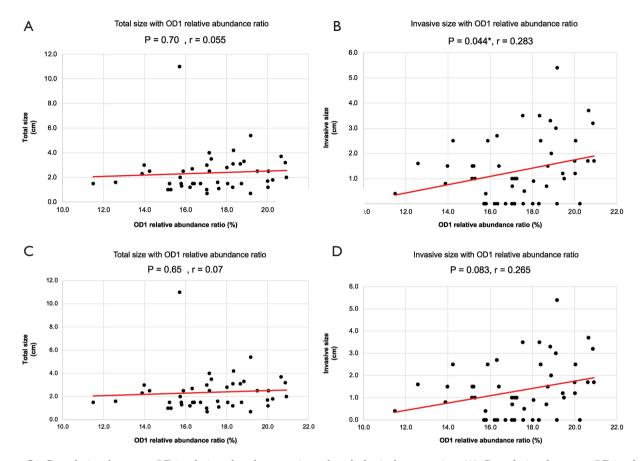
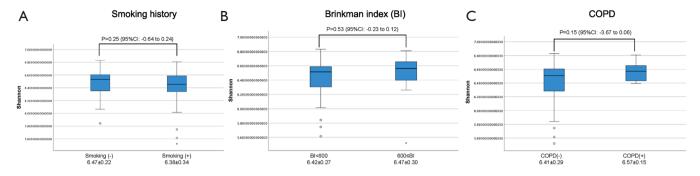
## Supplementary



**Figure S1** Correlation between OD1 relative abundance ratio and pathological tumor size. (A) Correlation between OD1 relative abundance ratio and total tumor size in primary lung cancer patients (n=51). (B) Correlation between OD1 relative abundance ratio and invasive tumor size in primary lung cancer patients. (C) Correlation between OD1 relative abundance ratio and total tumor size in patients with lung adenocarcinoma (n=44). (D) Correlation between OD1 relative abundance ratio and invasive tumor size in patients with lung adenocarcinoma. OD1, Candidate Phylum OD1 bacteria.



**Figure S2** Comparison of the  $\alpha$ -diversity analysis using Shannon's index. Shannon's index for each group was shown as mean  $\pm$  standard deviation. (A) Comparison of patients with and without smoking history. (B) Comparison of the severity of smoking history based on the Brinkman index. (C) Comparison of patients with and without COPD. COPD, chronic obstructive pulmonary disease.