

## Supplementary Figure 1 (S1)

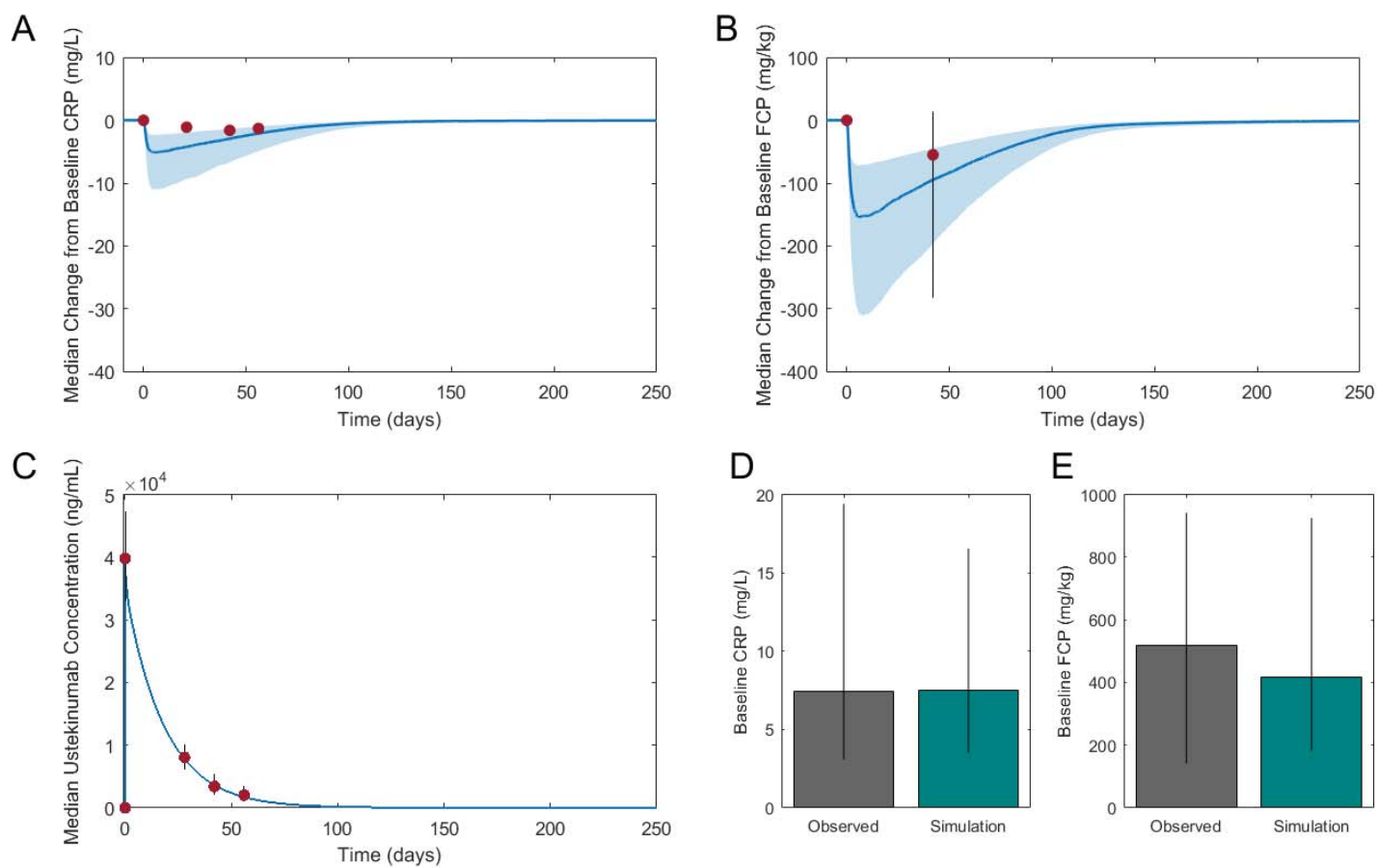


Figure S1: Concentration time profiles (CRP, FCP, ustekinumab) in response to a dose of ustekinumab (130 mg).

## Supplementary Figure 2 (S2)

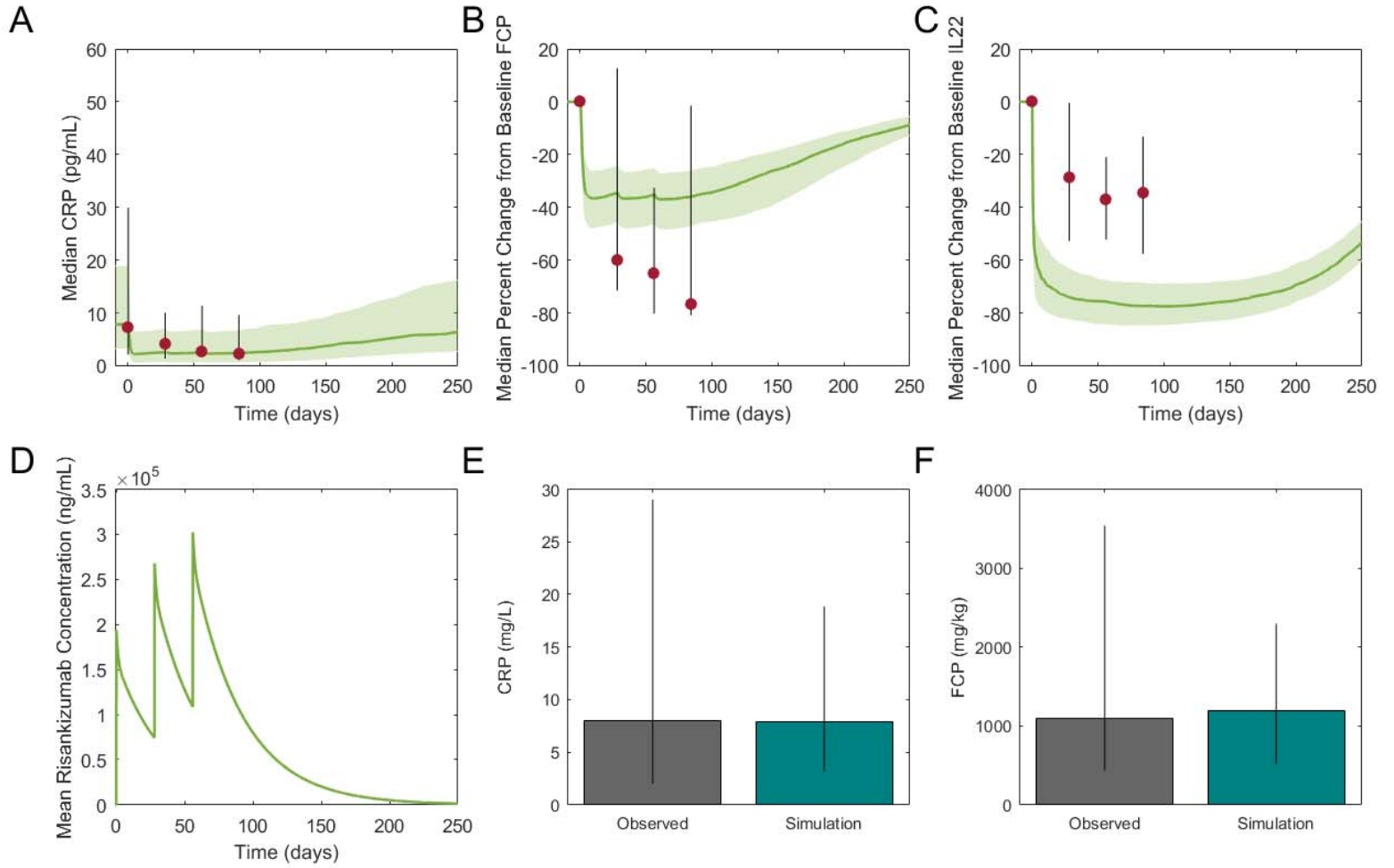


Figure S2: concentration time profiles (CRP, FCP, IL22, risankizumab) in response to a dose of risankizumab (600 mg).

## Supplementary Figure 3 (S3)

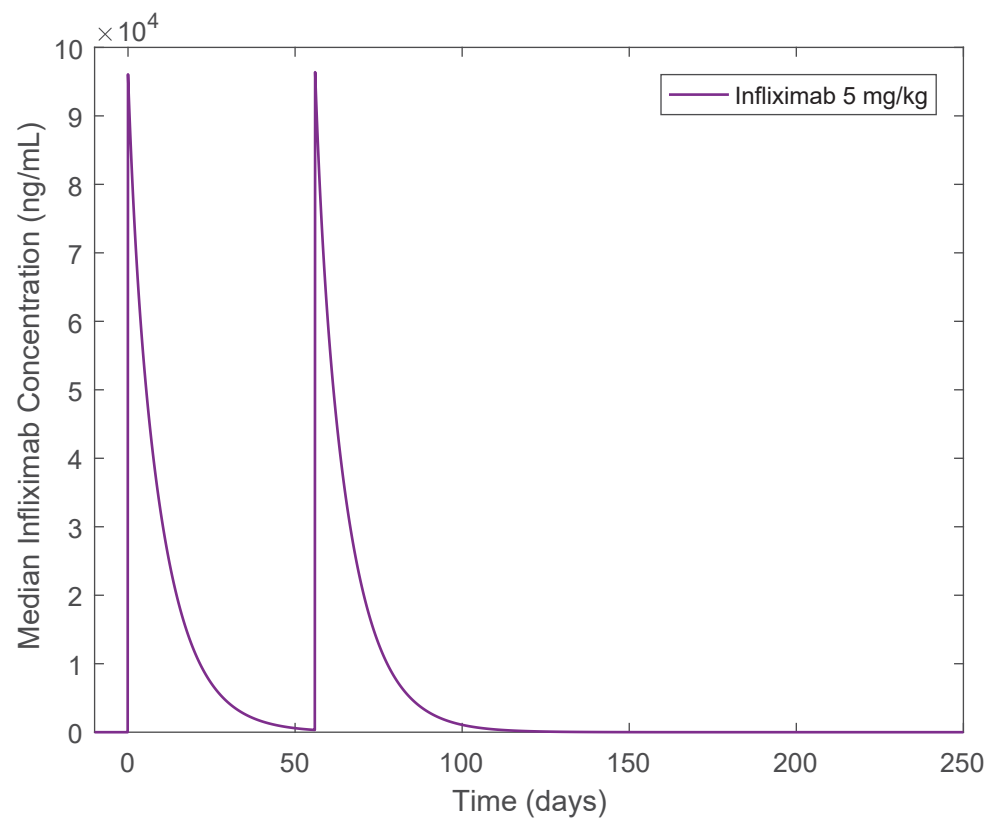


Figure S3: Concentration time profile for 5 mg/kg infiximab given IV at 0 and 8 weeks.

## Supplementary Figure 4 (S4)

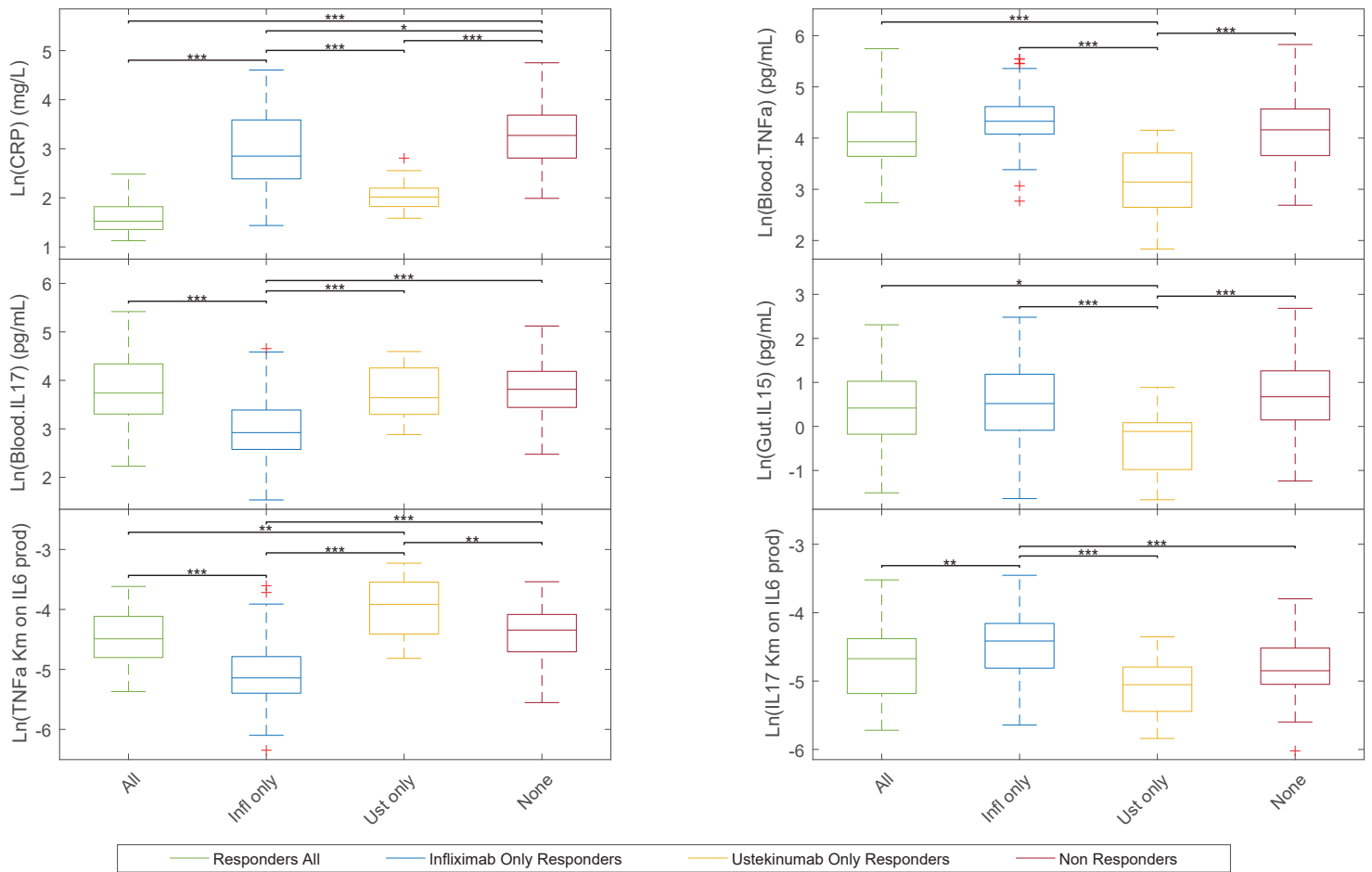


Figure S4: Boxplots of different CRP responder groups when response is considered as an absolute cutoff of 3 mg/L CRP.

# Supplementary Figure 5 (S5)

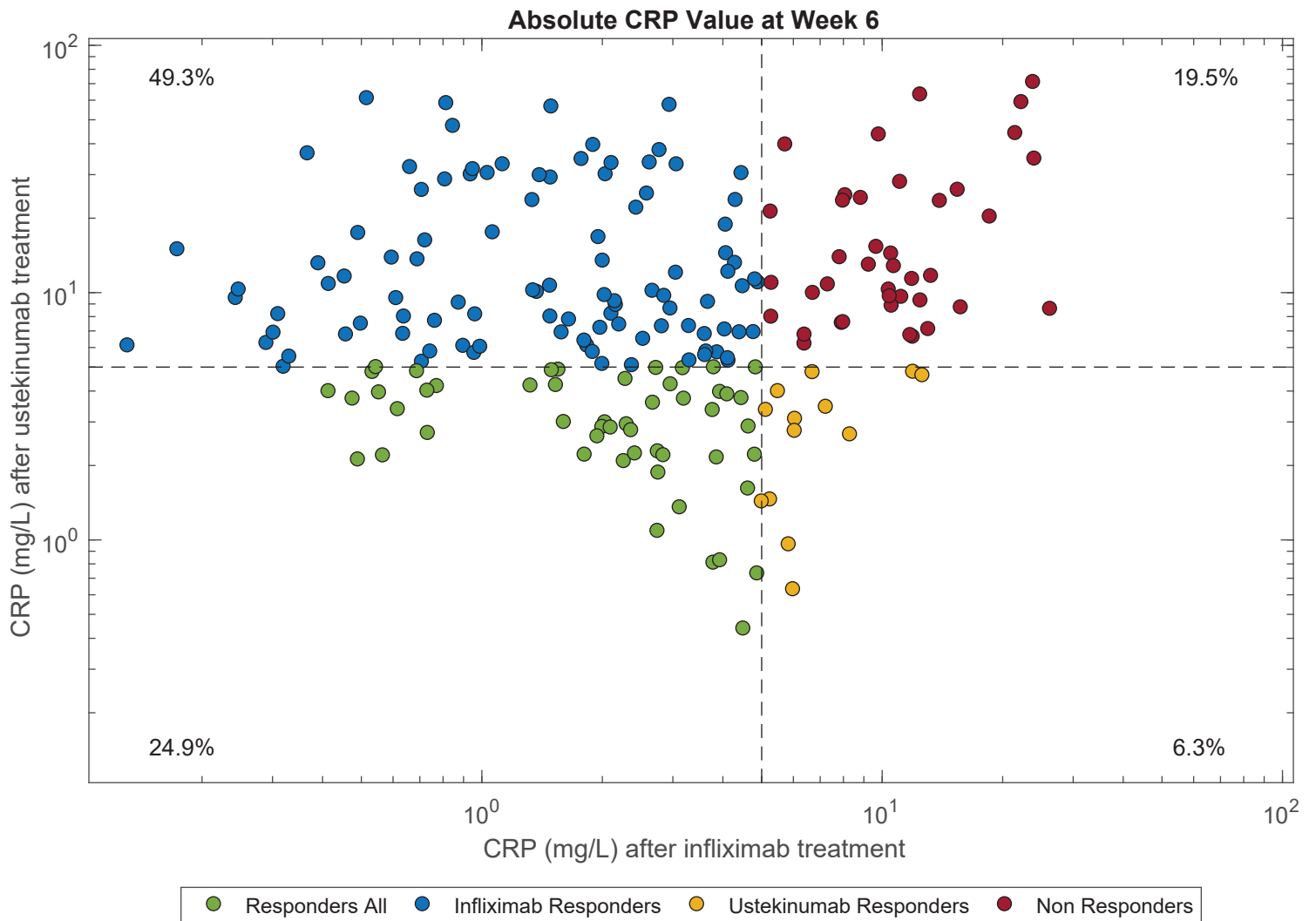


Figure S5: Subject level CRP response to infliximab or ustekinumab using a 5 mg/L CRP cutoff.

Supplementary Figure 6 (S6)

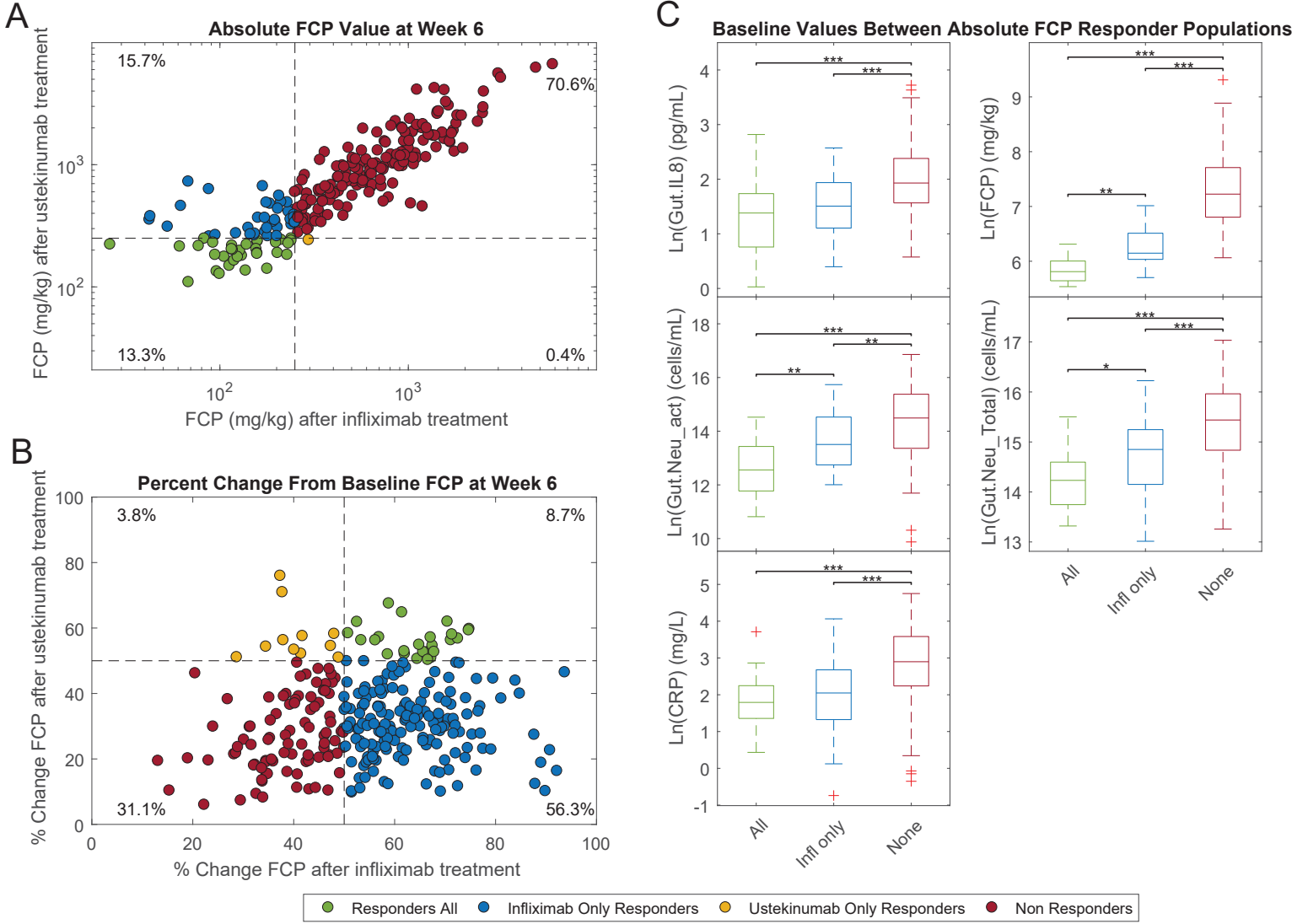


Figure S6: .Subject level FCP response to infliximab or ustekinumab.

## Supplementary Figure 7 (S7)

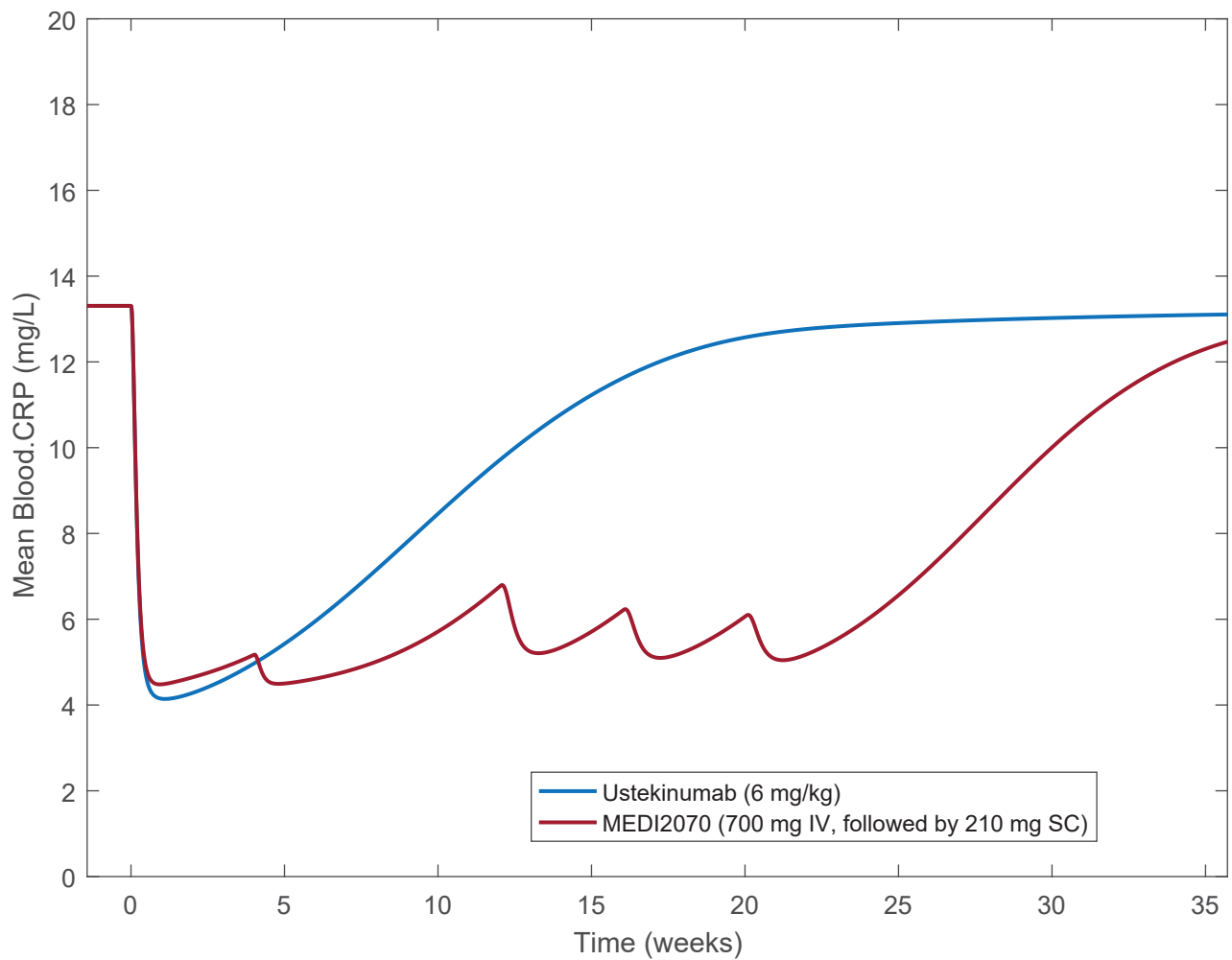


Figure S7: – Prediction of mean CRP profiles following either ustekinumab or MEDI2070 using the same virtual population.

## Supplementary Figure 8 (S8)

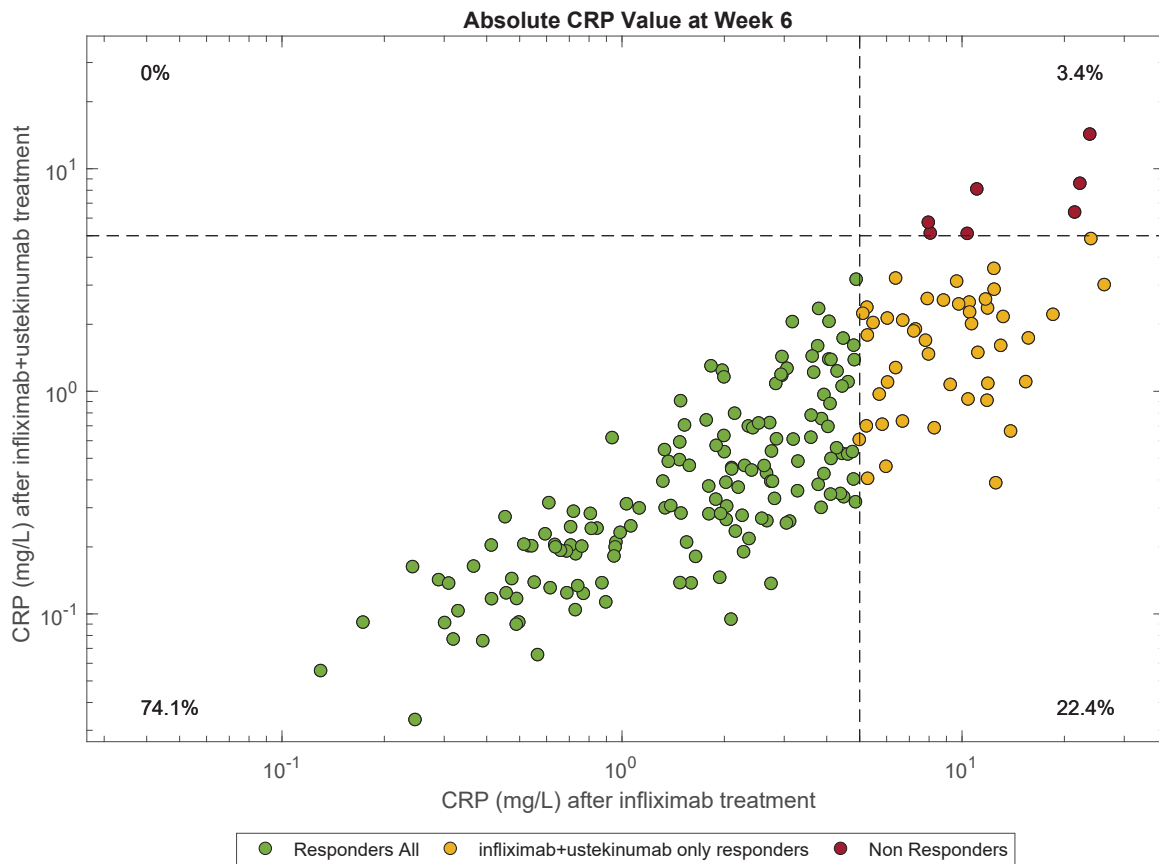


Figure S8: Subject level CRP response to infliximab or ustekinumab + infliximab using a 5 mg/L CRP cutoff.



Supplementary Figure 9 (S9)

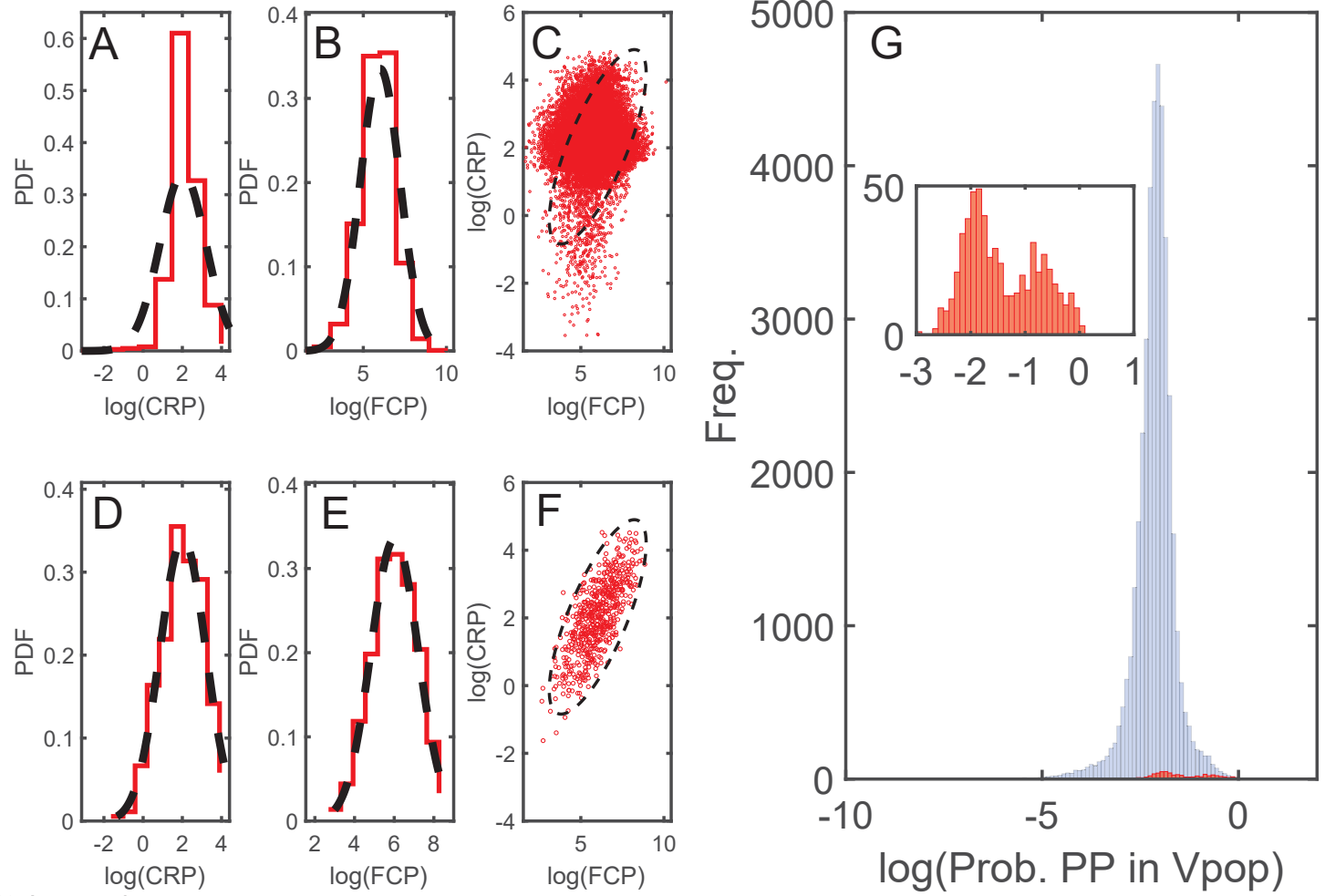
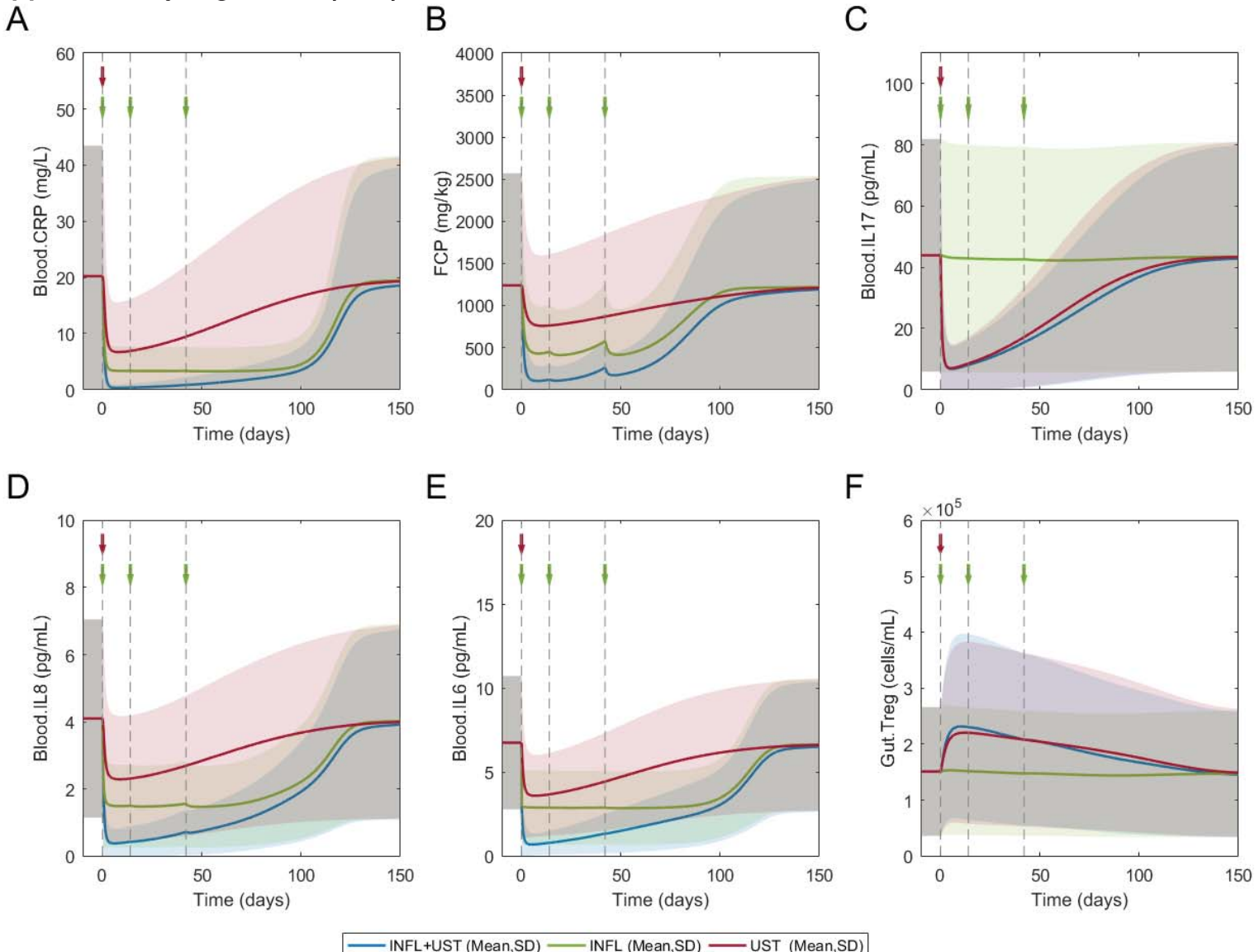


Figure S9: Selection of baseline ustekinumab virtual population.

Supplementary Figure 10 (S10)



— INFL+UST (Mean,SD) — INFL (Mean,SD) — UST (Mean,SD)

Figure S10: Model prediction of infliximab and ustekinumab combination treatment in CD patients with variability