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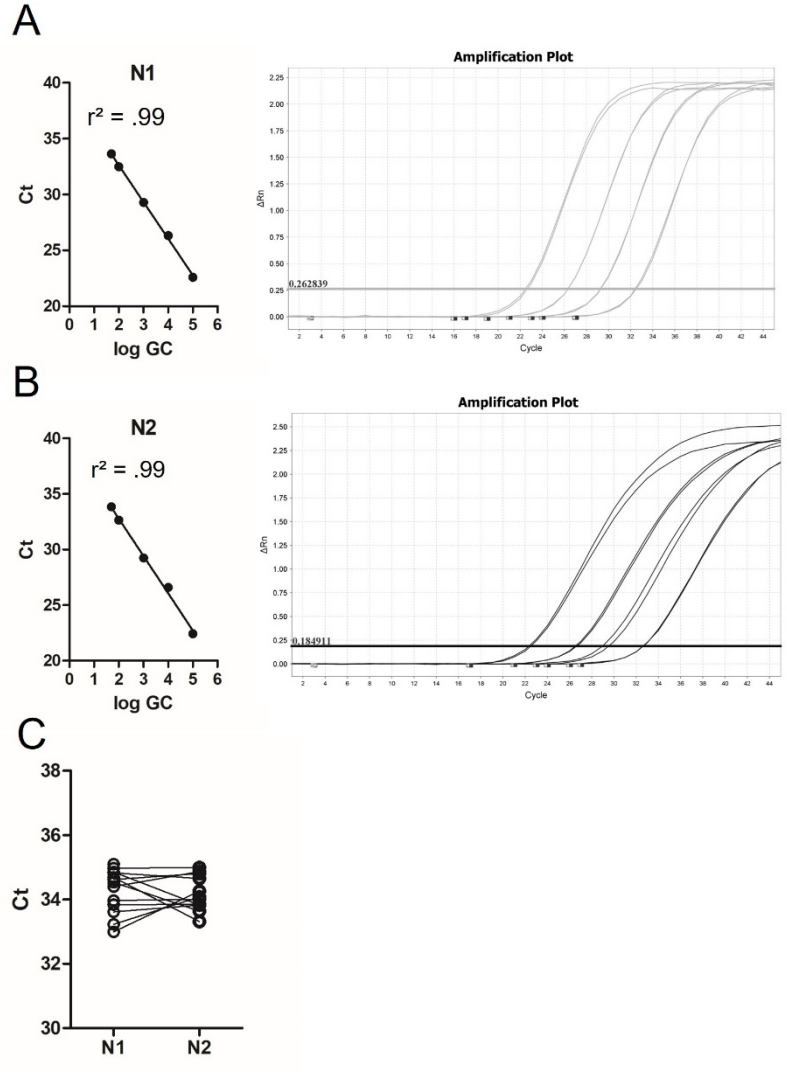

Supplemental figure 1. Limit of detection (LoD) from N1 and N2 targets using commercial plasmids. Commercial plasmids provided by Integrated DNA Technologies (IDT) contained nucleocapsid phosphoprotein gene of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) were used to determinates the LoD of N1 and N2 regions targets by primers sets and probes designed by United States' Centers for Disease Control and Prevention. All samples' Ct were determined using the same threshold value acquired from the standard curves. left panels show the linear regression and right panels show the amplification plots of plasmids dilutions detected by (A) N1 and (B) N2 primer/probe sets. (C) shows pairwise analyses of N1 and N2 Ct values of samples with 5 GC/µL of N gene. GC: genome copies.

A

>NC_045512.2:28274-29533 severe acute respiratory syndrome coronavirus 2 isolate Wuhan-Hu-1, Nucleocapsid Phosphoprotein gene

ATGTCTGATAATGGACCCCAAAATCAGCGAAATGCACCCCGCATTACGTTTGGTGGACCCTCAGATTCAA
CTGGCAGTAACCAGAATGGAGAACGCAGTGGGGCGCGATCAAAACAACGTCGGCCCCAAGGTTTACCCAA
TAATACTGCGTCTTGGTTCACCGCTCTCACTCAACATGGCAAGGAAGACCTTAAATTCCCTCGAGGACAA
GGCGTTCCAATTAACACCAATAGCAGTCCAGATGACCAAATTGGCTACTACCGAAGAGCTACCAGACGAA
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GAACAACATTGCCAAAAGGCTTCTACGCAGAAGGGAGCAGAGGCGGCAGTCAAGCCTCTTCTCGTTCCTC
ATCACGTAGTCGCAACAGTTCAAGAAATTCAACTCCAGGCAGCAGTAGGGGAACTTCTCCTGCTAGAATG
GCTGGCAATGGCGGTGATGCTGCTCTTGCTTTGCTGCTGCTTGACAGATTGAACCAGCTTGAGAGCAAAA
TGTCTGGTAAAGGCCAACAACAACAAGGCCAAACTGTCACTAAGAAATCTGCTGCTGAGGCTTCTAAGAA
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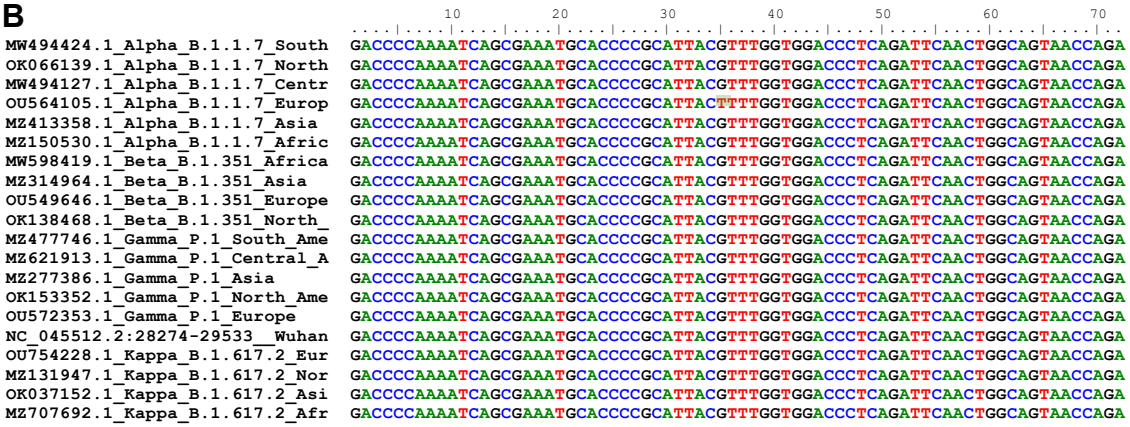
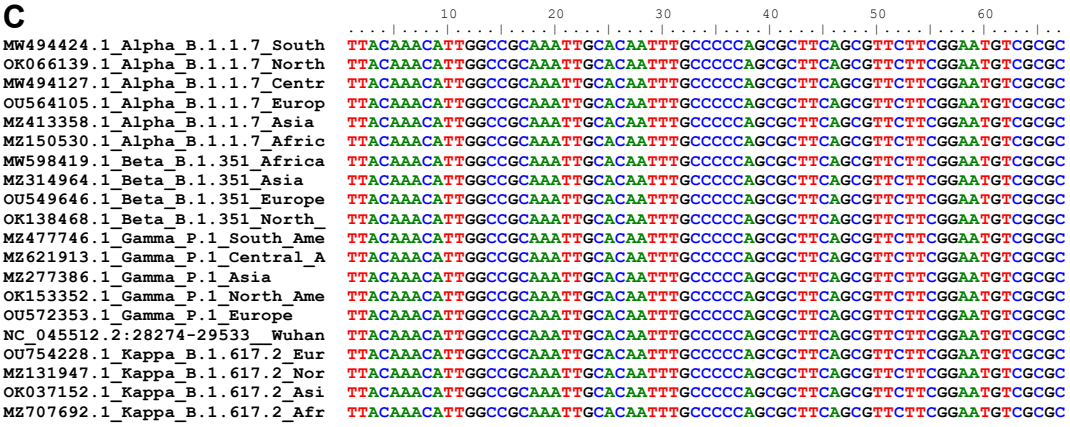
B



C



Supplemental figure 2. Melting regions of nucleocapsid phosphoprotein (NP) gene in severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) variants. (A) Sequence of the first case of SARS-CoV-2 infection was compared with disposable NP gene sequences from new variant isolates until September 2021. (B-C) shows a single mutation in the region of N1 and no mutations in region of N2 targets in the analyzed sequences.