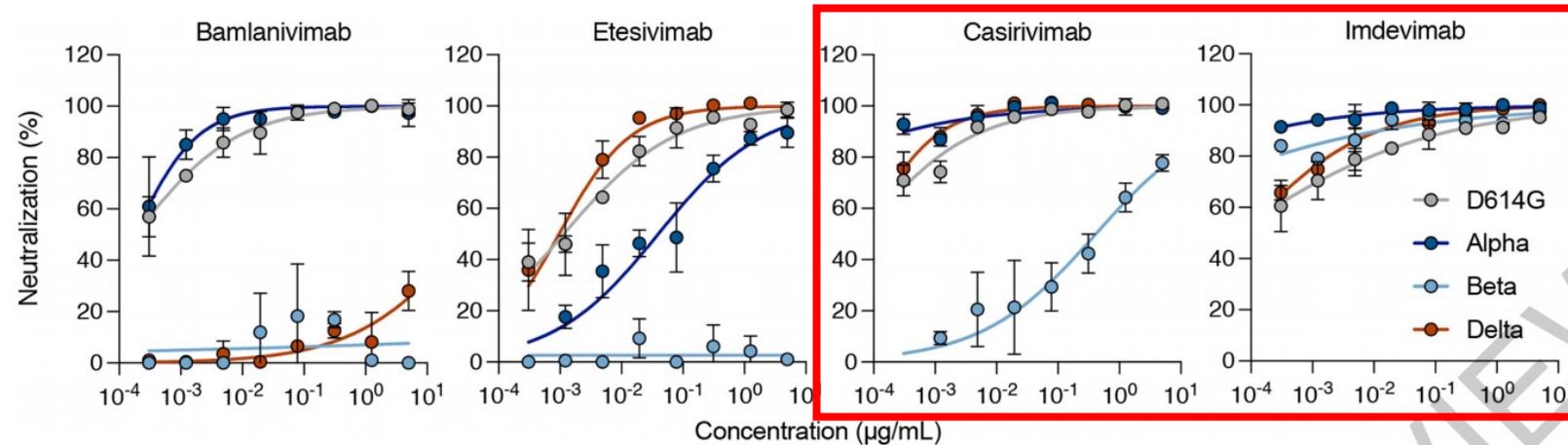


# Monoclonal Antibodies and the Delta Variant

- Casirivimab-imdevimab (REGEN-COV) and sotrovimab **still provide activity against the Delta variant (B.1.617.2) and are recommended by DHHS and NIH** for treatment of outpatients with mild to moderate COVID-19.



**Fig. 1 | Neutralization of SARS-CoV-2 variants D614G, Alpha, Beta and Delta by therapeutic mAbs.** Neutralization curves of mAbs. Dose response analysis of the neutralization by four therapeutic mAbs (Bamlanivimab, Etesivimab, Casirivimab and Imdevimab) on D614G strain and variants Alpha, Beta and Delta. Data are mean ± SD of four independent experiments.

**Table 6: Pseudotyped Virus-Like Particle Neutralization Data for SARS-CoV-2 Variant Substitutions with Casirivimab and Imdevimab Together**

Lineage with Spike Protein Substitution	Key Substitutions Tested	Fold Reduction in Susceptibility
B.1.1.7 (UK origin)	N501Y <sup>a</sup>	no change <sup>d</sup>
B.1.351 (South Africa origin)	K417N, E484K, N501Y <sup>b</sup>	no change <sup>d</sup>
P.1 (Brazil origin)	K417T + E484K <sup>c</sup>	no change <sup>d</sup>
B.1.427/B.1.429 (California origin)	L452R	no change <sup>d</sup>
B.1.526 (New York origin) <sup>e</sup>	E484K	no change <sup>d</sup>
B.1.617.1/B.1.617.3 (India origin)	L452R+E484Q	no change <sup>d</sup>
B.1.617.2 (India origin)	L452R+K478T	no change <sup>d</sup>

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- Bamlanivimab-etesevimab would provide activity against Delta as well, but this combination's distribution is on hold due to significantly reduced efficacy against Beta (B.1.351) and Gamma (P.1) variants.

Planas, D. et al. Reduced sensitivity of SARS-CoV-2 variant Delta to antibody neutralization. Nature <https://doi.org/10.1038/s41586-021-03777-9> (2021).

REGEN-COV EUA Fact Sheet for Providers. Available at: <https://www.regeneron.com/downloads/treatment-covid19-eua-fact-sheet-for-hcp.pdf>.

COVID-19 Treatment Guidelines Panel. Coronavirus Disease 2019 (COVID-19) Treatment Guidelines. National Institutes of Health. Available at <https://www.covid19treatmentguidelines.nih.gov/>.