

## Supplementary Material S1.

### Statistical analysis

Analysis of the primary endpoint was also repeated for the per protocol set, which included all patients in the full analysis set without any major protocol deviations. Trough forced expiratory volume in 1 second (FEV<sub>1</sub>) at week 4 was analysed using an analysis of covariance (ANCOVA) model similar to the primary analysis, with visit and treatment according to visit interactions as additional fixed effects. The negative binomial regression model used for analysis of rescue medication use included smoking status and treatment as fixed effects, baseline rescue medication use as a covariate, and center as a random effect. The percentage of days with no rescue medication use was analysed using the same ANCOVA model as in the primary analysis; however, the percentage of days with no rescue medication use was used as a covariate instead of baseline FEV<sub>1</sub>. The transition dyspnea index focal score and chronic obstructive pulmonary disease assessment test (CAT) score at week 12 were analysed using the same ANCOVA model with the baseline dyspnoea index focal score, and baseline CAT score as a baseline covariate, respectively.