Supplementary Table 1 The primers used for detecting different viruses.

|  |  |  |
| --- | --- | --- |
| Primer name | Primes sequences (5´-3´) | Length of PCRproduct (bp) |
| BoHuV-F | GACAAYGGCATYTGGAAGAAAG | 378 |
| BoHuV-R | TGCAGCGACAGTCGTTCATTCAC |
| BCOV-F | ATGTCTTTTACTCCTGGTAAGCAATC | 774 |
| BCOV-R | ATGTCTTTTACTCCTGGTAAGCAATC |
| BEV-F | CCGACTCCGCACCGATACGTCG | 236 |
| BEV-R | CTCTCAGAGCTACCACTGGGGT |
| BPV-F | GCGAAAACACGACTTTG | 554 |
| BPV-R | GAGCCGTGTCACCAGTGTTA |
| BAstV-F | CGKTAYGATGGKACKATICC | 422 |
| BAstV-R | GGYTTKACCCACATICCRAA |
| BVDV-F | ATGCCCTTAGTAGGACTAGCA | 292 |
| BVDV-R | CAACTCCATGTGCCATGTACAGCAG |

Supplementary Table 2 Amplification primers for the whole genome of five Hunnivirus strains

|  |  |  |  |
| --- | --- | --- | --- |
| Virus name | Primer | Primer sequence ( 5 ' -3 ' ) | Product size |
| BoHuV/WZ/2022 | WZ-1FWZ-IR | CTTACCCTTCATTTGTGAACCCGAATTTTGCCACTGCTGGTTGTAA | 913 bp |
| WZ-2FWZ-2R | TTGGATGTTGAGTCGACTATGGCTGTCACAATAGGAGTGGTT | 1714 bp |
| WZ-3FWZ-3R | GGTGGGTATTTTACAATTTGGCAGCCAATGATTCTCCAAATGGATTGT | 1435 bp |
| WZ-4FWZ-4R | CCACTTTCAGTGAATTCAGGTGACATCACATCTAGCCATGCGGTC | 1534 bp |
| WZ-5FWZ-5R | TGCACAAGATCCACATGATGATGTGCAGCGACAGTCGTTCATTCAC | 1206 bp |
| WZ-6FWZ-6R | TGCGGAATCTGCCAAGACCTGTTCAAGGTCATCAAAGCTAGGAAC | 1557 bp |
| WZ-7FWZ-7R | CGATTCAACTCACATTTGGGATGATTACTCTGGGGAAAATTAACCCT | 665 bp |

Supplementary Table 2 Amplification primers for the whole genome of five Hunnivirus strains（Continued）

|  |  |  |  |
| --- | --- | --- | --- |
| Virus name | Primer | Primer sequence ( 5 ' -3 ' ) | Product size |
| BoHuV/WZ/2022 | WZ-1FWZ-IR | CTTACCCTTCATTTGTGAACCCGAATTTTGCCACTGCTGGTTGTAA | 913 bp |
| WZ-2FWZ-2R | TTGGATGTTGAGTCGACTATGGCTGTCACAATAGGAGTGGTT | 1714 bp |
| WZ-3FWZ-3R | GGTGGGTATTTTACAATTTGGCAGCCAATGATTCTCCAAATGGATTGT | 1435 bp |
| WZ-4FWZ-4R | CCACTTTCAGTGAATTCAGGTGACATCACATCTAGCCATGCGGTC | 1534 bp |
| WZ-5FWZ-5R | TGCACAAGATCCACATGATGATGTGCAGCGACAGTCGTTCATTCAC | 1206 bp |
| WZ-6FWZ-6R | TGCGGAATCTGCCAAGACCTGTTCAAGGTCATCAAAGCTAGGAAC | 1557 bp |
| WZ-7FWZ-7R | CGATTCAACTCACATTTGGGATGATTACTCTGGGGAAAATTAACCCT | 665 bp |

Supplementary Table 2 Amplification primers for the whole genome of five Hunnivirus strains（Continued）

|  |  |  |  |
| --- | --- | --- | --- |
| Virus name | Primer | Primer sequence ( 5 ' -3 ' ) | Product size |
| BoHuV/LZ/2022 | LZ-1FLZ-IR | GGGACCACCACTTTCAGTGACGCACCACCATAAGCAGTAGCAT | 1031 bp |
| LZ-2FLZ-2R | TGGTCAGACGCCAGAAGATGCAGTTGTGGGTGACCCAGGT | 1596 bp |
| LZ-3FLZ-3R | TATGTGGCGGCATACACDCCACCACATCAATCCACTGGGCAAAATC | 1105 bp |
| LZ-4FLZ-4R | CTGGGATGTACATAGATCCGACAACTGGTTGCTGTTGATATCC | 1311 bp |
| LZ-5FLZ-5R | TGGTTTGATGAGATGCGGAAAGGCTTCAATGGATCTGGTCCTG | 975 bp |
| LZ-6FLZ-6R | TGGTGTGACCTTGCAATYGCACTGCAGCGACAGTCGTTCATTCAC | 1318 bp |
| LZ-7FLZ-7R | TGACGGGCCGCTAGCCATGATTATTCAAGRTCATCAAAGCRGGGAAC | 1155 bp |
| LZ-8FLZ-8R | CAGATACTTGCATATGGAGACGTTACTCTGGGGAAAATTAACCCT | 520 bp |

Supplementary Table 2 Amplification primers for the whole genome of five Hunnivirus strains（Continued）

|  |  |  |  |
| --- | --- | --- | --- |
| Virus name | Primer | Primer sequence ( 5 ' -3 ' ) | Product size |
| BoHuV/DH/2022 | DH-1FDH-IR | GGGACCACCACTTTCAGTGACGTCCAGGTCCTTCAAACTCAAAG | 872 bp |
| DH-2FDH-2R | GCAGTCAATATGGAGATTCCATCCAGTCTCTGCAGGTGTAATC | 1786 bp |
| DH-3FDH-3R | AGTTGGTAGTGGTGGCTATTTTACGTCTCCTGAATTCACTGAGAGT | 1389 bp |
| DH-4FDH-4R | TATGGTGTGATTCTTTCCCGTGCACAACTGGTTGCTGTTGATATCC | 1038 bp |
| DH-5FDH-5R | ATGGCAAGCATACCACATGAGAAGAGCTCCCGTCTCAAACTCG | 1180 bp |
| DH-6FDH-6R | TACAGTGGMAYCGCTGTTGTGCATCATGAGCATCAGTTCGGC | 1139bp |
| DH-7FDH-7R | AATGAACGACTGTCGCTGCACGTTCAAGRTCATCAAAGCRGGGAAC | 1079 bp |
| DH-8FDH-8R | TCGTACCAGAAGTGTATGATGGCTTACTCTGGGGAAAATTAACCCT | 550 bp |

Supplementary Table 2 Amplification primers for the whole genome of five Hunnivirus strains（Continued）

|  |  |  |  |
| --- | --- | --- | --- |
| Virus name | Primer | Primer sequence ( 5 ' -3 ' ) | Product size |
| BoHuV/YZ/2022 | YZ-1FYZ-IR | GGGACCACCACTTTCAGTGACAAAAGTCTTCTGGCGTCTGACCA | 851 bp |
| YZ-2FYZ-2R | GGTACAGCTTCATTGTTGCTAGAGCCATGGAATTCAGCTTCAAGTGG | 1158 bp |
| YZ-3FYZ-3R | GTGGCTGGCATGTGCAAGTGCAACTACATTCAGTACATCTGCAAGG | 1241 bp |
| YZ-4FYZ-4R | GGTGGGTATTTTACAATTTGGCAGCAAATCTTGGCACACAGCCGA | 1184 bp |
| YZ-5FYZ-5R | TATGGTGTGATTCTTTCTCGTGCTTCATGTGGTATGCTTGCCATA | 872 bp |
| YZ-6FYZ-6R | TGGTTTGATGAGATGCGGAAAGGCTTCAATGGATCTGGTCCTG | 975 bp |
| YZ-7FYZ-7R | TGGTGTGACCTTGCAATYGCAC GTATGACTGCCCTGCTTCAACT | 1507 bp |
| YZ-8FYZ-8R | AATGAACGACTGTCGCTGCACGTTCAAGRTCATCAAAGCRGGGAAC | 1079 bp |
| YZ-9FYZ-9R | CACTCGTACCAGAAGTGTATGTTACTCTGGGGAAAATTAACCCT | 551 bp |