```
                                                                             TRS
HKU15-155 -------GACTAAAGATAAAAATTATAGCATTAGTCTATAATTTTATCTCCCTAGCTTCGCTAGTTCTCTACCGACACCAATCCAGGTGCGTCTGCCACC  100
HKU15-44  -------G............................................................................................  100
HB        ACATGGGG............................................................................................  100
AH2004    ACATGGGG............................................................................................  100
NH        ACATGGGG............................................................................................  100
IL2768    ACATGGGG............................................................................................  100
IN2847    ACATGGGG............................................................................................  100
KY4813    ACATGGGG............................................................................................  100
KNU14-04  ACATGGGG............................................................................................  100
KNU16-07  ACATGGGG............................................................................................  100
KNU16-11  ACATGGGG......................C.............................................................T.......  100
                 *********************** ************************************************************* *******  100

HKU15-155 AAGTTGGCTACCCTTTCTAGGGGCGCTTTTGCGCTTGCTCACCATTAGAT-TACCTGGAAACCAGCCATTCAGGTTGGAGTTTCCCCAGGCTCTTTTGTG  200
HKU15-44  ...............C.............C....................-.................................................  200
HB        ...............C.............C....................-.................................................  200
AH2004    ...............C.............C....................-.................................................  200
NH        ..............CC.............C....................C.................................................  200
IL2768    ...............C.............C....................-.................................................  200
IN2847    ...............C.............C....................-.................................................  200
KY4813    ...............C.............C....................-.................................................  200
KNU14-04  ...............C.............C....................-.................................................  200
KNU16-07  ...............C.............C....................-.................................................  200
KNU16-11  ......A........G..................................-.................................................  200
          ****** *******  ************* ******************** *************************************************  200

HKU15-155 TGGGCATTAGCGGCTTGTGGTTTTTGCACAAAATYTAAGCTACTTACCGTTCCTCTGACCATCCACCACTTCTATAGACAGCACTGACTACCGTAGGGTT  300
HKU15-44  ....................................................................................................  300
HB        ....................................................................................................  300
AH2004    ....................................................................................................  300
NH        ....................................................................................................  300
IL2768    .......................................................................................T............  300
IN2847    .......................................................................................T............  300
KY4813    .......................................................................................T............  300
KNU14-04  .......................................................................................T............  300
KNU16-07  .......................................................................................T............  300
KNU16-11  ..............................................................T........................T............  300
          ********************************** *************************** ************************ ************  300

HKU15-155 TAAGTCACACCGGTCTGCACCGCCCGTCAGCGGACACATTACCCAGCATAGCACTCCTTGCACCGAGCCTAGGTAGGATAAAACCCCCTACCGGGTGACT  400
HKU15-44  ....................................................................................................  400
HB        ....................................................................................................  400
AH2004    ....................................................................................................  400
NH        ....................................................................................................  400
IL2768    ....................................................................................................  400
IN2847    ....................................................................................................  400
KY4813    ....................................................................................................  400
KNU14-04  ....................................................................................................  400
KNU16-07  ....................................................................................................  400
KNU16-11  ....................................................................................................  400
          ****************************************************************************************************  400

HKU15-155 CTTAAGGCGTTTCCTCCACGGGATAGCCACTAGTCACTAGGTGTAAGTGATCTGATCTGGGCGTATTGTGTTGCGCAAGTGTGATACCCATAGGAGCGTG  500
HKU15-44  ....................................................................................................  500
HB        ....................................................................................................  500
AH2004    ....................................................................................................  500
NH        ....................................................................................................  500
IL2768    ....................................................................................................  500
IN2847    ....................................................................................................  500
KY4813    ....................................................................................................  500
KNU14-04  ....................................................................................................  500
KNU16-07  ....................................................................................................  500
KNU16-11  ........C...........................................................................................  500
          ******** *******************************************************************************************  500

HKU15-155 GAATCCTATTCTGCGGCTCAGTGCCTGATATAGCTGTAAA  540
HKU15-44  .....................................G..  540
HB        .....................................G..  540
AH2004    .....................................G..  540
NH        .....................................G..  540
IL276     .....................................G..  540
IN2847    .....................................G..  540
KY4813    .....................................G..  540
KNU14-04  .....................................G..  540
KNU16-07  .....................................G..  540
KNU16-11  .....................................G..  540
          ************************************* **  540
```

Figure S1 Nucleotide sequence alignment of the 5′ UTRs of the KNU16 isolates with reference PDCoV strains. A 7-nt insertion (dashed box) and the conserved ACACCA transcription regulatory sequence (TRS) involved in genome transcription and replication (solid box) are indicated

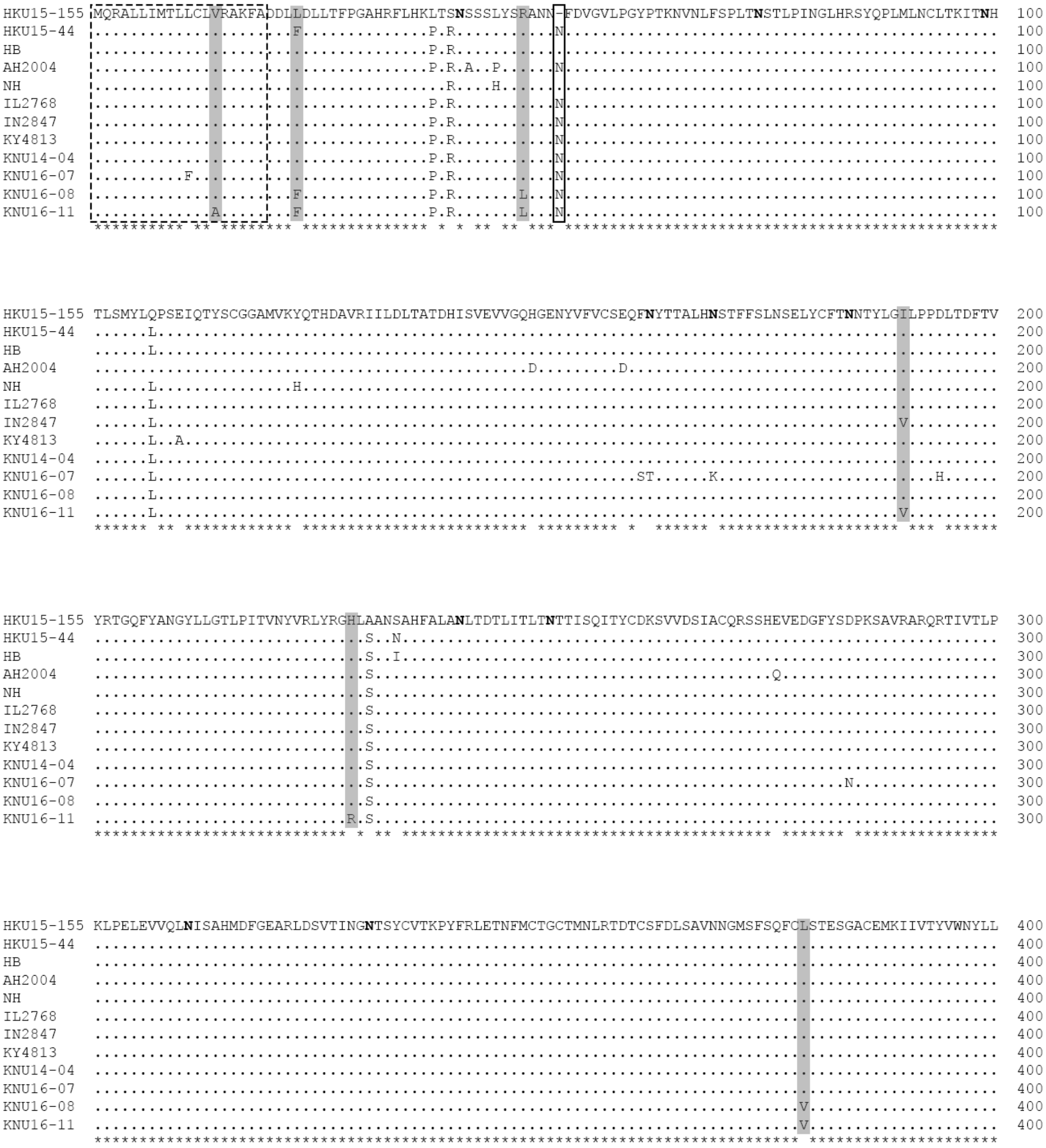
```
HKU15-155 ACATCAATCTATGTCTCA---ACCCACCCAACTCCACTCAAATATCTCTTTGGTTCCAGAGAGTCGTAGTGTATAGCCAGAGAGCCAGTCAGAGGGCGCT  100
HKU15-44  ....T...........GTTAA...............................................................................  100
HB        ....T...........GTTAA...............................................................................  100
AH2004    .................T---...............................................................................  100
NH        .......C........GTTAA..................................T.........A..................................  100
IL2768    ................GTTAA...............................................................................  100
IN2847    ................GTTAA...............................................................................  100
KY4813    ................GTTAA............................................A..................................  100
KNU14-04  ........T.......GTTAA...............................................................................  100
KNU16-07  ................GTTAA...............................................................................  100
KNU16-11  ................GTTAA..A..................C.........................................................  100
          **** **  *******     ** ****************** ********************** **********************************  100


HKU15-155 ATCATGCAAACTAGGGCTGGCTACTCTAGCACAGAATCACATCCCGATAATCAACAGTGCTAGAAGGTTGATTATACCATTTAATATGCCGAGGCCACGC  200
HKU15-44  ....................................................................................................  200
HB        ....................................................................................................  200
AH2004    ....................................................................................................  200
NH        ....................................................................................................  200
IL2768    ....................................................................................................  200
IN2847    ....................................................................................................  200
KY4813    ....................................................................................................  200
KNU14-04  ....................................................................................................  200
KNU16-07  ....................................................................................................  200
KNU16-11  ....................................................................................................  200
          ....................................................................................................  200


HKU15-155 GGAGTACGATCGAGGGTACAGCATAATCTCAACTTTTGTTGAGCCACAATTTTAATCCTAATTGGAGAAGGCCAAAGGACTGTACTACTTTTGTAGGTGT  300
HKU15-44  ....................................-...............................................................  300
HB        ....................................................................................................  300
AH2004    ....C...............................................................................................  300
NH        ....................................................................................................  300
IL2768    ..............................................................................................G.....  300
IN2847    ..............................................................................................G.....  300
KY4813    ..............................................................................................G.....  300
KNU14-04  ..............................................................................................G.....  300
KNU16-07  ..............................................................................................G.....  300
KNU16-11  .T............................................................................................G.....  300
          * ** ******************************* ********************************************************* *****  300


HKU15-155 AGCAGTCGCCCAGTGGGAAAGCGCCAACTAGGTTACAATTGTGGTGGGGACAAATTAGGGGAAATTAAATTGGCTTATAGGGGGGATGGAGC  392
HKU15-44  ............................................................................................  392
HB        ............................................................................................  392
AH2004    ............................................................................................  392
NH        ............................................................................................  392
IL2768    ............................................................................................  392
IN2847    ............................................................................................  392
KY4813    ............................................................................................  392
KNU14-04  ............................................................................................  392
KNU16-07  ............................................................................................  392
KNU16-11  ............................................................................................  392
          ............................................................................................  392
```

Figure S2 Nucleotide sequence alignment of the 3′ UTRs of the KNU16 isolates with reference PDCoV strains. A 3-nt (TAA) insertion (solid box) at position 25,048 to 25,051 corresponding to the 3′ UTR compared to the Hong Kong strain HKU15-155 is shown



```
HKU15-155 MQRALLIMTLLCLVRAKFADDLLDLLTFPGAHRFLHKLTSNSSSLYSRANN-FDVGVLPGYPTKNVNLFSPLTNSTLPINGLHRSYQPLMLNCLTKITNH  100
HKU15-44  ......................F..............P.R...........N................................................  100
HB        .....................................P.R............................................................  100
AH2004    .....................................P.R.A..P......N................................................  100
NH        .......................................R....H.......................................................  100
IL2768    .....................................P.R...........N................................................  100
IN2847    .....................................P.R...........N................................................  100
KY4813    .....................................P.R...........N................................................  100
KNU14-04  .....................................P.R...........N................................................  100
KNU16-07  ..........F..........................P.R...........N................................................  100
KNU16-08  ......................F..............P.R.......L...N................................................  100
KNU16-11  .............A........F..............P.R.......L...N................................................  100
          ********** ** ******** ************** * * ** ** *** ************************************************

HKU15-155 TLSMYLQPSEIQTYSCGGAMVKYQTHDAVRIILDLTATDHISVEVVGQHGENYVFVCSEQFNYTTALHNSTFFSLNSELYCFTNNTYLGILPPDLTDFTV  200
HKU15-44  ......L.............................................................................................  200
HB        ......L.............................................................................................  200
AH2004    ................................................D.........D.........................................  200
NH        ......L...............H.............................................................................  200
IL2768    ......L.............................................................................................  200
IN2847    ......L..................................................................................V..........  200
KY4813    ......L..A..........................................................................................  200
KNU14-04  ......L.............................................................................................  200
KNU16-07  ......L.....................................................ST......K........................H......  200
KNU16-08  ......L.............................................................................................  200
KNU16-11  ......L..................................................................................V..........  200
          ****** ** ************ ************************* ********* *  ****** ******************** *** ******

HKU15-155 YRTGQFYANGYLLGTLPITVNYVRLYRGHLAANSAHFALANLTDTLITLTNTTISQITYCDKSVVDSIACQRSSHEVEDGFYSDPKSAVRARQRTIVTLP  300
HKU15-44  ..............................S..N..................................................................  300
HB        ..............................S..I..................................................................  300
AH2004    ..............................S............................................Q........................  300
NH        ..............................S.....................................................................  300
IL2768    ..............................S.....................................................................  300
IN2847    ..............................S.....................................................................  300
KY4813    ..............................S.....................................................................  300
KNU14-04  ..............................S.....................................................................  300
KNU16-07  ..............................S...................................................N................  300
KNU16-08  ..............................S.....................................................................  300
KNU16-11  ............................R.S.....................................................................  300
          **************************** * ** ***************************************** ******* ****************

HKU15-155 KLPELEVVQLNISAHMDFGEARLDSVTINGNTSYCVTKPYFRLETNFMCTGCTMNLRTDTCSFDLSAVNNGMSFSQFCLSTESGACEMKIIVTYVWNYLL  400
HKU15-44  ....................................................................................................  400
HB        ....................................................................................................  400
AH2004    ....................................................................................................  400
NH        ....................................................................................................  400
IL2768    ....................................................................................................  400
IN2847    ....................................................................................................  400
KY4813    ....................................................................................................  400
KNU14-04  ....................................................................................................  400
KNU16-07  ....................................................................................................  400
KNU16-08  ..............................................................................V.....................  400
KNU16-11  ..............................................................................V.....................  400
          ****************************************************************************** *********************
```

```
HKU15-155 RQRLYVTAVEGQTHTGTTSVHATDTSSVITDVCTDYTIYGVSGTGIIKPSDLLLHNGIAFTSPTGELYAFKNITTGKTLQVLPCETPSQLIVINNTVVGA  500
HKU15-44  ....................................................................................................  500
HB        ....................................................................................................  500
AH2004    ....................................................................................................  500
NH        ....................................................................................................  500
IL2768    ....................................................................................................  500
IN2847    ....................................................................................................  500
KY4813    ....................................................................................................  500
KNU14-04  ....................................................................................................  500
KNU16-07  ..........................................................V.........................................  500
KNU16-08  ......................................................P.............................K...............  500
KNU16-11  ......................................................P.......................F.....K...............  500
          ****************************************************** *** ******************* ***** ***************

HKU15-155 ITSSNSTENNRFTTTIVTPTFFYSTNATTFNCTKPVLSYGPISVCSDGAIAGTSTLQNTRPSIVSLYDGEVEIPSAFSLSVQTEYLQVQSEQVIVDCPQY  600
HKU15-44  .........................................................................................A..........  600
HB        .........................................................................................A..........  600
AH2004    .........................................................................................A..........  600
NH        .........................................................................................A..........  600
IL2768    ..................................................V......................................A..........  600
IN2847    .........................................T........V......................................A..........  600
KY4813    ..................................................V......................................A..........  600
KNU14-04  ..................................................V......................................A..........  600
KNU16-07  ..................................................V......................................A..........  600
KNU16-08  ..................................................VEI....................................A..........  600
KNU16-11  ..................................................VEI....................................A..........  600
          ***************************************** ********   ************************************ **********

HKU15-155 VCNGNSRCLQLLAQYTSACSNIEAALHSSAQLDSREIINMFQTSTQSLQLANITNFKGDYNFSSILTTRLGGRSAIEDLLFNKVVTSGLGTVDQDYKACS  700
HKU15-44  ....................................................................................................  700
HB        ....................................................................................................  700
AH2004    .....................................................................V...........................S..  700
NH        ............................................A.......................................................  700
IL2768    .....................................................................I...........................S..  700
IN2847    .........................................R...........................I...........................S..  700
KY4813    .....................................................................I...........................S..  700
KNU14-04  .....................................................................I...........................S..  700
KNU16-07  ....................K................................................I...........................S..  700
KNU16-08  .........................................RI..........................I...........................S..  700
KNU16-11  .........................................RI..........................I...........................S..  700
          ******************** ********************  * ************************ *************************** **

HKU15-155 RDMAIADLVCSQYYNGIMVLPGVVDAEKMAMYTGSLTGAMVFGGLTAAAAIPFATAVQARLNYVALQTNVLQENQKILAESFNQAVGNISLALSSVNDAI  800
HKU15-44  ....................................................................................................  800
HB        ....................................................................................................  800
AH2004    ....................................................................................................  800
NH        ....................................................................................................  800
IL2768    ....................................................................................................  800
IN2847    ....................................................................................................  800
KY4813    ....................................................................................................  800
KNU14-04  ....................................................................................................  800
KNU16-07  ....................................................................................................  800
KNU16-08  ....................................................................................................  800
KNU16-11  ....................................................................................................  800
          ****************************************************************************************************
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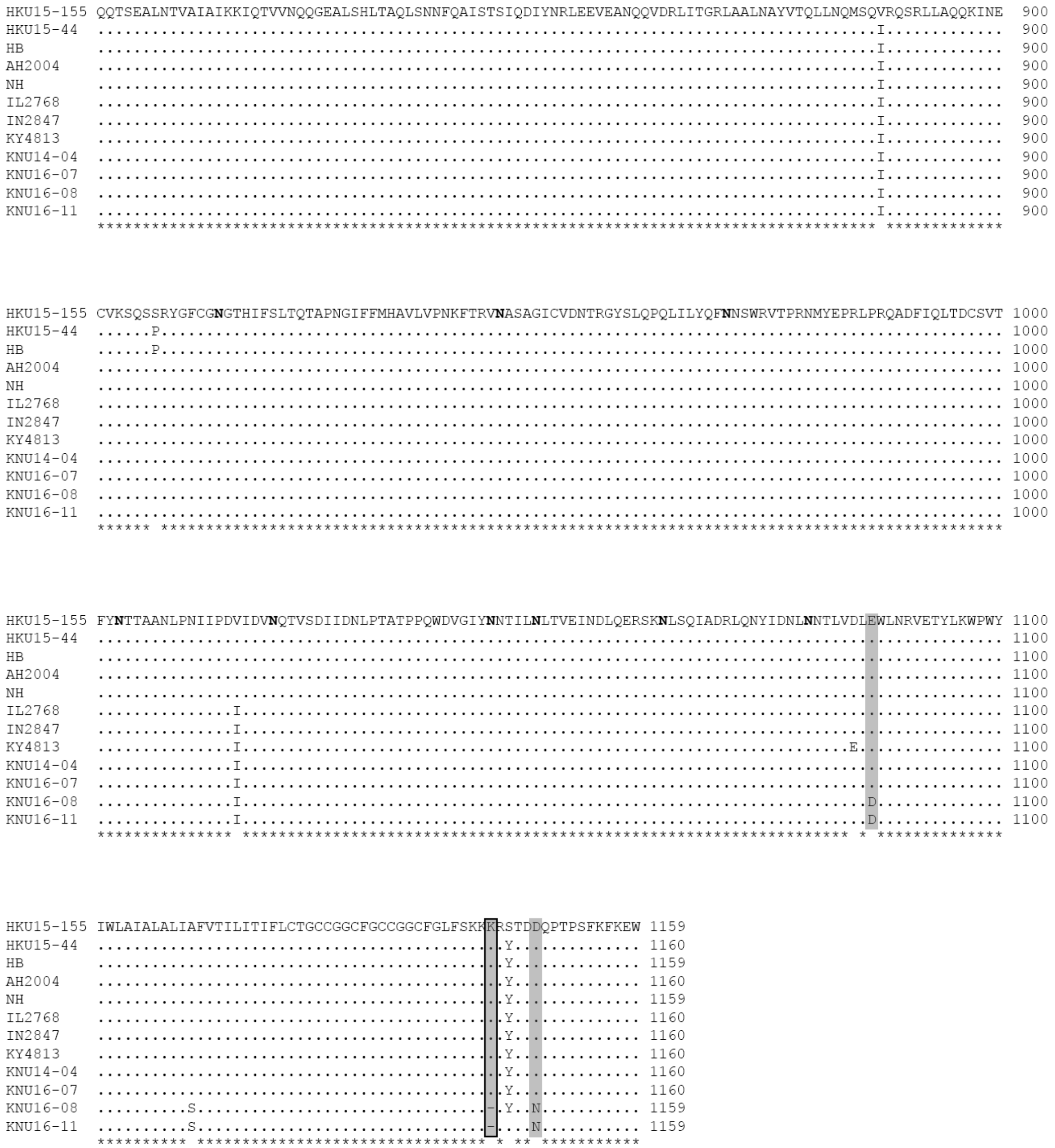

```
HKU15-155 QQTSEALNTVAIAIKKIQTVVNQQGEALSHLTAQLSNNFQAISTSIQDIYNRLEEVEANQQVDRLITGRLAALNAYVTQLLNQMSQVRQSRLLAQQKINE  900
HKU15-44  ......................................................................................I.............  900
HB        ......................................................................................I.............  900
AH2004    ......................................................................................I.............  900
NH        ......................................................................................I.............  900
IL2768    ......................................................................................I.............  900
IN2847    ......................................................................................I.............  900
KY4813    ......................................................................................I.............  900
KNU14-04  ......................................................................................I.............  900
KNU16-07  ......................................................................................I.............  900
KNU16-08  ......................................................................................I.............  900
KNU16-11  ......................................................................................I.............  900
          ************************************************************************************** *************

HKU15-155 CVKSQSSRYGFCGNGTHIFSLTQTAPNGIFFMHAVLVPNKFTRVNASAGICVDNTRGYSLQPQLILYQFNNSWRVTPRNMYEPRLPRQADFIQLTDCSVT 1000
HKU15-44  ......P............................................................................................. 1000
HB        ......P............................................................................................. 1000
AH2004    .................................................................................................... 1000
NH        .................................................................................................... 1000
IL2768    .................................................................................................... 1000
IN2847    .................................................................................................... 1000
KY4813    .................................................................................................... 1000
KNU14-04  .................................................................................................... 1000
KNU16-07  .................................................................................................... 1000
KNU16-08  .................................................................................................... 1000
KNU16-11  .................................................................................................... 1000
          ****** *********************************************************************************************

HKU15-155 FYNTTAANLPNIIPDVIDVNQTVSDIIDNLPTATPPQWDVGIYNNTILNLTVEINDLQERSKNLSQIADRLQNYIDNLNNTLVDLEWLNRVETYLKWPWY 1100
HKU15-44  .................................................................................................... 1100
HB        .................................................................................................... 1100
AH2004    .................................................................................................... 1100
NH        .................................................................................................... 1100
IL2768    ...............I.................................................................................... 1100
IN2847    ...............I.................................................................................... 1100
KY4813    ...............I...................................................................E................ 1100
KNU14-04  ...............I.................................................................................... 1100
KNU16-07  ...............I.................................................................................... 1100
KNU16-08  ...............I.....................................................................D.............. 1100
KNU16-11  ...............I.....................................................................D.............. 1100
          *************** ******************************************************************* * **************

HKU15-155 IWLAIALALIAFVTILITIFLCTGCCGGCFGCCGGCFGLFSKKKRSTDDQPTPSFKFKEW 1159
HKU15-44  .............................................Y.............. 1160
HB        .............................................Y.............. 1159
AH2004    .............................................Y.............. 1160
NH        .............................................Y.............. 1159
IL2768    .............................................Y.............. 1160
IN2847    .............................................Y.............. 1160
KY4813    .............................................Y.............. 1160
KNU14-04  .............................................Y.............. 1160
KNU16-07  .............................................Y.............. 1160
KNU16-08  ..........S................................-.Y..N........... 1159
KNU16-11  ..........S................................-....N........... 1159
          ********** ******************************** * ** ***********
```

Figure S3 Amino acid alignment of the complete S glycoprotein genes among PDCoV strains. Putative signal sequences (dotted line box) are indicated and potential *N*-glycosylation sites predicted by the software tool NetNGlyc 1.0 (http://www.cbs.dtu.dk/services/NetNGlyc/) are shown in boldface type. A 1-aa (asparagine, N) insertion (solid box) in the S genes of the KNU16 series and other reference strains is indicated. The dashes (-) indicate deleted sequences. A 1-aa (lysine, K) deletion (shaded box) in the S genes of KNU16-08 and KNU16-11 is indicated, and the amino acid changes identified in these two KNU16 strains are shaded

Table S1 Results of retrospective detection of PDCoV in 10 provinces from 2014 to 2016

Region	2014		2015		2016	
	n[a]	(+)[b]	*n*	(+)	*n*	(+)
Gyeonggi	32	1	18	7	36	7
Gangwon	1	1	0[c]	0	0	0
Daejeon	45	7	38	6	25	4
Chungbuk	15	7	19	4	12	5
Chungnam	69	5	69	19	69	15
Gyeongbuk	17	2	28	6	40	2
Gyeongnam	18	4	15	6	29	2
Jeonbuk	20	6	16	4	9	0
Jeonnam	7	1	5	1	4	0
Jeju	5	0	7	2	15	6
Total	229	34	215	55	239	41

[a] Number of diarrheal fecal/intestinal samples.

[b] Number of positive samples.

[c] No samples collected.

Table S2 List of primers used in this study

Primer name	Nucleotide sequence (5′–3′)	Purpose	Location (nt)
1F-Fwd	ACATGGGGACTAAAGATAAAAATTATAGCA	PCR	1–30
1F-Rev	TTGGTTAAGCTCATATGCAGCGAGT	RT and PCR	2390–2414
2F-Fwd	GAGCTCTGGAGGCTGTTGATGTCG	PCR	2200–2223
2F-Rev	CGTACGACTCACAACCCATTTATGG	RT and PCR	4070–4094
3F-Fwd	GTGTGGCTCCTATCTCAGGACC	PCR	3541–3562
3F-Rev	CTTATACTCGACGTGCGGAAGC	RT and PCR	7142–7163
4F-Fwd	CCAGCAGGTGTCATTCATAGAGACG	PCR	6843–6867
4F-Rev	TTCGAAGACTTTAGCTGCACACTGCTTAGT	RT and PCR	11615–11644
5F-Fwd	GGTATGGTTATTGGCCACATCTCTG	PCR	10956–10980
5F-Rev	GCATCAAGGATACCGTCCTGTAAC	RT and PCR	14068–14091
6F-Fwd	GCTTGCTAGCACGAAAACACACTTG	PCR	13299–13323
6F-Rev	GGTCCAATTAAATGCTTCTGCCG	RT and PCR	17183–17205
7F-Fwd	GGTATCCCTATCGTGCGCAAAC	PCR	16991–17012
7F-Rev	GTTAACGTTCTTAGTGGGGTAGCC	RT and PCR	19501–19524
8F-Fwd	GGGCGCCTTCTTGTGAGGCCAC	PCR	19298–19319
8F-Rev	GTCCAGGGATGGTAACGGCCC	RT and PCR	22816–22836
9F-Fwd	GGCTTGCCATTGCCCTGGCTC	PCR	22628–22648
9F-Rev	GCTCCATCCCCCCTATAAGCC	RT and PCR	25401–25422
5′RACE-R1	GGCAGTATCACGAGCTAACTCAGCAAG	5′-RACE-PCR	969–995
5′RACE-R2	CTCCTATGGGTATCACACTTGCGCAAC	5′-RACE-PCR	469–495
3′RACE-F1	GCCCAGCTCAAGGTTTCAGAGTTG	3′-RACE-PCR	24399–24422
3′RACE-F2	CTGCTAAACCCAAACAGCAGAAGAAACC	3′-RACE-PCR	24921–24948
543F	GCCAAGAACAAGTCCAAGCGCGAC	Sequencing	544–566
1094F	GGTTGTTGGCGTAACTTTTACTGCC	Sequencing	1094–1118
1649F	CCTTAAATGCTTTGAAACCCCTGAG	Sequencing	1649–1673
2753F	GGAACGGAAGACCAGCAGCGACG	Sequencing	2753–2775
4089F	CGTACGAACGGGTTGATGCATCTAAAACAA	Sequencing	4089–4118
4639F	CTCAACTTGTCGAGGACGTGGTTGC	Sequencing	4639–4663
5173F	CTGGCTGGCCTTGTAATTACAATGC	Sequencing	5173–5197
5743F	CGCTCTCACGAGCTACCAGGCTTAG	Sequencing	5743–5767
6293F	CAATGCAGAAGACCAGTCTACCATT	Sequencing	6293–6317
6941F	GTCACTCAAGACAGCAAATCTCTTTAAC	Sequencing	6941–6968
7394F	GGGCACTGTATCTGGTATTCACATC	Sequencing	7394–7418
8155F	GGCTTAAGAATGTTGTCTATTGCCCAC	Sequencing	8155–8181
8743F	GTATCGAGGATTTCAACTCATGGGC	Sequencing	8743–8767
9288F	GGTTACACTGTTGCTCTTTATATGCTG	Sequencing	9288–9314
9843F	GCTGTTGTTGTTGCTAACCTTCTTG	Sequencing	9843–9867
10404F	GATAGGGTAAAAGCTCTGTTTGAGTG	Sequencing	10404–10429
11639F	TTCGAAATCGAGGAGGAATGCTACAACGCT	Sequencing	11639–11668
12190F	CCCACTTGAGTATGATGGATTTCAG	Sequencing	12190–12214
12741F	CTATCACAGACTACAGCTACTACAG	Sequencing	12741–12765
13873F	CTTACCTTACCCAGATGTCTCTCG	Sequencing	13873–13896
14421F	GCATACCCATTGTAGCTAATGGTTC	Sequencing	14421–14445
14993F	GATAGCTATGCAGAGGGTTACAACAG	Sequencing	14992–15017
15566F	GCGGCGAAACCGAACTCAAGACAG	Sequencing	15566–15589
16083F	GTGAGGAGCCACTTGCTAAATTAG	Sequencing	16083–16106
17542F	CAACTGTTATTATAAGAACTGCAATG	Sequencing	17542–17567
18145F	GCAACATCAATTGCAGGAACTGGGTG	Sequencing	18145–18170
18646F	CAACTACATAGTTAAAAAGGATAGG	Sequencing	18646–18670

19858F	CTTTATTGCTTTACTAATAACACCTAC	Sequencing	19858–19884
20413F	GACCTGTCAGCAGTAAACAATGGCATG	Sequencing	20413–20439
20965F	GGTGCAATTGTGGGAACATCCAC	Sequencing	20965–20987
21259F	CAGTCCTTGCAGTTAGCTAATATTACCAAC	Sequencing	21259–21288
21933F	GGCTGCACTTAATGCATATGTTACTC	Sequencing	21933–21958
23032F	GAAACACTCACTATGTCTGACGCAG	Sequencing	23032–23056
23583F	CAACGATCCAGAATTTGCTGTTCTG	Sequencing	23583–23607
24131F	GAAAACCATGGCTATTGGCTGCGTT	Sequencing	24131–24155

Table S3 The number of nucleotide and amino acid changes between the global strains and KNU16-07 or KNU16-11.

Encoded proteins	No. of nucleotide (amino acid) changes						
	HKU15-155 /China/2012	HKU15-44 /China/2012	NH /China/2016	IN2847 /USA/2014	KNU14-04 /Korea/2014	KNU16-07 /Korea/2016	KNU16-11 /Korea/2016
5′ UTR	13/17	9/16	3/10	1/8	0/7	7	7
ORF1ab	128(27)/205(42)	203(34)/278(48)	163(27)/236(42)	24(7)/103(22)	30(6)/97(21)	105(27)	105(27)
S	56(1)/80(27)	49(15)/73(22)	64(18)/90(27)	14(3)/34(16)	10(8)/34(17)	44(25)	44(25)
E	1(0)/2(1)	1(0)/2(1)	2(0)/3(1)	0(0)/1(1)	0(0)/1(1)	1(1)	1(1)
M	6(1)/5(1)	8(0)/7(0)	6(0)/5(0)	1(0)/0(0)	2(0)/1(0)	1(0)	1(0)
NS6	2(0)/3(1)	1(1)/2(2)	4(0)/5(1)	1(1)/2(2)	0(0)/1(1)	1(1)	1(1)
N	10(1)/17(2)	10(0)/17(1)	11(0)/18(1)	3(0)/10(1)	5(0)/12(1)	9(1)	9(1)
NS7	5(4)/10(8)	5(5)/10(9)	6(6)/11(10)	2(2)/7(6)	3(3)/8(7)	5(4)	5(4)
3′ UTR	5/8	3/6	3/6	0/3	1/4	3	3