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**Supplementary Data**

**Comparison of viral propagation and drug response among SARS-CoV-2 VOCs using replicons capable of recapitulating virion assembly and release**

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**Supplementary Table S1** Sequence information of all primers and TaqMan probes used in this study.

|  |  |
| --- | --- |
| Primer/Probe | Sequences (5′–3′) |
| 1F | attaaaggtttataccttcccaggtaac |
| 1F-Delta | acttaaggtccataccttcccaggtaac |
| 6195R | ggtgtgtagtgtttataatcaatagccacc |
| 6099F | ctggttataagaaacctgcttcaagagagc |
| 12296R | gggtcatagcttgatcagccatcttttc |
| 12188F | gttgttcttaaaaagttgaagaagtctttg |
| 18407R | cctgtaggtacagcaactaggttaacacc |
| 18281F | gacatgtacgtgcatggattggcttcgatg |
| 21622R | ggttgtaagattaacacactgactagagactag |
| 20674F | caaccgggtgttgctatgcctaatc |
| 21555R | ttagttgttaacaagaacatcactag |
| 25266F | atgtttgtttttcttgttttattgccactagtctctagtcagtgtgttaatcttacaaccgctgtatgaccagttgctgtag |
| 28131F | atgttcttgttaacaactaaacgaacaatgacagtttcctgtttaccttttacaattaattg |
| 29870R | gtcattctcctaagaagctattaaaatcac |
| 5HM-R | gttattaattatactgcgtgagtgcactaagcatgc |
| 3HM-F | gatcgagtgtacagtgaacaatgctagggag |
| TRS-L-F | aaaccaaccaactttcgatctcttgtagatctgttc |
| 29533R | ttaggcctgagttgagtcagca |
| China CDC 2019-nCoV orf1ab-F | ccctgtgggttttacacttaa |
| China CDC 2019-nCoV orf1ab-R | acgattgtgcatcagctga |
| China CDC 2019-nCoV orf1ab-P | 5′-FAM-ccgtctgcggtatgtggaaaggttatgg-BHQ1-3′ |
| China CDC 2019-nCoV N-F | ggggaacttctcctgctagaat |
| China CDC 2019-nCoV N-R | cagacattttgctctcaagctg |
| China CDC 2019-nCoV N-P | 5′-FAM-ttgctgctgcttgacagatt-TAMRA-3′ |

**Supplementary Table S2** The mutations in the two VOC-derived replicons.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Region | Position | WIV 04 | Beta | Delta |
| 5′ UTR (nt) | 174 nt | G | T | G |
| 210 nt | G | G | T |
| 241 nt | C | T | T |
| nsp 2 | 85 aa | T | I | T |
| 129 aa | P | P | L |
| nsp 3 | 822 aa | P | P | L |
| 837 aa | K | N | K |
| nsp 4 | 446 aa | A | A | V |
| nsp 5 | 90 aa | K | R | K |
| nsp 6 | 106/107/108 aa | S/G/F | - | S/G/F |
| 149 aa | V | V | A |
| 157 aa | A | A | V |
| nsp 12 | 323 aa | P | L | L |
| 671 aa | G | G | S |
| nsp 13 | 77 aa | P | P | L |
| nsp 14 | 46 aa | P | P | L |
| ORF 3a | 26 aa | S | S | L |
| 57 aa | Q | H | Q |
| 171 aa | S | L | S |
| E | 71 aa | P | L | P |
| M | 82 aa | I | I | T |
| ORF 7a | 82 aa | V | V | A |
| 116 aa | L | L | F |
| 120 aa | T | T | I |
| ORF 8 | 118/119 aa | L/D | L/D | - |
| 120 aa | T | T | I |
| N | 63 aa | D | D | G |
| 203 aa | R | R | M |
| 205 aa | T | I | T |
| 223 aa | L | L | R |
| 242 aa | Q | Q | - |
| 377 aa | D | D | Y |
| 3′ UTR (nt) | 68 nt | G | G | T |