

**Table S1.** Name and accession number of reference sequences obtained from GenBank used to create the phylogenetic tree and alignment comparison for VP1 gene.

| Strain  | Accession number |
|---|------------------|
| GII/Hu/AU/1994/GII.4 US95_96 [P4]/Camberwell                          | U46500           |
| GII/Hu/UK/1995/GII.4 US_95_96 [P4]                                    | AJ004864         |
| GII/Hu/US/2002/GII.4 Farmington Hills_2002 [P4]/Farmington Hills_2002 | AY502023         |
| GII/Hu/DE/2002/GII.4 Farmington Hills [P4] /Langen1061                | AY485642         |
| GII/Hu/US/2004/GII.4 Farmington_Hills_2002 [P4]/Farmington Hills      | JQ478408         |
| GII/Hu/TUN/2002/GII.4 Hunter_2004 [P4]/11453                          | KU182482         |
| GII/Hu/NL/2004/GII.4 Hunter_2004 [P4]/0317                            | AY883096         |
| GII/Hu/CHN/2005/GII.4 Hunter_2004 [P4]/CU050140                       | HM802542         |
| GII/Hu/US/2006/GII.4 Den Haag_2006b [P4]/Minerva                      | KT152148         |
| GII/Hu/AU/2006/GII.4 Den Haag_2006b [P4]/Shellharbour                 | EF684915         |
| GII/Hu/JP/2006/GII.4 Den Haag_2006b [P4]/Saga1                        | AB447456         |
| GII/Hu/NL/2006/GII.4 Den Haag_2006b [P4]/Nijmegen115                  | EF126966         |
| GII/Hu/NL/2006/GII.4 Den Haag_2006b [P4]/DenHaag89                    | EF126965         |
| GII/Hu/JP/2006/GII.4 Den Haag_2006b [P4]/Kumamoto5                    | AB447463         |
| GII/Hu/CHN/2007/GII.4 Den Haag_2006b [P4]/Beijing/54667               | GQ856461         |
| GII/Hu/CHN/2008/GII.4 Den Haag_2006b [P4]/Beijing/55162               | GQ856458         |
| GII/Hu/SG/2009/GII.4 Den Haag_2006b [P4]/SG4040-08                    | JX459641         |
| GII/Hu/VNM/2009/GII.4 Den Haag_2006b [P4]/20146                       | KM198570         |
| GII/Hu/US/2013/GII.4 Den Haag_2006b [P4]/2013-SP-0460_031813_WI       | KX354091         |
| GII/Hu/US/2015/GII.4 Den_haag_2006b [P4]/2015-SP-0175_042115_MI       | KX354128         |
| GII/Hu/AU/2008/GII.4 Yerseke_2006a [P4]/NSW023C                       | GQ849126         |
| GII/Hu/NL/2006/GII.4 Yerseke_2006a [P4]/Terneuzen70                   | EF126964         |
| GII/Hu/NL/2006/GII.4 Yerseke_2006a [P4]/Yerseke38                     | EF126963         |
| GII/Hu/TW/2006/GII.4 Yerseke_2006a [P4]                               | KM245069         |
| GII/Hu/US/2008/GII.4 New Orleans_2008 [P4]/New Orleans1500            | GU270580         |
| GII/Hu/US/2009/GII.4 New Orleans_2009 [P4]/New Orleans1805            | GU445325         |
| GII/Hu/US/2010/GII.4 New Orleans_2009 [P4]                            | JN595867         |
| GII/Hu/TW/2010/GII.4 New Orleans_2009 [P4]/CGMH25                     | JN400623         |
| GII/Hu/AU/2012/GII.4 Sydney_2012 [P31]/Woonona                        | JX459907         |
| GII/Hu/AU/2012/GII.4 Sydney_2012 [P31]/NSW0514                        | JX459908         |
| GII/Hu/JP/2016/GII.4 Sydney_2012 [P16]/OH16002                        | LC153121         |
| GII/Hu/JP/2016/GII.4 Sydney_2012[P16]/Kawasaki194                     | LC175468         |

**Table S2.** Name and accession number of reference sequences obtained from GenBank used to create the phylogenetic tree and alignment comparison for RdRp gene:.

| Strain   | Accession number |
|--|------------------|
| GII/Hu/US/2001/GII.4 US95_96 [P4]/HS66                           | KJ407076         |
| GII/Hu/US/2004/GII.4 US95_96 [P4]/HS191                          | KC013592         |
| GII/Hu/US/2002/GII.4 Farmington_Hills_2002 [P4]/Farmington Hills | AY502023         |
| GII/Hu/UK/2002/GII.4 Farmington_Hills_2002 [P4]/Farmington Hills | AY587983         |
| GII/Hu/CHN/2005/GII.4 Hunter_2004[P4]/Hong Kong                  | HM802542         |
| GII/Hu/US/2008/GII.4 Hunter_2004 [P4]                            | MH413070         |
| GII/Hu/AU/2005/GII.4 Hunter_2004[P4]/Hunter504D/04O              | DQ078814         |
| GII/Hu/AU/2006/GII.4 Den Haag_2006b [P4] /Shellharbour           | EF684915         |
| GII/Hu/JP/2006/GII.4 Den Haag_2006b [P4]/ Kumamoto5              | AB447463         |
| GII/Hu/US/2009/GII.4 Den Haag_2006b [P4]                         | GU325839         |
| GII/Hu/US/2006/GII.4 Den Haag_2006b [P4]/Minerva                 | KT152148         |
| GII/Hu/JP/GII.4 Den Haag_2006b [P4]/Saga1                        | AB447456         |

|  |          |
|--|----------|
| GII/Hu/VNM/2009/GII.4 Den Haag_2006b [P4]                  | KM198570 |
| GII/Hu/AU/2009/GII.4 Den Haag_2006b [P4] Beecroft          | HM748971 |
| GII/Hu/AU/2011/GII.4 Den haag_2006b [P4]Randwick/NSW882]   | JX459900 |
| GII/Hu/JP/2008/GII.4 Den Haag_2006b [P4]/Toyama4           | AB541360 |
| GII/Hu/JP/2006/GII.4 Yerseke_2006a [P4]/Aomori1            | AB447432 |
| GII/Hu/NL/2012/GII.4 New Orleans_2009 [P4]/Nijmegen01      | LN854571 |
| GII/Hu/US/2009/GII.4 New Orleans_2009 [P4]/New Orleans1805 | GU445325 |
| GII/Hu/US/2010/GII.4 New Orleans_2009 [P4]                 | JN595867 |
| GII/Hu/AU/2012/GII.4 Sydney_2012 [P31]/NSW0514             | JX459908 |
| GII/Hu/KR/2007/GII.4 Den Haag_2006b [P4]/CBNU2             | JQ622197 |
| GII/Hu/JP/2008/GII.4 Den Haag_2006b[P4]/Saga3              | AB541334 |
| GII/Hu/US/2011/GII.4 Yerseke_2006a [P4]/MI001              | KC631814 |

[illegible]