INTRODUCTION
Exebacase is a first-in-class bacteriophage-derived lysin with activity against Staphylococcus aureus (S. aureus). Exebacase was isolated from Streptococcus salivarius and is produced in E. coli and a recombinant protein, which is then purified. S. aureus is a Gram-positive bacteria that is common in the skin and mucous membranes and is often found in the nasal and oral cavities. It is known for its ability to cause infections, including abscesses, boils, and pneumonia, and is a major cause of antibiotic resistance. Exebacase affects S. aureus by lysing the bacterial cell to lyse.

METHODS
Exebacase concentration-time data was analyzed using a non-linear mixed effect modeling approach. The model included a 3-compartment model with allometric scaling to describe the PK data. The model also included a 3-compartment model with allometric scaling to describe the PD data. The model was stratified by species for time after last dose < 25 hours. Percentiles (5th, 50th, and 95th) of the observed data were plotted, along with the 95th percent confidence lines, to assess the model's predictive ability. The final model parameters were estimated using the SAEM algorithm.

RESULTS
The observed data were plotted, along with the 95th percent confidence lines, to assess the model's predictive ability. The final model parameters were estimated using the SAEM algorithm.

CONCLUSIONS
The final model parameters were estimated using the SAEM algorithm.

REFERENCE

Figure 1. Schematic of the PK model for exebacase (CF-301).

Figure 2. Mouse tissue concentrations (log10 CFU/g of tissue) for different PK-PD conditions.

Figure 3. The relationship between log10(CFU/g of tissue) and AUC/MIC (min/h/mL) for a range of exebacase dose regimens in addition to suboptimal doses of daptomycin in rabbit IE model.

Table 1. Time required for 90% reduction in bacterial counts for different AUC/MIC values and dose regimens in the rabbit IE model.

Table 2. Summary of PK parameters in patients treated with exebacase and confirms that all patients (>99%) achieve an AUC/MIC ratio >0.5 that is the minimum value required for efficacy in the rabbit IE model.