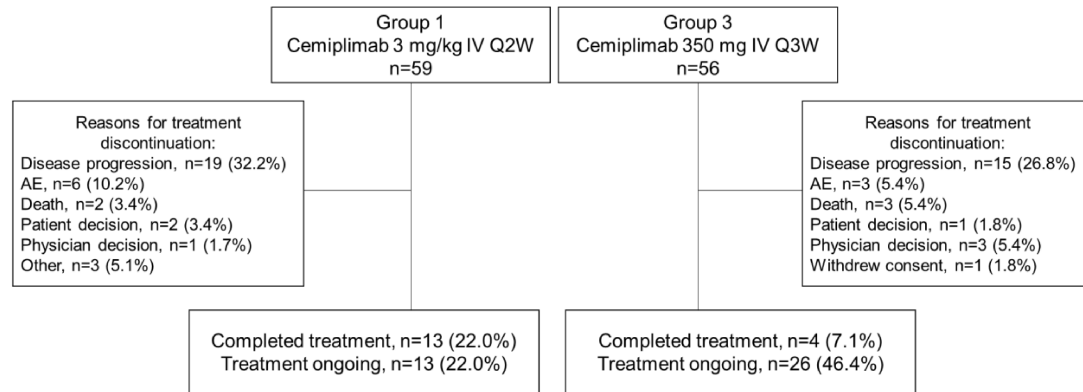
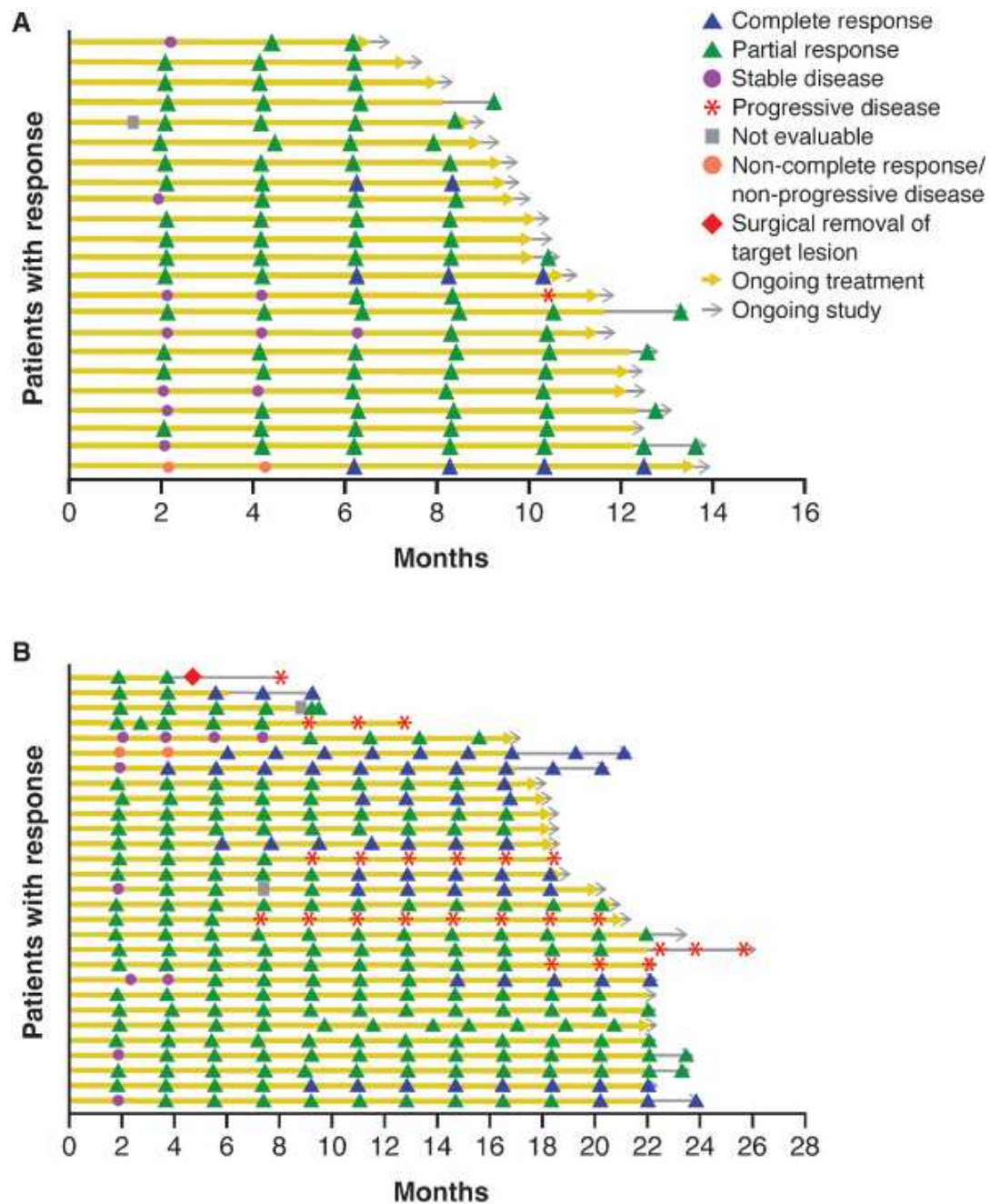


**Supplementary Figure 1. Patient disposition**

AE, adverse event; IV, intravenous; Q2W, every 2 weeks; Q3W, every 3 weeks.

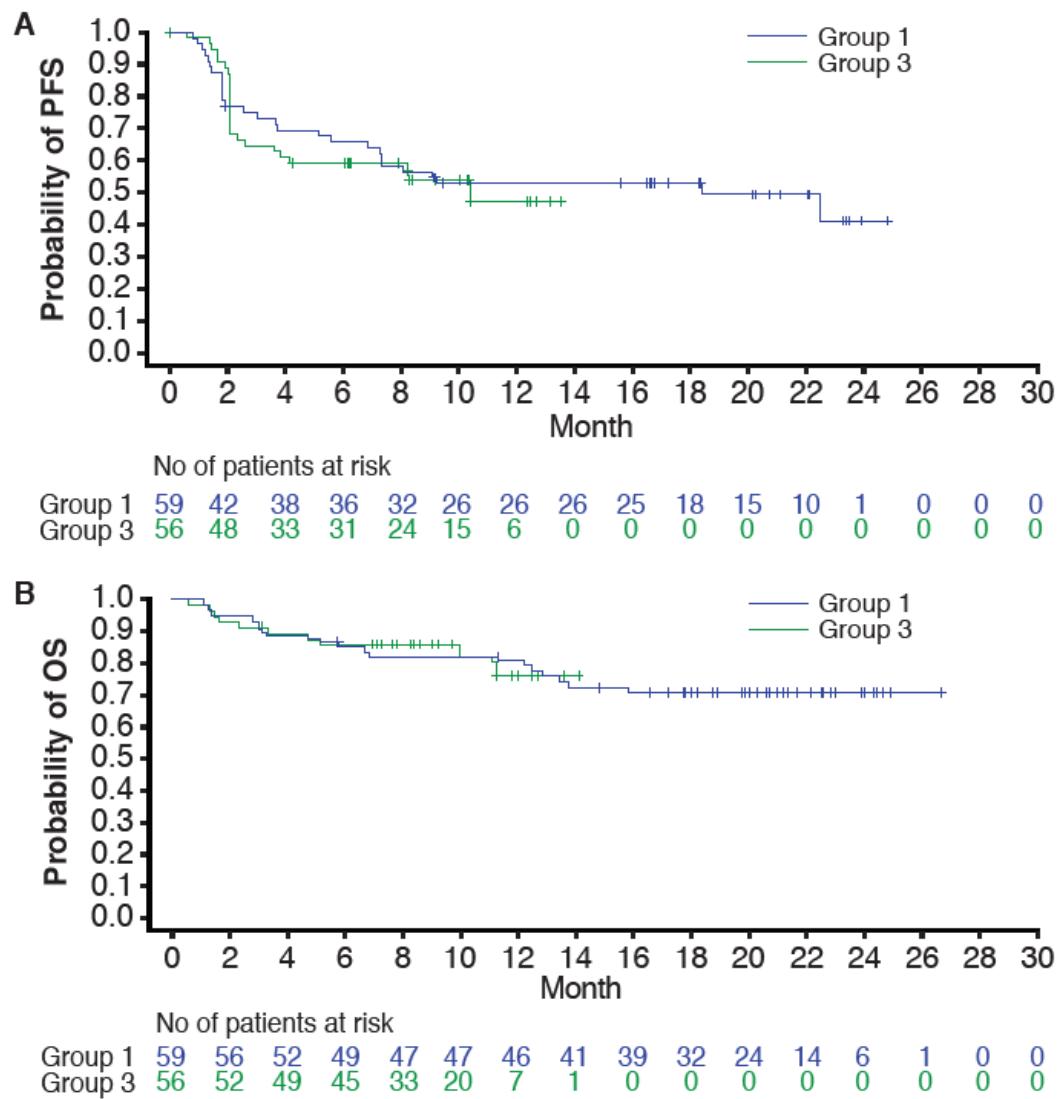
**Supplementary Figure 2. Time to and duration of response in responding patients for a) Group 3 and b) Group 1 according to independent central review**



This figure shows time to and duration of response in patients who responded to treatment in Group 3 (panel A) and Group 1 (panel B). Each horizontal line represents one patient (23 responding patients in Group 3 and 29 responding patients in Group 1). Red asterisk indicates subsequent progressive disease. Three patients in Group

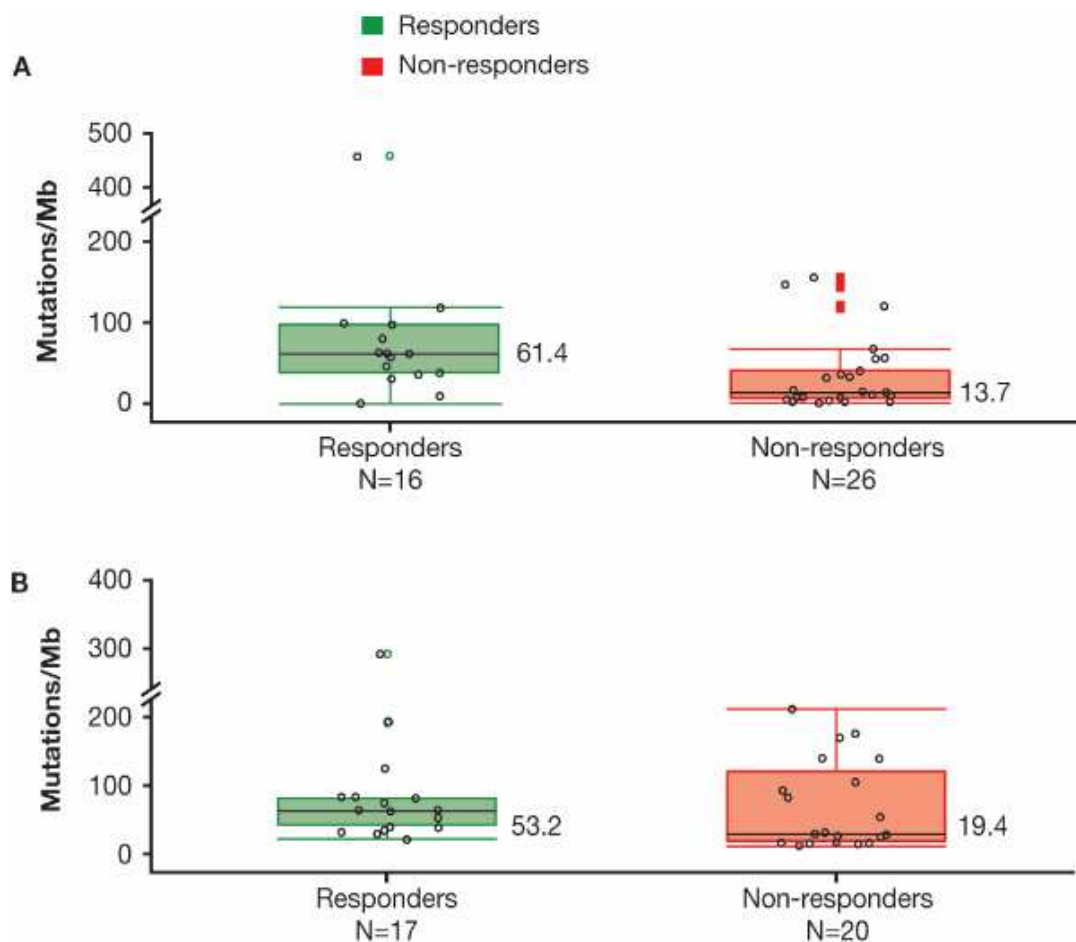
3 and 10 patients in Group 1 had complete responses (denoted by a blue triangle). Yellow arrows indicate that a patient is still on treatment and grey arrows indicate that a patient is still on study. Multiple progressive disease assessments in a single patient are possible due to discordance between investigator review and independent central review.

**Supplementary Figure 3. Kaplan–Meier curve for a) PFS per independent central review and b) OS**



OS, overall survival; PFS, progression-free survival.

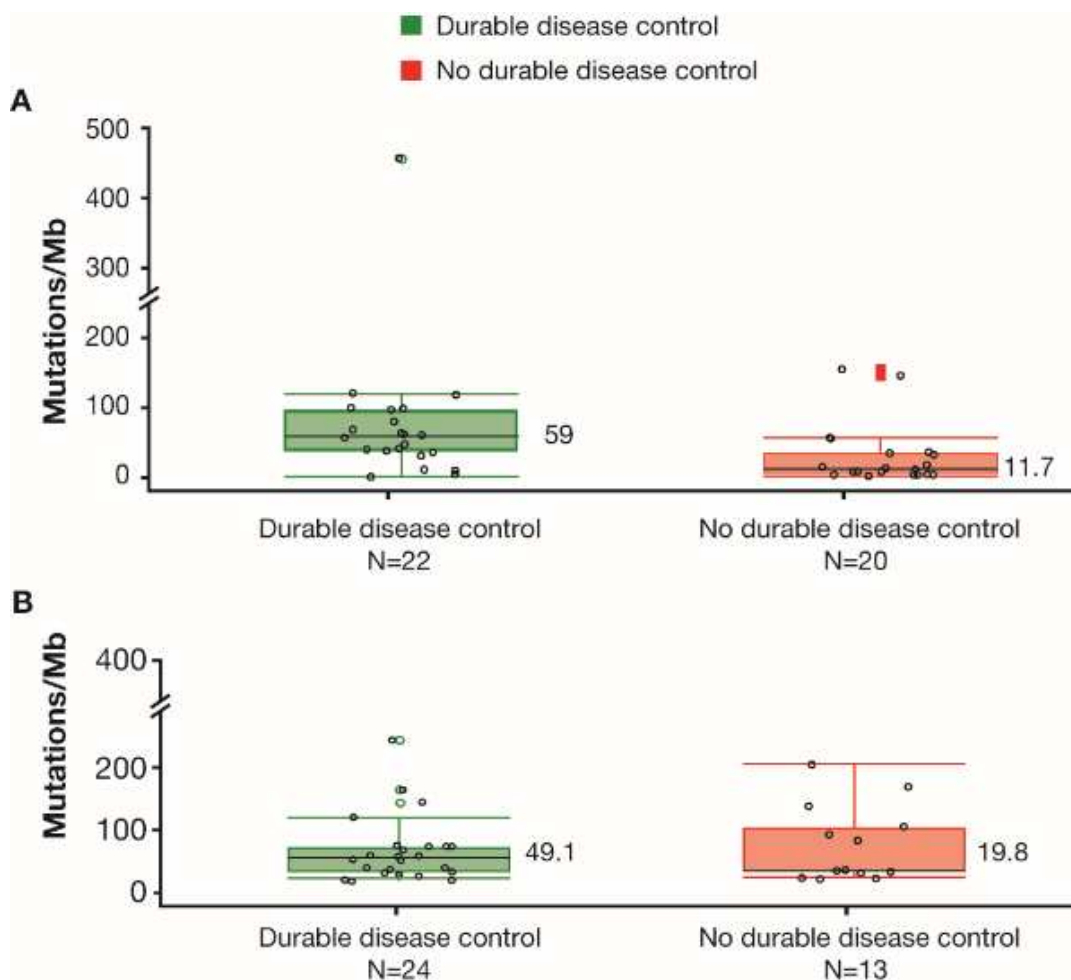
**Supplementary Figure 4. Clinical activity of cemiplimab and TMB for A) Group 3 and B) Group 1**



TMB, tumor mutational burden.

This figure depicts TMB for responders (complete or partial response) versus non-responders (stable disease, progressive disease, or not evaluable) per independent central review for Group 3 (panel A) and Group 1 (panel B). Black lines in each box denote median; lower and upper boundaries of box denote lower quartile and upper quartile (IQR), respectively; and upper and lower whiskers indicate maximum ( $Q3 + 1.5 \cdot IQR$ ) and minimum ( $Q1 - 1.5 \cdot IQR$ ) values, respectively. Individual patients are indicated by open black circles. Open black circles beyond the whiskers are outliers. Open green circles and closed red boxes are duplicates of the outliers (the plots are overlap of boxplots and scatter plots).

**Supplementary Figure 5. TMB for patients who achieved durable disease control versus those who did not for A) Group 3 and B) Group 1**



TMB, tumor mutational burden.

This figure depicts TMB for patients who achieved durable disease control (patients without progressive disease for at least 105 days) versus those who did not. Black lines in each box denote median; lower and upper boundaries of box denote lower quartile and upper quartile (IQR), respectively; and upper and lower whiskers indicate maximum ( $Q3 + 1.5 \cdot IQR$ ) and minimum ( $Q1 - 1.5 \cdot IQR$ ) values, respectively. Individual patients are indicated by open black circles. Open black circles beyond the whiskers are outliers. Open green circles and closed red boxes are duplicates of the outliers (the plots are overlap of boxplots and scatter plots).