

Population pharmacokinetics of ADG20, an extended–half-life monoclonal antibody being developed for the treatment and prevention of COVID-19

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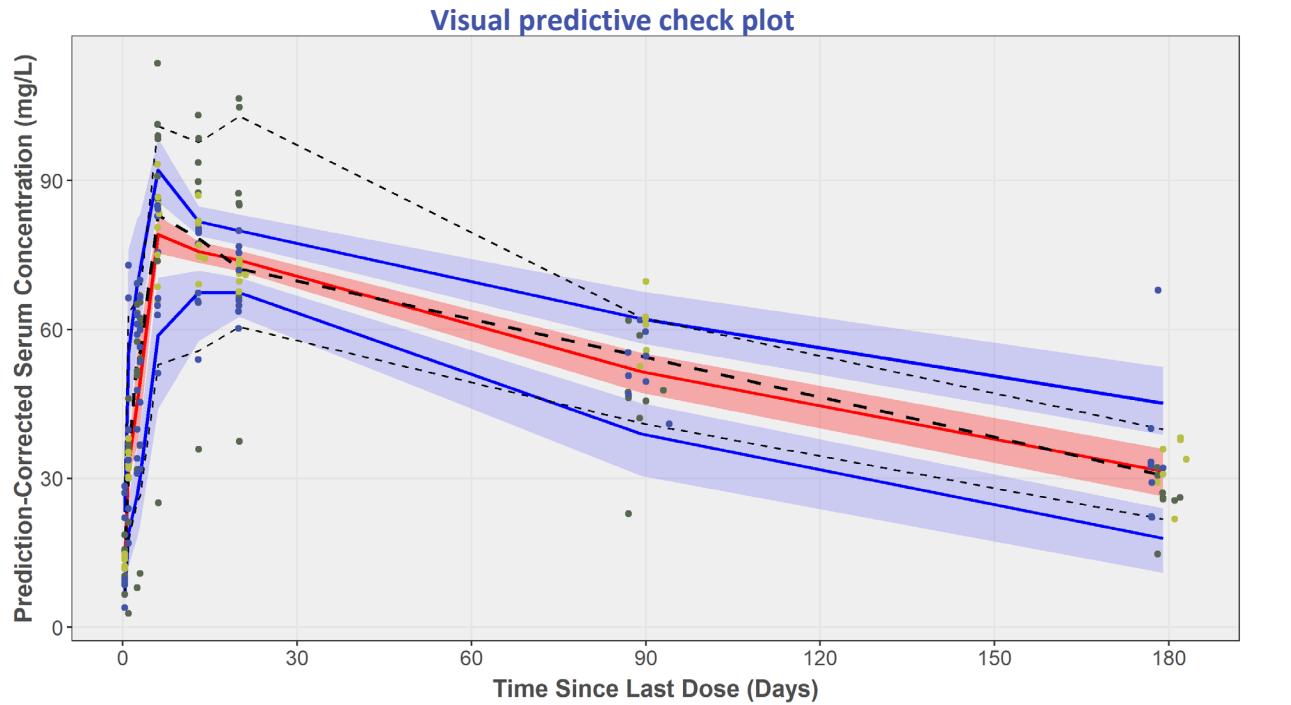
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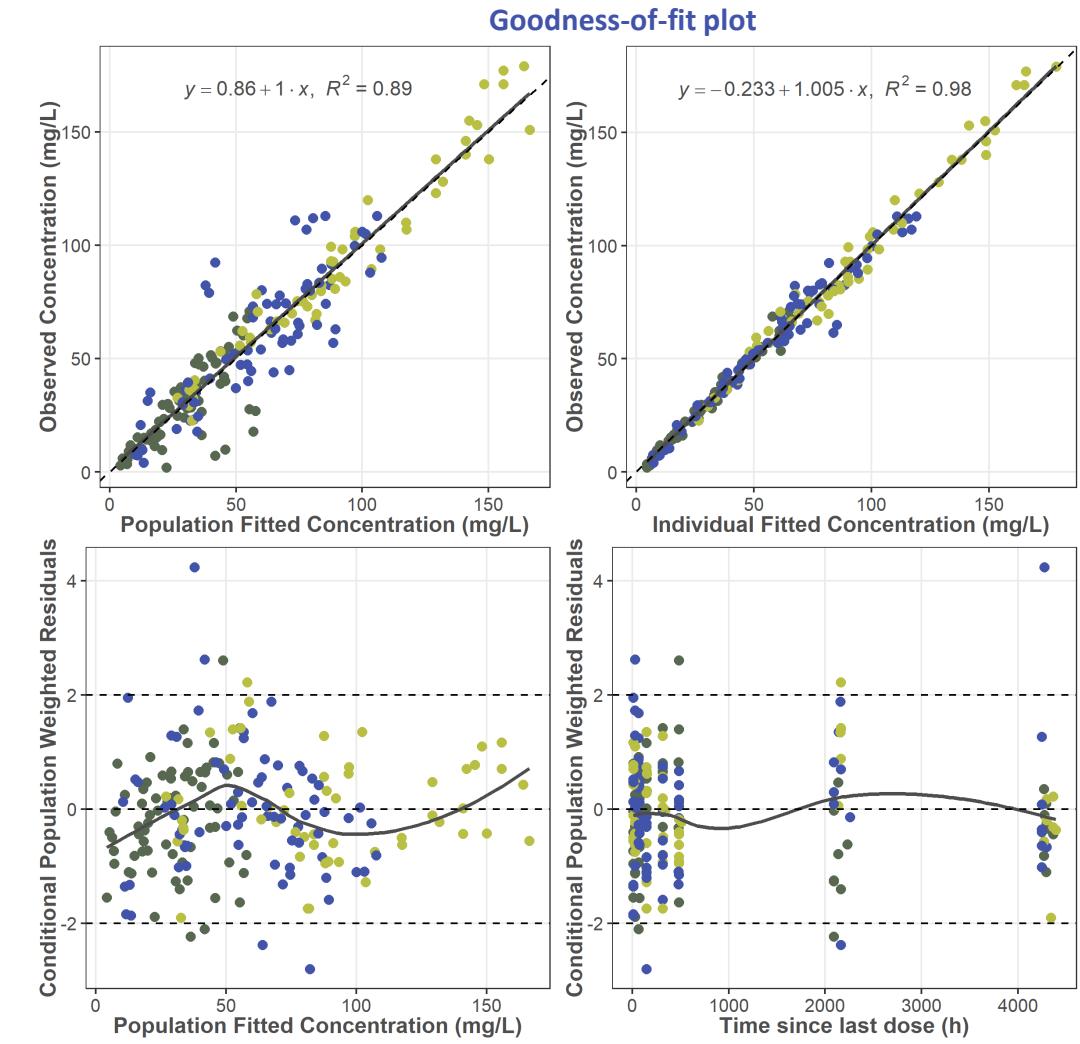
Population PK model provides a robust fit to observed ADG20 prediction-corrected observed concentrations in healthy adults in a phase 1 study¹



- Circles represent the prediction-corrected observed ADG20 concentrations
- Long dashed and short dashed black lines represent the median and 5th/95th percentiles of the prediction-corrected observed data, respectively
- Red line and shaded region represent the median and 90% prediction interval for the median simulated prediction-corrected concentrations
- Blue lines and shaded regions represent the medians and 90% prediction interval for the 5th and 95th percentiles of the prediction-corrected simulated data

IM, intramuscular; IV, intravenous; PK, pharmacokinetic.

1. Paguntalan H, et al. Presented at IDWeek; September 29–October 3, 2021; Virtual. Poster 633.

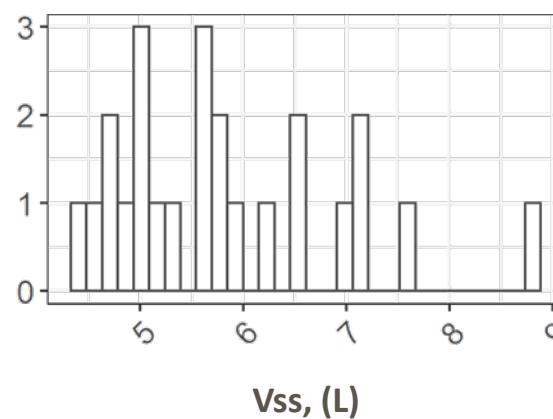
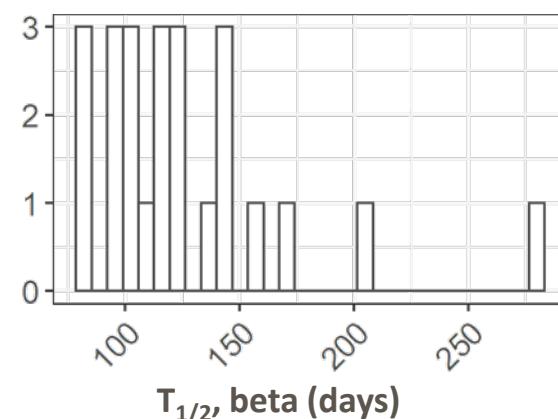
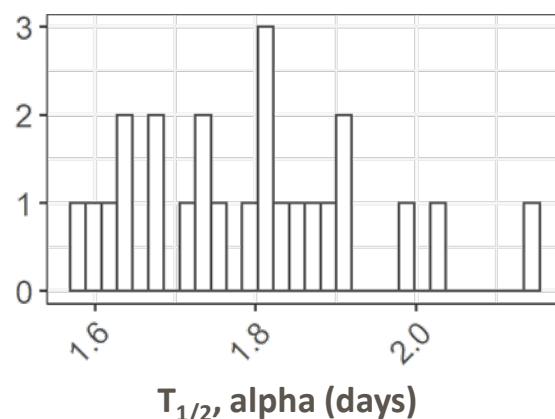
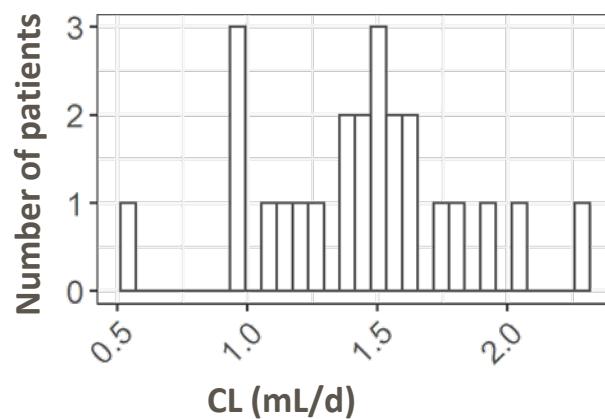


Population PK model results are consistent with the intended PK characteristics of ADG20: prolonged half-life

- The median population prediction of elimination half-life was 123 days

Parameter, median (range)	ADG20 300 mg IM (n=8)	ADG20 500 mg IV (n=8)	ADG20 600 mg IM (n=8)
AUC _{0-6 months} , g*h/L	123 (79.6–133)	249 (205–309)	247 (202–375)
C _{max} , mg/L	44.8 (30.8–56.4)	158 (118–187)	85.5 (66.5–131)
CL, mL/d	1.69 (1.49–2.28)	1.24 (0.954–1.59)	1.39 (0.530–1.95)
Vss, L	5.46 (4.48–8.88)	5.35 (4.71–7.11)	5.97 (4.72–7.55)
T _{1/2, alpha} , days	1.84 (1.64–2.14)	1.75 (1.65–1.90)	1.81 (1.58–1.99)
T _{1/2, beta} , days	99.4 (79.3–114)	130 (96.9–173)	134 (97.9–277)

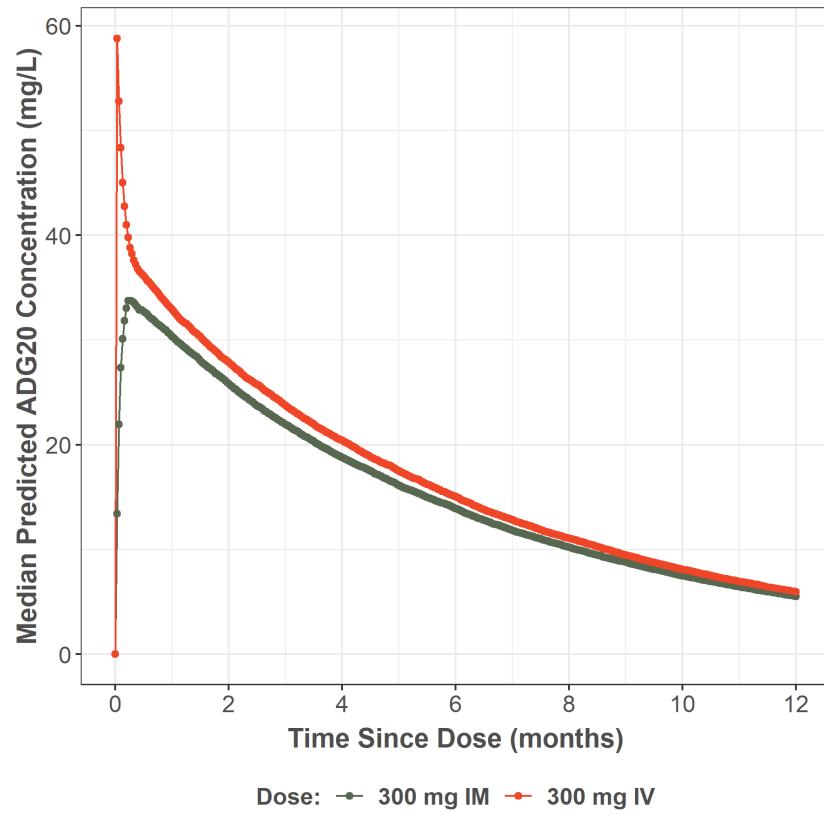
Key ADG20 PK parameter distributions across all doses



AUC, area under the curve; CL, clearance; C_{max}, maximum serum concentration; T_{1/2}, half-life; Vss, steady state volume of distribution.



Population PK model results are consistent with the intended PK characteristics of ADG20: high IM bioavailability and absorption



- Plot shows the population mean predicted concentrations over time with IV and IM administration
- At a dose of 300 mg, ADG20 has robust IM bioavailability (92.2%)
- Absorption from the IM depot results in lower peak concentrations than the IV depot, but profiles are similar after ~two months

CONCLUSIONS

- A 2-compartment population pharmacokinetic model with linear elimination and first-order IM absorption provided a precise and unbiased fit to the observed ADG20 concentration-time data
- The results are consistent with the intended pharmacokinetic characteristics of ADG20 (ie, prolonged half-life and high IM bioavailability)
- This population pharmacokinetic model will be useful for future pharmacokinetic-pharmacodynamic analyses and simulations conducted to support phase 2/3 dose selection
- Analyses of clinical data for the prevention (EVADE)¹ and treatment (STAMP)² of COVID-19 to assess the preliminary safety and efficacy of ADG20 are ongoing

1. EVADE, ClinicalTrials.gov Identifier: NCT04859517; 2. STAMP, ClinicalTrials.gov Identifier: NCT04805671.

