

# CERTIFICATE OF ANALYSIS

## 2019-nCoV-Panel Pseudovirus Standard Reference

### Product information

|             |   |
|-------------|---|
| Name        | 2019-nCoV-Panel Pseudovirus Standard Reference  |
| Catalog No. | CBV30023  |
| Lot No.     | CGD2022091502   |
| Format      | Virus   |
| Gene        | Gene N, Gene E, ORF1ab/RdRP   |
| Sequence    | <p>Gene N (1260bp):</p> <p>ATGTCTGATAATGGACCCCAAATCAGCGAAATGCACCCCGCA<br/>           TTACGTTTGGTGGACCCTCAGATTCAACTGGCAGTAACCAGAA<br/>           TGGAGAACGCAGTGGGGCGCGATCAAACAACGTGGGCCCA<br/>           AGGTTTACCCAATAATACTGCGTCTTGGTTCACCGCTCTACTC<br/>           AACATGGCAAGGAAGACCTTAAATTCCCTCGAGGACAAGGCGT<br/>           TCCAATTAACACCAATAGCAGTCCAGATGACCAAATTGGCTAC<br/>           TACCGAAGAGCTACCAGACGAATTCGTGGTGGTGACGGTAAAA<br/>           TGAAAGATCTCAGTCCAAGATGGTATTTCTACTACCTAGGAAC<br/>           TGGGCCAGAAGCTGGACTTCCCTATGGTGCTAACAAAGACGGC<br/>           ATCATATGGGTTGCAACTGAGGGAGCCTTGAATACACCAAAG<br/>           ATCACATTGGCACCCGCAATCCTGCTAACAAATGCTGCAATCGT<br/>           GCTACAACCTCCTCAAGGAACAACATTGCCAAAAGGCTTCTAC<br/>           GCAGAAGGGAGCAGAGGCGGCAGTCAAGCCTCTTCTCGTTTCT<br/>           CATCACGTAGTCGCAACAGTTCAAGAAATTCAACTCCAGGCAG<br/>           CAGTAGGGGAACCTTCTCCTGCTAGAATGGCTGGCAATGGCGGT<br/>           GATGCTGCTCTTGCTTTGCTGCTGCTTGACAGATTGAACAGCT<br/>           TGAGAGCAAAATGTCTGGTAAAGGCCAACAAACAAGGCCA<br/>           AACTGTCACTAAGAAATCTGCTGCTGAGGCTTCTAAGAAGCCT<br/>           CGGCAAAAACGTACTGCCACTAAAGCATAACAATGTAACACAA<br/>           GCTTTCGGCAGACGTGGTCCAGAACAACCCAAGGAAATTTG<br/>           GGGACCAGGAACTAATCAGACAAGGAACTGATTACAAACATT<br/>           GGCCGCAAATTGCACAATTTGCCCCAGCGCTTCAGCGTTCTTC<br/>           GGAATGTCGCGCATTGGCATGGAAGTCACACCTTCGGGAACGT<br/>           GGTTGACCTACACAGGTGCCATCAAATTGGATGACAAAGATCC<br/>           AAATTTCAAAGATCAAGTCATTTTGCTGAATAAGCATATTGAC<br/>           GCATAAAAACATTCCCACCAACAGAGCCTAAAAAGGACAAA<br/>           AAGAAGAAGGCTGATGAAACTCAAGCCTTACCGCAGAGACAG<br/>           AAGAAACAGCAAACCTGTGACTCTTCTTCTGCTGCAGATTTGG<br/>           ATGATTTCTCAAACAATTGCAACAATCCATGAGCAGTGCTGA<br/>           CTCAACTCAGGCCTAA</p> <p>Gene E (228bp):</p> <p>ATGTAATCATTTCGTTTCGGAAGAGACAGGTACGTTAATAGTTA<br/>           ATAGCGTACTTCTTTTTCTTGCTTTCGTGGTATTCTTGCTAGTTA<br/>           CACTAGCCATCCTTACTGCGCTTCGATTGTGTGCGTACTGCTGC</p> |

AATATTGTAAACGTGAGTCTTGTAACCTTCTTTTTACGTTA  
CTCTCGTGTTAAAAATCTGAATTCTTCTAGAGTTCCTGATCTC  
TGGTCTAA

ORF1ab/RdRP (2995bp)

GTTGTCTGTAAGTCCGTTGCCACATAGATCATCCAAATCCTAAA  
GGATTTTGTGACTTAAAAGGTAAGTATGTACAAATACCTACAA  
CTTGTGCTAATGACCCTGTGGGTTTTACACTTAAAAACACAGTC  
TGTACCGTCTGCGGTATGTGGAAAGGTTATGGCTGTAGTTGTG  
ATCAACTCCGCGAACCATGCTTCAGTCAGCTGATGCACAATC  
GTTTTTAAACGGGTTTGCAGGTGTAAGTGCAGCCCGTCTTACACC  
GTGCGGCACAGGCACTAGTACTGATGTCGTATACAGGGCTTTT  
GACATCTACAATGATAAAGTAGCTGGTTTTGCTAAATTCCTAA  
AACTAATTGTTGTCGCTTCCAAGAAAAGGACGAAGATGACAA  
TTTAATTGATTCTTACTTTGTAGTTAAGAGACACACTTTCTCTA  
ACTACCAACATGAAGAAACAATTTATAATTTACTTAAGGATTG  
TCCAGCTGTTGCTAAACATGACTTCTTTAAGTTTAGAATAGACG  
GTGACATGGTACCACATATATCACGTCAACGTCTTACTAAATA  
CACAATGGCAGACCTCGTCTATGCTTTAAGGCATTTTGATGAA  
GGTAATTGTGACACATTAAGAAATACTTGTACACATACAATT  
GTTGTGATGATGATTATTTCAATAAAAAGGACTGGTATGATTTT  
GTAGAAAACCCAGATATATTACGCGTATACGCCAACTTAGGTG  
AACGTGTACGCCAAGCTTTGTTAAAAACAGTACAATTCTGTGA  
TGCCATGCGAAATGCTGGTATTGTTGGTGTACTGACATTAGAT  
AATCAAGATCTCAATGGTAACTGGTATGATTTCCGGTGATTTTCAT  
ACAAACCACGCCAGGTAGTGGAGTTCCTGTTGTAGATTCTTATT  
ATTCATTGTTAATGCCTATATTAACCTTGACCAGGGCTTTAACT  
GCAGAGTCACATGTTGACACTGACTTAACAAAGCCTTACATTA  
AGTGGGATTTGTTAAAATATGACTTCACGGAAGAGAGGTTAAA  
ACTCTTTGACCGTTATTTTAAATATTGGGATCAGACATAACCACC  
CAAATTGTGTTAACTGTTTGGATGACAGATGCATTCTGCATTGT  
GCAAACCTTAATGTTTTATTCTCTACAGTGTTCCACCTACAAG  
TTTTGGACCACTAGTGAGAAAAATTTTGTGATGGTGTTCAT  
TTGTAGTTTCAACTGGATACCCTTACAGAGAGCTAGGTGTTGTA  
CATAATCAGGATGTAACTTACATAGCTCTAGACTTAGTTTTAA  
GGAATTACTTGTGTATGCTGCTGACCCTGCTATGCACGCTGCTT  
CTGGTAATCTATTACTAGATAAACGCACTACGTGCTTTTTCAGTA  
GCTGCACTTACTAACAATGTTGCTTTTCAAACGTCAAACCCCG  
TAATTTTAAACAAGACTTCTATGACTTTGCTGTGTCTAAGGGTT  
TCTTTAAGGAAGGAAGTTCTGTTGAATTAACACTTCTTCTTT  
GCTCAGGATGGTAATGCTGCTATCAGCGATTATGACTACTATC  
GTTATAATCTACCAACAATGTGTGATATCAGACAACACTACTATT  
GTAGTTGAAGTTGTTGATAAGTACTTTGATTGTTACGATGGTGG  
CTGTATTAATGCTAACCAAGTCATCGTCAACAACCTAGACAAA  
TCAGCTGGTTTTCCATTTAATAAATGGGGTAAGGCTAGACTTTA  
TTATGATTCAATGAGTTATGAGGATCAAGATGCACTTTTTCGCAT  
ATACAAAACGTAATGTCATCCCTACTATAACTCAAATGAATCT  
TAAGTATGCCATTAGTGCAAAGAATAGAGCTCGCACCGTAGCT  
GGTGTCTCTATCTGTAGTACTATGACCAATAGACAGTTTCATCA

AAAATTATTGAAATCAATAGCCGCCACTAGAGGAGCTACTGTA  
GTAATTGGAACAAGCAAATTCTATGGTGGTTGGCACAACATGT  
TAAAAACTGTTTATAGTGATGTAGAAAACCCTCACCTTATGGG  
TTGGGATTATCCTAAATGTGATAGAGCCATGCCTAACATGCTT  
AGAATTATGGCCTCACTTGTCTTGCTCGCAAACATACAACGTG  
TTGTAGCTTGTACACCGTTTCTATAGATTAGCTAATGAGTGTG  
CTCAAGTATTGAGTGAAATGGTCATGTGTGGCGGTTCACTATA  
TGTTAAACCAGGTGGAACCTCATCAGGAGATGCCACAACGTGCT  
TATGCTAATAGTGTTTTTAACATTTGTCAAGCTGTCACGGCCAA  
TGTTAATGCACTTTTATCTACTGATGGTAACAAAATTGCCGATA  
AGTATGTCCGCAATTTACAACACAGACTTTATGAGTGTCTCTAT  
AGAAATAGAGATGTTGACACAGACTTTGTGAATGAGTTTTACG  
CATATTTGCGTAAACATTTCTCAATGATGATACTCTCTGACGAT  
GCTGTTGTGTGTTTCAATAGCACTTATGCATCTCAAGGTCTAGT  
GGCTAGCATAAAGAAGCTTTAAGTCAGTTCTTTATTATCAAAC  
AATGTTTTTATGTCTGAAGCAAAATGTTGGACTGAGACTGACC  
TACTAAAGGACCTCATGAATTTTGCTCTCAACATACAATGCTA  
GTTAAACAGGGTGATGATTATGTGTACCTTCCTTACCCAGATCC  
ATCAAGAATCCTAGGGGCCGGCTGTTTTGTAGATGATATCGTA  
AAAACAGATGGTACACTTATGATTGAACGGTTCGTGTCTTTAG  
CTATAGATGCTTACCCACTTACTAAACATCCTAATCAGGAGTAT  
GCTGATGTCTTTCATTTGTACTIONTACAATAACATAAGAAAGCTACA  
TGATGAGTTAACAGGACACATGTTAGACATGTATTCTGTTATG  
CTTACTAATGATAACACTTCAAGGTATTGGGAACCTGAGTTTTA  
TGAGGCTATGTACACACCCGCATACAGTCTTACAG

|                     |  |
|---------------------|--|
| NCBI No.            | NC_045512.2                            |
| Buffer              | 1xPBS                                  |
| Storage Conditions  | -80°C                                  |
| Date of Manufacture | 09.15.2022                             |
| Expiry              | 12 months from the date of manufacture |


## Quality Control


| Test Items              | Standard                             | Results   | Passed |
|-------------------------|--------------------------------------|---|--------|
| Quantity                | 1ml/vial*3vials                      | 1ml/vial*3vials   | √      |
| N Copy Number           | >1x10 <sup>7</sup> copies/ml (DdPCR) | 2.1x10 <sup>7</sup> copies/ml                           | √      |
| E Copy Number           | >1x10 <sup>7</sup> copies/ml (DdPCR) | 1.77x10 <sup>7</sup> copies/ml                          | √      |
| ORF1ab/RdRP Copy Number | >1x10 <sup>7</sup> copies/ml (DdPCR) | 1.26x10 <sup>7</sup> copies/ml                          | √      |
| DNA Residue             | <1% (DdPCR)                          | 0.31% (ORF1ab/RdRP)<br>0.94% (Gene N)<br>0.89% (Gene E) | √      |

### Caution:

For research use only.

If you have any questions about the Certificate of Analysis, please contact us.

Certified by:  Date:\*\*\*\*

 Date:\*\*\*\*