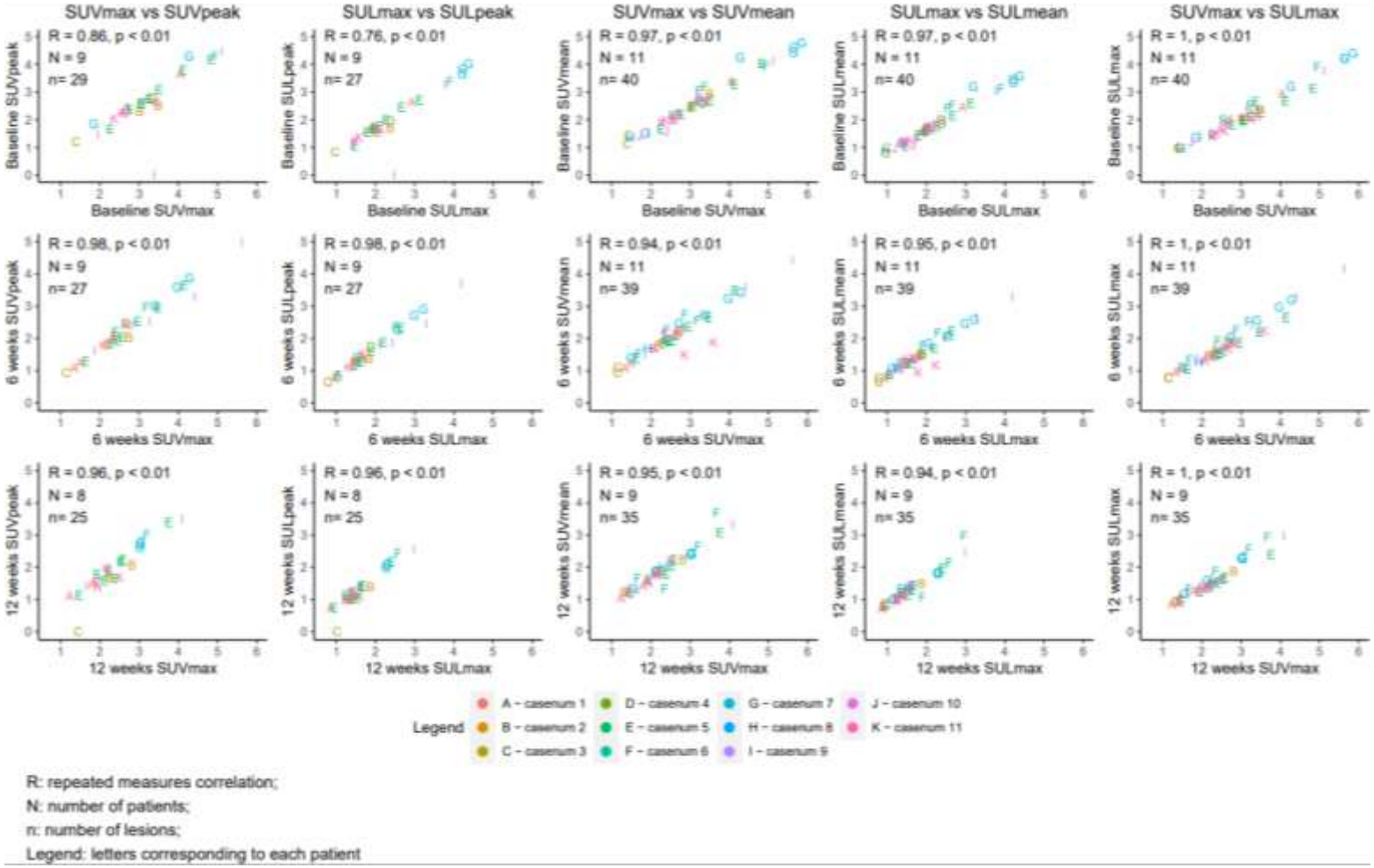
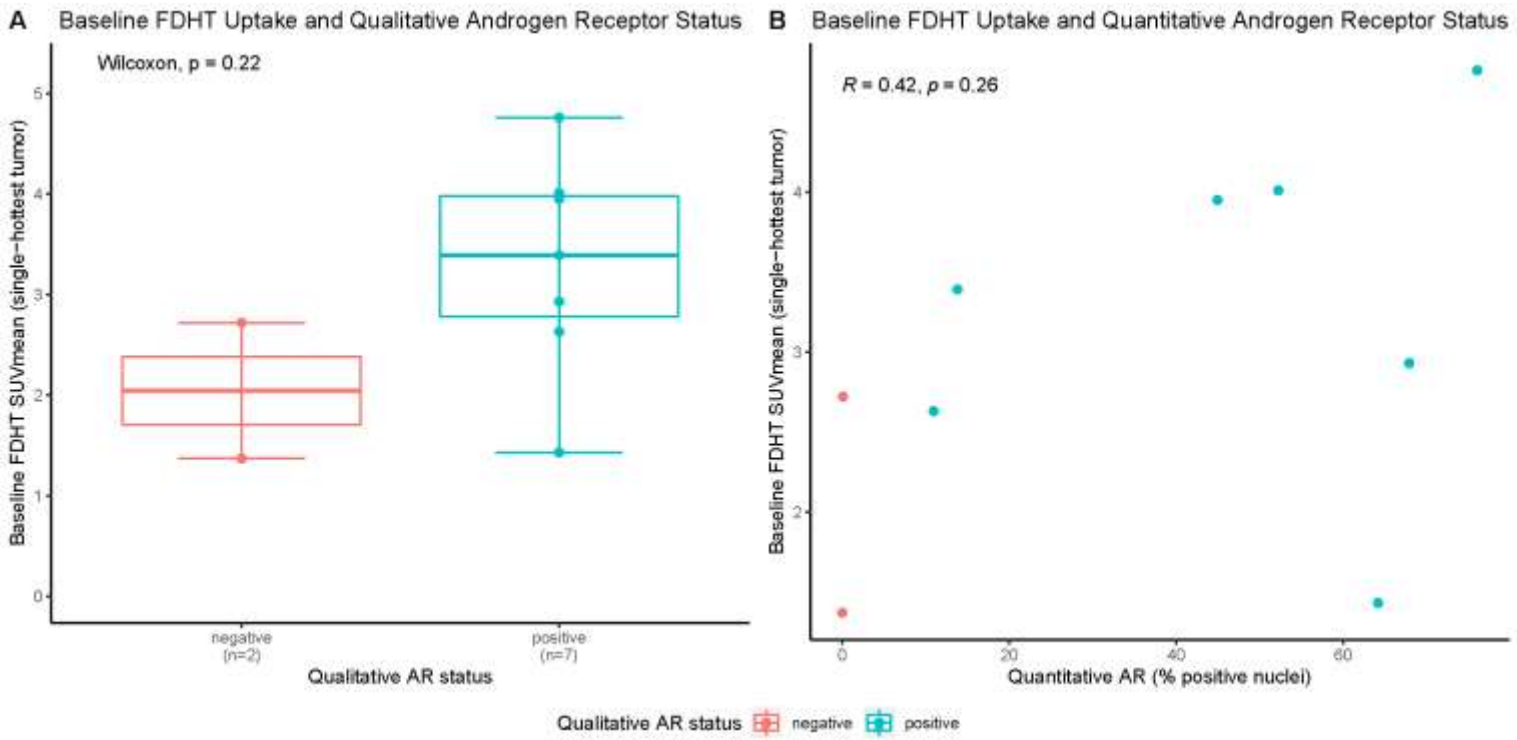
Supplemental Figure 1. Correlations of Semiquantitative Parameters of FDHT Uptake. SUVmax, SUVpeak and SUVmean were highly correlated.

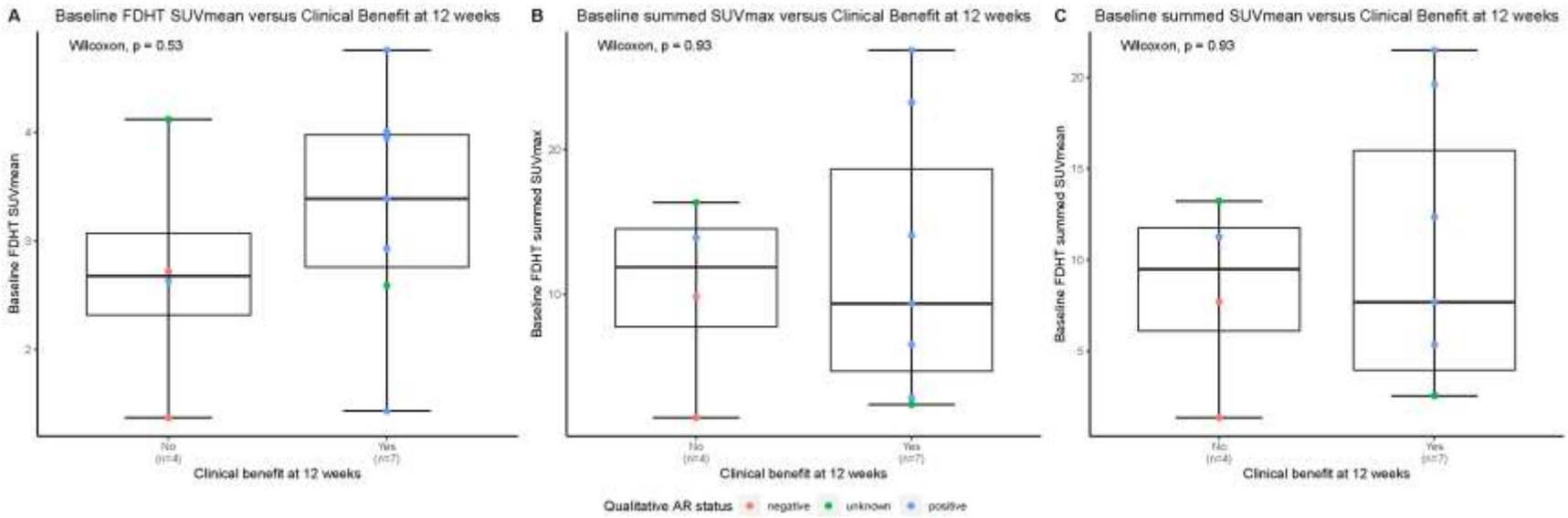


Supplemental Figure 2. Correlation of Baseline FDHT SUVmean and Qualitative and Quantitative AR Status.



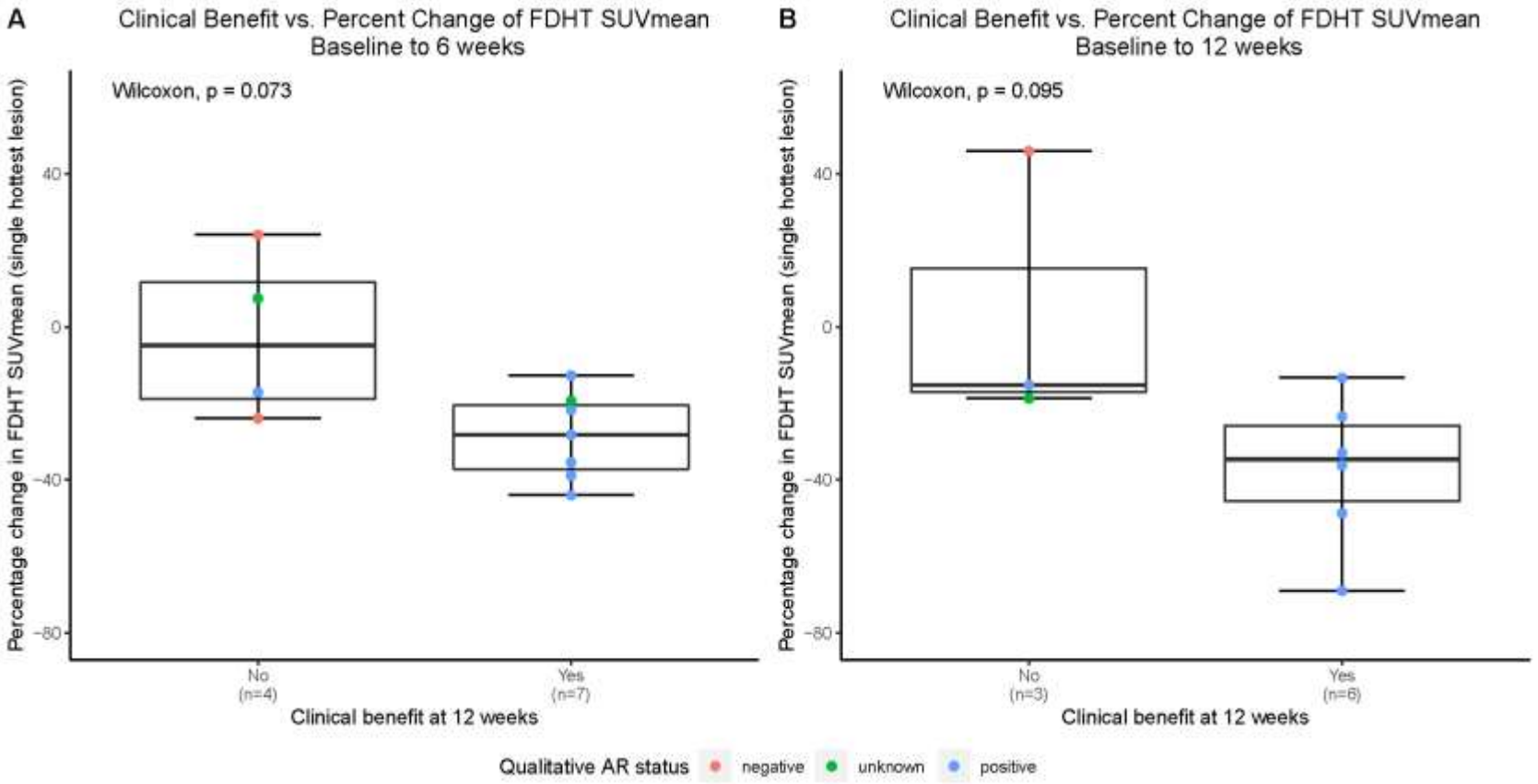
A) For 9 participants with archival tissue assessed for AR status, median baseline FDHT SUVmean was 3.4 (1.4-4.8) for 7 participants with AR positive tumor and 2.0 (1.4-2.7) for 2 with AR negative tumor (p=0.22). The individual dots on the scatterplot represent individual participant's data. **B)** There was a weak correlation between quantitative AR expression levels and baseline FDHT uptake, but this was not statistically significant (Pearson rho=0.42, p=0.26). Blue dots represent participants with AR positive tumor. Red dots represent participants with AR negative tumor.

Supplemental Figure 3. Clinical Benefit at 12 Weeks after Starting Therapy vs. Baseline FDHT SUVmean, summed SUVmax, and summed SUVmean.



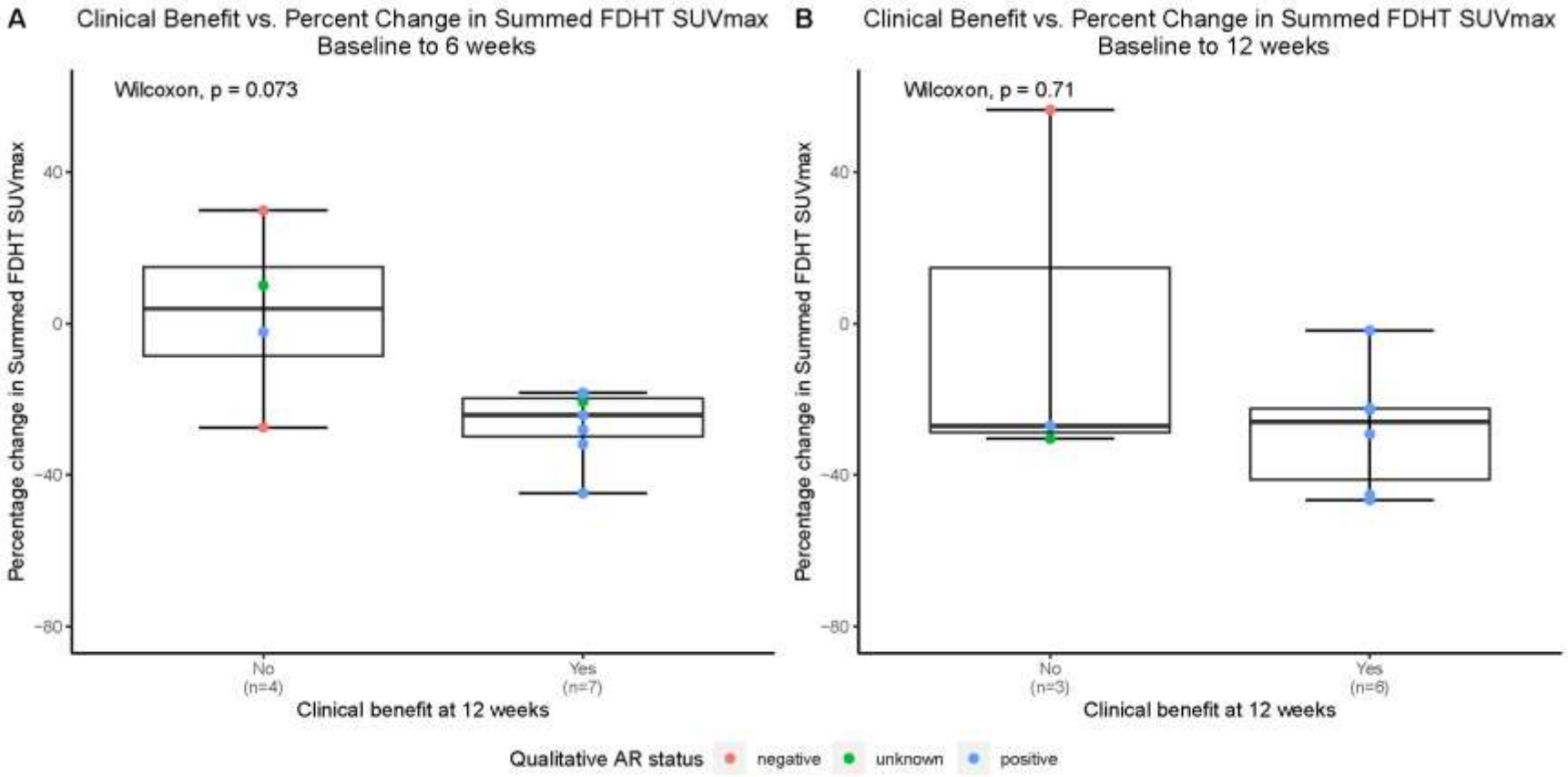
There were no significant differences between **A)** baseline FDHT SUVmean, **B)** baseline FDHT summed SUVmax, or **C)** baseline FDHT summed SUVmean and clinical benefit at 12 weeks after starting treatment with GTx-024. The individual dots on the scatterplot represent the individual participant's data.

Supplemental Figure 4. Clinical Benefit at 12 Weeks after Starting Therapy vs. Change in FDHT Uptake: SUVmean



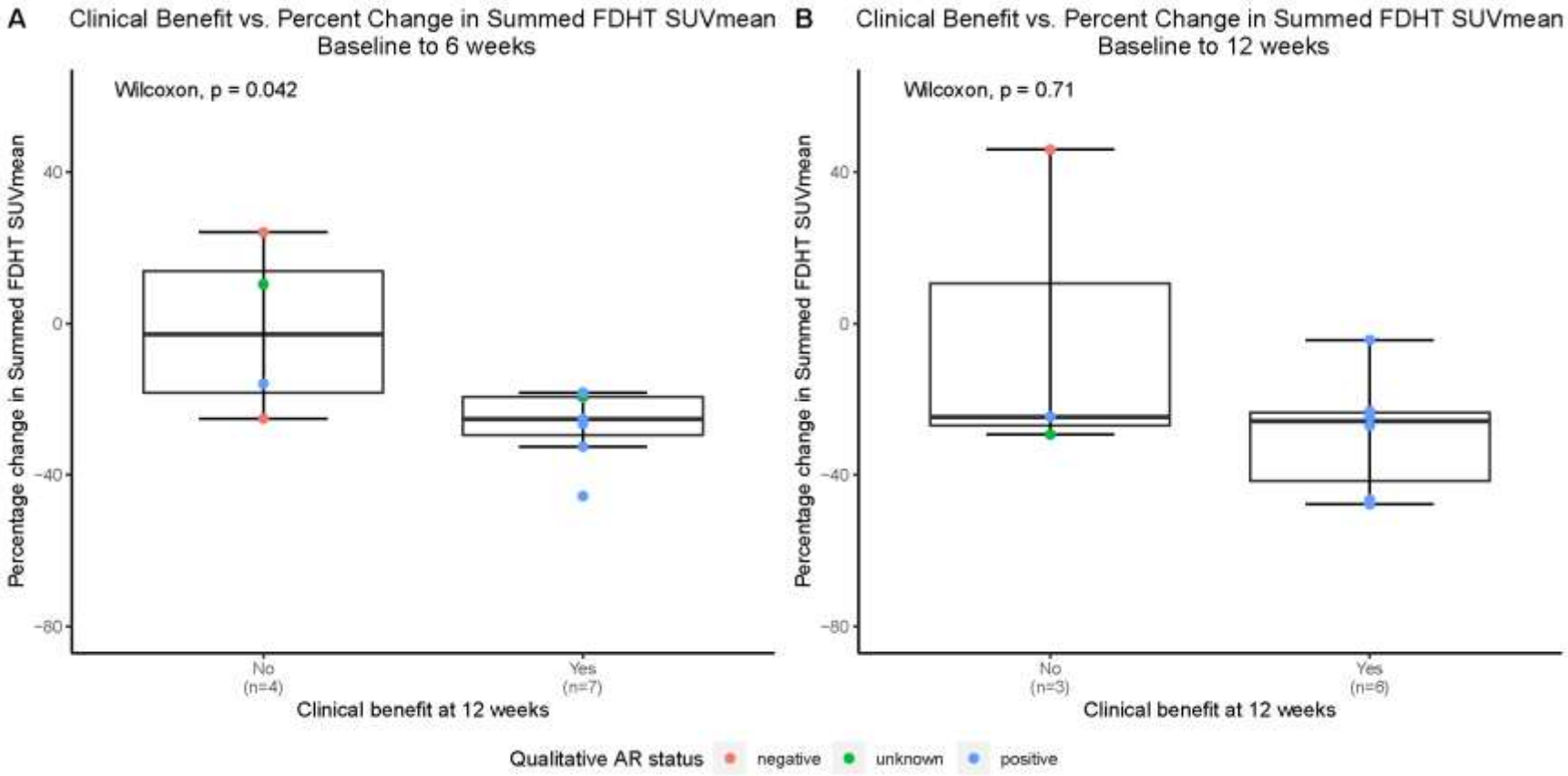
Participants with clinical benefit at 12 weeks tended to have larger declines in FDHT uptake for SUVmean (hottest lesion) at **(A)** 6 weeks after starting GTx-024 and **(B)** 12 weeks after starting GTx-024.

Supplemental Figure 5. Clinical Benefit at 12 Weeks after Starting Therapy vs. Change in FDHT Uptake: summed FDHT SUVmax



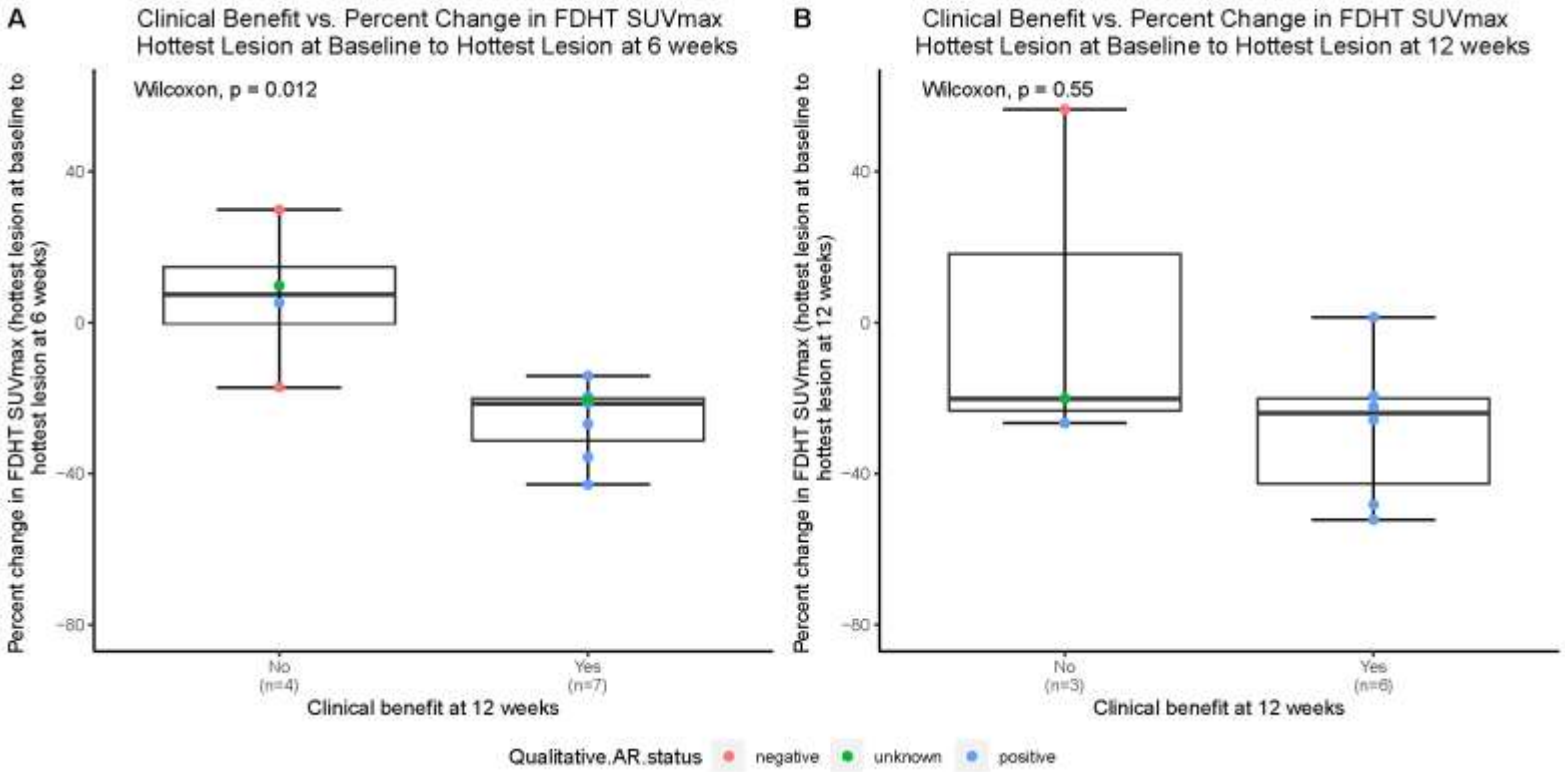
Participants with clinical benefit at 12 weeks tended to have larger declines in FDHT uptake for summed SUVmax at **(A)** 6 weeks after starting GTx-024, but not at **(B)** 12 weeks after starting GTx-024.

Supplemental Figure 6. Clinical Benefit at 12 Weeks after Starting Therapy vs. Change in FDHT Uptake: summed FDHT SUVmean



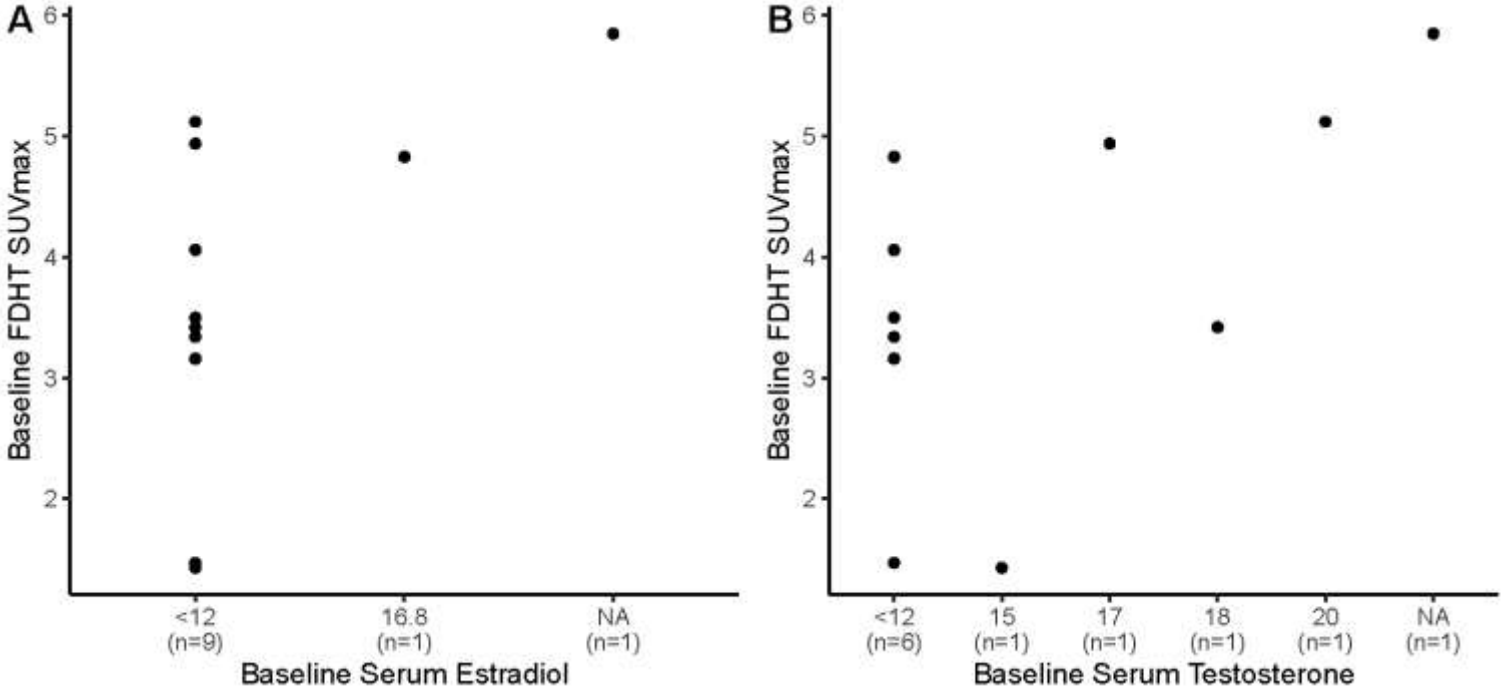
Participants with clinical benefit at 12 weeks tended to have larger declines in FDHT uptake for summed SUVmean at **(A)** 6 weeks after starting GTx-024, but not at **(B)** 12 weeks after starting GTx-024.

Supplemental Figure 7. Clinical Benefit at 12 Weeks after Starting Therapy vs. Change in FDHT Uptake Using PERCIST-like Criteria.

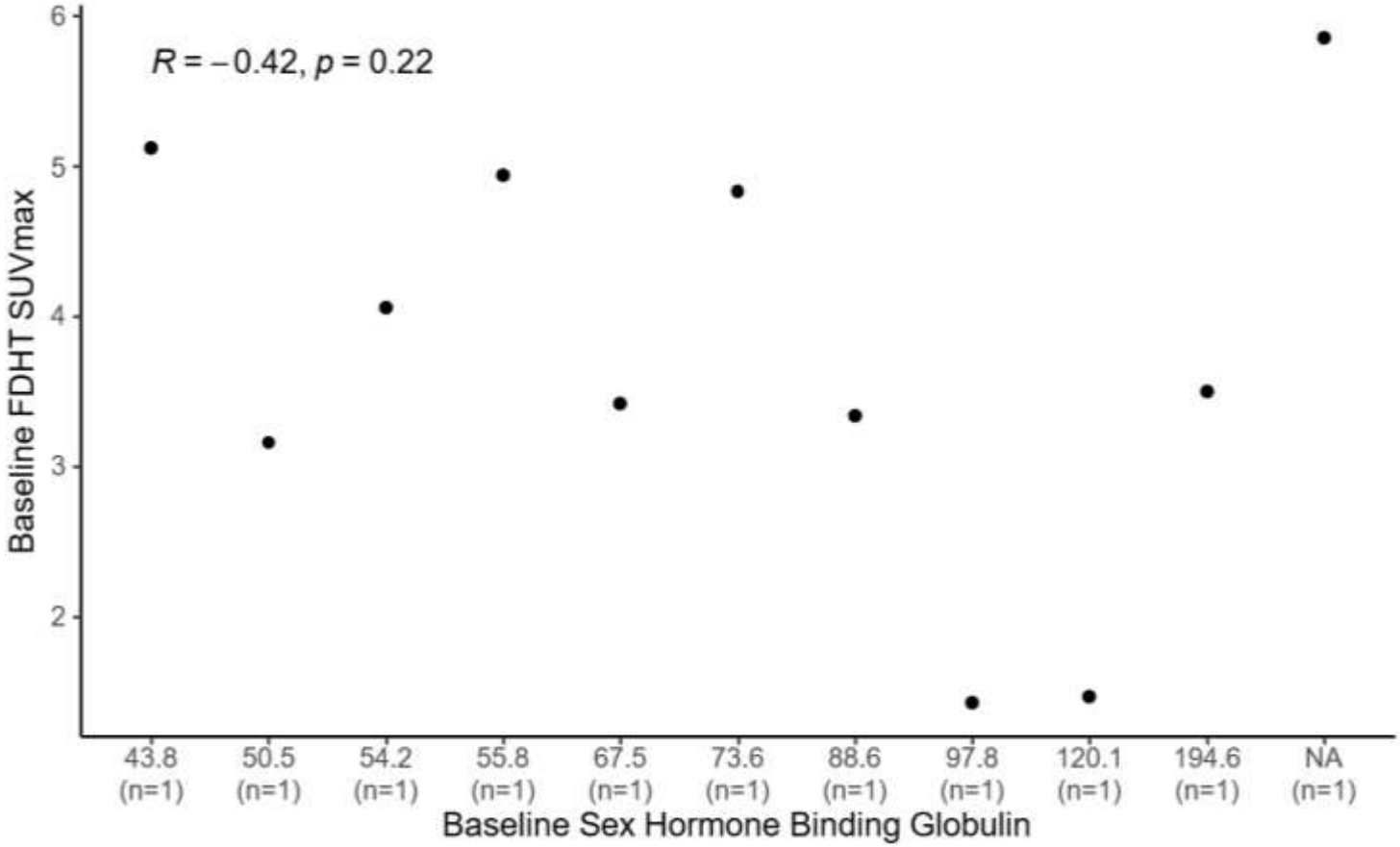


A) Participants with clinical benefit at 12 weeks had larger declines in FDHT SUVmax comparing the hottest lesion at baseline to the hottest lesion at week 6 (median decline 21.4%, range -42.9 to -14.1%) after starting GTx-024 compared to those with disease progression (6 weeks: increase 7.6%, range -17.1%to +29.9%, p=0.012). **B)** No significant differences were seen comparing the change in FDHT SUVmax of the hottest lesion at baseline to the hottest lesion at week 12 after starting GTx-024 between those with and without clinical benefit (p>0.5).

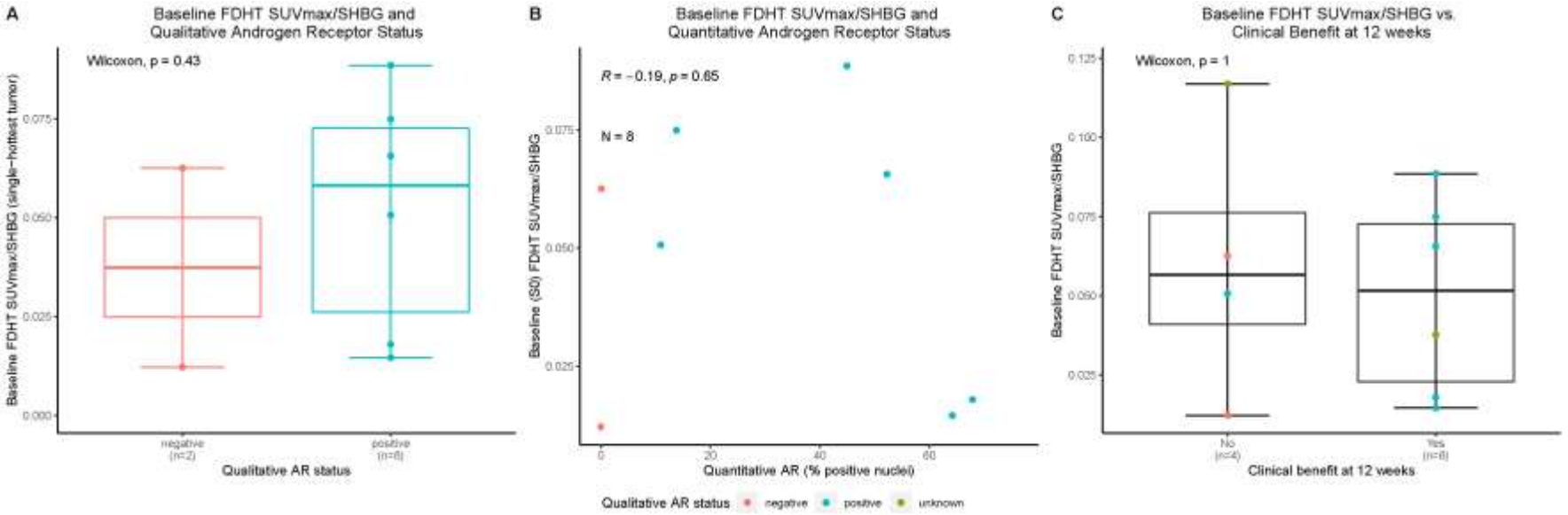
Supplemental Figure 8. Baseline FDHT uptake in tumor vs. baseline estradiol and testosterone levels. No correlations were observed.



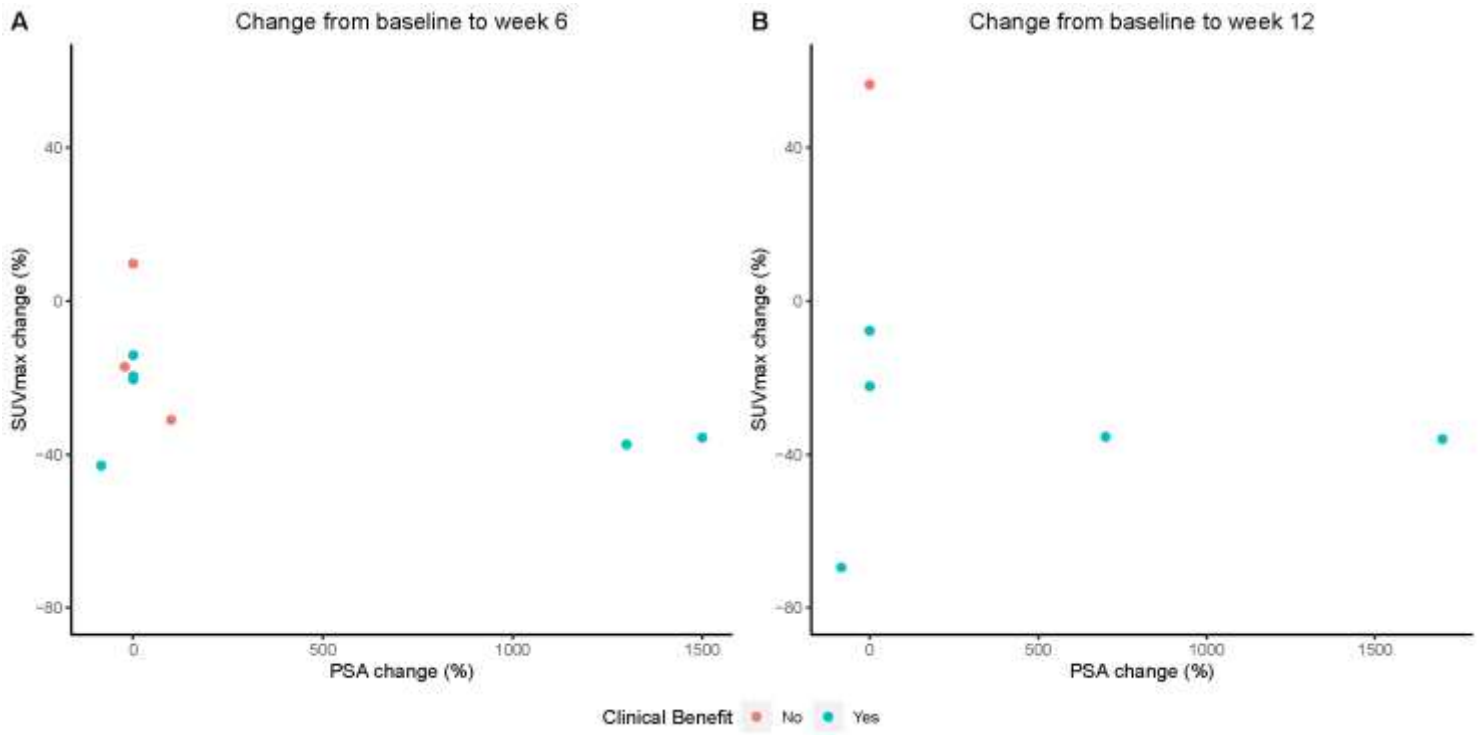
Supplemental Figure 9. Baseline FDHT uptake in tumor vs. baseline sex-hormone binding globulin levels. A trend towards higher baseline FDHT uptake with lower baseline sex-hormone binding globulin levels was observed.



Supplemental Figure 10. FDHT SUVmax/SHBG versus AR Status at Baseline and Clinical Benefit at 12 weeks: No correlations were observed.



Supplemental Figure 11. Change in PSA levels, FDHT uptake and best overall response.



No correlations were observed. At baseline, 10 participants had PSA levels assessed. At 6 weeks after starting GTx-024, 2 participants did not have PSA assessable for change: 1 with clinical benefit and 1 without clinical benefit. At 12 weeks after starting GTx-024, 5 participants did not have PSA assessable for change: 2 with clinical benefit and 3 without clinical benefit.