## SIGNIFICANCE STATEMENT

The formation of neutralizing antidrug antibodies (ADA) limits efficacy of recombinant enzyme replacement therapy (ERT) with agalsidase for patients with Fabry disease (FD). The authors used advanced inhibition and titration assays with purified IgGs to measure individual ADA titers in men with FD receiving ERT (for a median of 94 months), and determined whether patients were saturated (achieved agalsidase/antibody equilibrium after infusions) or not saturated (had excess ADAs). Compared with not saturated patients, saturated patients had better clinical outcomes (as measured by change in eGFR and interventricular septum thickness) and better biochemical outcomes (as measured by reduction in plasma lyso-globotriaosylceramide levels) over time. Dose adjustments resulted in a measurable saturation of previously not saturated patients, pointing toward the need for more personalized treatment of affected patients with FD.