## Supplementary Information

# Novel methods for the rapid and sensitive detection of Nipah virus based on CRISPR/Cas12a system

Xi Yang, Kexin Xu, Siying Li, Jiangnian Zhang, Yinli Xie<sup>\*</sup>, Yongliang Lou<sup>\*</sup>, Xingxing Xiao<sup>\*</sup>.

\*Corresponding author: Yinli Xie, xieyinli@wmu.edu.cn; Yongliang Lou, lyl@wmu.edu.cn; Xingxing Xiao, xiaoxingxing@wmu.edu.cn.

## Supplementary Texts

1. Seven candidate primer pairs targeting the conserved regions of N gene.

### F1/R1:

F1:	*********** ******* ******************
KY425646.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
KY425655.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
MK673563.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
MK673561.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
MK673560.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
MK673559.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
MK673558.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
KT163249.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
KT163248.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
JN808861.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
AY858110.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
MK673565.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT
MK673590.1	ATGAGTGATATTTTTGAAGAGG <mark>CGGC</mark> TAGT
MK673589.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT
JN808857.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT
MK673570.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT
MK673564.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT
AY988601.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT
JN808864.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT
MK673583.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT
MK673578.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
MK673582.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
MK673577.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
KT163252.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
KT163255.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
KT163254.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
KT163251.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
KT163256.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
FJ513078.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
NC_002728.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT'
KT163250.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT'
KT163253.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
JN808858.1	ATGAGTGATATTTTTGAAGAGGCGGCTAGT'
JN808860.1	ATGAGTGATATTTTTGAAGAAGCGGCTAGT'
AY029768.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT'
AY029767.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT'
AJ627196.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT'
AJ564623.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
FN869553.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT
AJ564622.1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT'

R1:	**************************************
KY425646.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
KY425655.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673563.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673561.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673560.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673559.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673558.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
KT163249.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
KT163248.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
JN808861.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
AY858110.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673565.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673590.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673589.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
JN808857.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673570.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673564.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
AY988601.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
JN808864.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673583.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673578.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673582.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
MK673577.1	GAAGCTGTAATAATAGATGTTGGGTCAATGGTCA
KT163252.1	GAAGCTGTAATAATAGACGTTGGATCAATGGTCA
KT163255.1	GAAGCTGTAATAATAGACGTTGGATCAATGGTCA
KT163254.1	GAAGCTGTAATAATAGACGTTGGATCAATGGTCA
KT163251.1	GAAGCTGTAATAATAGACGTTGGATCAATGGTCA
KT163256.1	GAAGCTGTAATAATAGACGTTGGATCAATGGTCA
FJ513078.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
NC_002728.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
KT163250.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
KT163253.1	GAAGCTGTAATAATAGACGTTGGATCAATGGTCA
JN808858.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
JN808860.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
AY029768.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
AY029767.1	GAAGCTGTAATAATAGATGTTGGATCAATGGTCA
AJ627196.1	GAAGC TGTAATAATAGATGTTGGATCAATGGTCA
AJ564623.1	GAAGC TGTAATAATAGATGTTGGATCAATGGTCA
FN869553.1	GAAGC IGTAATAATAGATGTTGGATCAATGGTCA
AJ564622.1	GAAGCIGIAAIAAIAGAIGIIGGAICAAIGGICA

#### F2/R2:

F2:	***************************************
KY425646.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
KY425655.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
MK673563.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
MK673561.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
MK673560.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
MK673559.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
MK673558.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
KT163249.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
KT163248.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
JN808861.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
AY858110.1	TAGGAGTTAT <mark>CAATC</mark> TAAGTTAGGGAGAGATG
MK673565.1	TAGGAGTTAT <mark>CAATC</mark> TAAGTTAGGAAGAGA <mark>T</mark> G
MK673590.1	TAGGAGTTAT <mark>CAATCTAAGTTAGGAAGAGAT</mark> G
MK673589.1	TAGGAGTTAT <mark>CAATC</mark> TAAGTTAGGAAGAGA <mark>T</mark> G
JN808857.1	TAGGAGTTAT <mark>CAATCTAAGTT</mark> AGGAAGAGATG
MK673570.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673564.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
AY988601.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
JN808864.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673583.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673578.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673582.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673577.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
KT163252.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
KT163255.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
KT163254.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
KT163251.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
KT163256.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
FJ513078.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
NC_002728.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
KT163250.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
KT163253.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
JN808858.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
JN808860.1	TAGGAGTTATCAATCTAAGTTAGGAAGAGATG
AY029768.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
AY029767.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
AJ627196.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
AJ564623.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
FN869553.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG
AJ564622.1	TAGGAGTTATCAATCTAAGTTAGGGAGAGAGATG

R2:	*****
KY425646.1	GAAGCIGIAAIAAIAGAIGIIGGAICAAIGG
KY425655.1	CAACCTGTAATAATAGATGTTGGATCAATGG
MK673563.1	CAAGC TGTAATAA TAGA TGTTGGATCAATGG
MK673561.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
MK673560.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
MK673559.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
MK673558.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
KT163249.1	GAAGCTGTAATAATAGATGTTGGATCAATGG1
KT163248.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
JN808861.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
AY858110.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
MK673565.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
MK673590.1	GAAGCTGTAATAATAGATGTTGGATCAATGG1
MK673589.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
JN808857.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
MK673570.1	GAAGCTGTAATAATAGATGTTGGATCAATGG1
MK673564.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
AY988601.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
JN808864.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
MK673583.1	GAAG <mark>CTGTAATAATAGATGTTGGATCAAT</mark> GGT
MK673578.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
MK673582.1	GAAGCTGTAATAATAGATGTTGGATCAATGG
MK673577.1	GAAGCTGTAATAATAGATGTTGGGTCAATGG
KT163252.1	GAAGCTGTAATAATAGACGTTGGATCAATGG
KT163255.1	GAAGCTGTAATAATAGACGTTGGATCAATGG
KT163254.1	GAAGCTGTAATAATAGACGTTGGATCAATGG
KT163251.1	GAAGCIGIAAIAAIAGACGIIGGAICAAIGG
KT163256.1	GAAGCIGIAAIAAIAGACGIIGGAICAAIGG
FJ513078.1	GAAGCIGIAAIAAIAGAIGIIGGAICAAIGG
NC_002728.1	GAAGU IG TAATAATAGA IG I IGGA ICAA IGG
KT163250.1	GAAGCIGIAAIAAIAGAIGIIGGAICAAIGG
KT163253.1	GAAGCIGIAAIAAIAGACGIIGGAICAAIGG
JN808858.1	GAAGCIGIAAIAAIAGAIGIIGGAICAAIGG
JN808860.1	GAAGCIGIAATAATAGAIGIIGGAICAATGG
AY029768.1	GAAGCIGIAATAATAGAIGIIGGAICAATGG
AY029767.1	GAAGE TO TAATAATAGATGTTGGATCAATGG
AJ627196.1	GAAGETETAATAATAGATETTEGATCAATGG
AJ564623.1	GAAGETETAATAATAGATETTEGATCAATGG
FN869553.1	GAAGETETAATAATAGATGTTGGATCAATGG
AJ564622.1	GAAGCIGIAAIAAIAGAIGIIGGAICAATGG

#### F3/R3:

F3:	***************************************
KY425646.1	GGAGTTATCAATCTAAGTTAGGGAGAGAGATG
KY425655.1	<b>GGAGTTATCAATCTAAGTTAGGGAGAGATG</b>
MK673563.1	<b>GGAGTTATCAATCTAAGTTAGGGAGAGATG</b>
MK673561.1	<b>GGAGTTATCAATCTAAGTTAGGGAGAGATG</b>
MK673560.1	GGAGTTATCAATCTAAGTTAGGGAGAGATG
MK673559.1	<b>GGAGTTATCAATCTAAGTTAGGGAGAGATG</b>
MK673558.1	<b>GGAGTTATCAATCTAAGTTAGGGAGAGATG</b>
KT163249.1	<b>GGAGTTATCAATCTAAGTTAGGGAGAGATG</b>
KT163248.1	GGAGTTATCAATCTAAGTTAGGGAGAGATG
JN808861.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
AY858110.1	GGAGTTATCAATCTAAGTTAGGGAGAGATG
MK673565.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673590.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673589.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
JN808857.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673570.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673564.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
AY988601.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
JN808864.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673583.1	GGAGTTAT <mark>CAAT</mark> CTAAGTTAGGAAGAGATG
MK673578.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
MK673582.1	<b>GGAGTTATCAATCTAAGTTAGGAAGAGATG</b>
MK673577.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
KT163252.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
KT163255.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
KT163254.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
KT163251.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
KT163256.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
FJ513078.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
NC_002728.1	GGAGTTATCAATCTAAGTTAGGGAGAGATG
KT163250.1	GGAGTTATCAATCTAAGTTAGGGAGAGATG
KT163253.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
JN808858.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
JN808860.1	GGAGTTATCAATCTAAGTTAGGAAGAGATG
AY029768.1	GGAGTTATCAATCTAAGTTAGGGAGAGATG
AY029767.1	GGAGTTATCAATCTAAGTTAGGGAGAGATG
AJ627196.1	GGAGTTATCAATCTAAGTTAGGGAGAGATG
AJ564623.1	GGAGTTATCAATCTAAGTTAGGGAGAGATG
FN869553.1	GGAGTTATCAATCTAAGTTAGGGAGAGATG
AJ564622.1	GGAGTTATCAATCTAAGTTAGGGAGAGAGATG

R3:	**** ****	**************************************
KY425646.1	CTTTCACAC	TCATCTCTATGTATTCAGAGA
KY425655.1	CTTTCACAC	<b>TCATCTCTATGTATTCAGAGA</b>
MK673563.1	CTTTCACAC	<b>TCATCTCTATGTATTCAGAGA</b>
MK673561.1	CTTTCACAC	CTCATCTCTATGTATTCAGAGA
MK673560.1	CTTTCACAC	CTCATCTCTATGTATTCAGAGA
MK673559.1	CTTTCACAC	CTCATCTCTATGTATTCAGAGA
MK673558.1	CTTTCACAC	CTCATCTCTATGTATTCAGAGA
KT163249.1	CTTTCACAC	CTCATCTCTATGTATTCAGAGA
KT163248.1	CTTTCACAC	C <mark>TCATCTCTATGTATT</mark> CAGAGA
JN808861.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
AY858110.1	<b>C</b> TTTTACAC	CTCATCTCTATGTATTCAGAGA
MK673565.1	C T T T T A C A C	CTCATCTCTATGTATTCAGAGA
MK673590.1	C T T T T A C A C	CTCATCTCTATGTATTCAGAGA
MK673589.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
JN808857.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
MK673570.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
MK673564.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
AY988601.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
JN808864.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
MK673583.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
MK673578.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
MK673582.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
MK673577.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
KT163252.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
KT163255.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
KT163254.1	CTTTTACAC	CTCATCTCTATGTATTCAGAGA
KT163251.1	CTTTTACAC	
K1163256.1	CTITIACAC	
FJ5130/8.1	CTTTTACAC	
NC_002728.1	CTTTCACAC	
KT163250.1	CTTTTACAC	
N1105255.1	CTTTTACAC	TCATCTCTATCTATTCACACA
JIN808838.1	CTTTCACAC	TCATCTCTATCTATTCACACA
JIN606600.1	CTTTCACAC	TCATCTCTATCTATTCACACA
AT 029708.1	CTTTCACAC	TCATCTCTATCTATTCACACA
AI 029/07.1	CTTTCACAC	TCATCTCTATCTATTCACACA
AJ02/190.1	CTTTCACAC	TCATCTCTATCTATTCACACA
AJ304023.1	CTTTCACAC	TCATCTCTATCTATTCACACA
FINOU9333.1	CTTTCACAC	TCATCTCTATCTATTCACACACA
AJ304022.1	CHICACAC	TOATOTOTATOTATICAGAGA

#### F4/R4:

F4:	* * ** *** **	* ******* *****
KY425646.1	CAAATAGACTGGG	ACTAAGTTCAGATCAAG
KY425655.1	CAAATAGACTGGG.	ACTAAGTTCAGATCAAG
MK673563.1	CAAA <mark>TAGAC</mark> TGGG	AC <mark>TAAGTTCAGAT</mark> CAAG
MK673561.1	CAAA <mark>T</mark> AGAC <mark>T</mark> GGG.	AC <mark>TAAGTTCAGAT</mark> CAAG
MK673560.1	CAAA <mark>T</mark> AGAC <mark>T</mark> GGG.	AC <mark>TAAGTTCAGAT</mark> CAAG
MK673559.1	CAAA <mark>T</mark> AGAC <mark>T</mark> GGG.	AC <mark>TAAGTTCAGAT</mark> CAAG
MK673558.1	CAAA <mark>T</mark> AGAC <mark>T</mark> GGG.	AC <mark>TAAGTTCAGAT</mark> CAAG
KT163249.1	CAAG <mark>T</mark> AGAC <mark>T</mark> GGG.	AC <mark>T</mark> AAGTTCAGATCAAG
KT163248.1	C <mark>aag</mark> tagac <mark>t</mark> ggg.	AC <mark>T</mark> AAGTTCAGATCAAG
JN808861.1	C <mark>GAAT</mark> AGAC <mark>T</mark> AGG.	A <mark>TT</mark> AAGTT <mark>CAAA</mark> TCAAG
AY858110.1	CAAA <mark>T</mark> AGAC <mark>T</mark> GGG.	ACTAAGTTCAGATCAAG
MK673565.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG.	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
MK673590.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG.	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
MK673589.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG.	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
JN808857.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG.	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
MK673570.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG.	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
MK673564.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG.	A <mark>TT</mark> AAGTTCAAATCAAG
AY988601.1	CGAA <mark>TAGAC</mark> TAGG.	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
JN808864.1	CGAA <mark>T</mark> AAAC <mark>T</mark> AGG.	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
MK673583.1	CGAATAGACTAGG.	ATTAAGTTCAAATCAAG
MK673578.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
MK673582.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
MK673577.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
KT163252.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
KT163255.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG	ATTAAGTTCAAATCAAG
KT163254.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
KT163251.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG	A <mark>TTAAGTT</mark> CAAA <mark>T</mark> CAAG
KT163256.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG	ATTAAGTTCAAATCAAG
FJ513078.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG	A <mark>TT</mark> AAGTTCAAA <mark>T</mark> CAAG
NC_002728.1	CAAA <mark>T</mark> AGAC <mark>T</mark> GGG	AC <mark>T</mark> AAGTTCAGATCAAG
KT163250.1	CAAG <mark>T</mark> AGAC <mark>T</mark> GGG	AC <mark>TAAGTT</mark> CAGA <mark>T</mark> CAAG
KT163253.1	CGAATAGACTAGG	A <mark>TT</mark> AAGTT <mark>C</mark> AAA <mark>T</mark> CAAG
JN808858.1	CGAATAGAC <mark>T</mark> AGG	ATTAAGTTCAAATCAAG
JN808860.1	CGAA <mark>T</mark> AGAC <mark>T</mark> AGG	A <mark>TT</mark> AAGTTCAAA <mark>T</mark> CAAG
AY029768.1	CAAA <mark>T</mark> AGAC <mark>TGGG</mark>	AC <mark>TAAGTT</mark> CAGA <mark>T</mark> CAAG
AY029767.1	CAAA <mark>T</mark> AGAC <mark>TGGG</mark>	AC <mark>TAAGTT</mark> CAGA <mark>T</mark> CAAG
AJ627196.1	CAAATAGACTGGG	ACTAAGTTCAGATCAAG
AJ564623.1	CAAATAGACTGGG	ACTAAGTTCAGATCAAG
FN869553.1	CAAATAGACTGGG	ACTAAGTTCAGATCAAG
AJ564622.1	CAAA <b>T</b> AGAC <b>T</b> GGG	ACTAAGTTCAGATCAAG

R4:	**** ***** ***** *********************
KY425646.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
KY425655.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
MK673563.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
MK673561.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
MK673560.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
MK673559.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
MK673558.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
KT163249.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
KT163248.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
JN808861.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
AY858110.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
MK673565.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
MK673590.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
MK673589.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
JN808857.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
MK673570.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
MK673564.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
AY988601.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
JN808864.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
MK673583.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
MK673578.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
MK673582.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
MK673577.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
KT163252.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
KT163255.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
KT163254.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
KT163251.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
KT163256.1	TTACTTTCAAAAGGGAAGTGAGTATTTCAT
FJ513078.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
NC_002728.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
KT163250.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
N1105255.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
JIN608858.1	TTACTTTCAAGAGGGAAATGAGTATTTCAT
JIN606600.1	TTACTTTCAAAAGGGAAATGAGTATTTCAT
AT 029708.1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
A 1627196 1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
A I564623 1	TTACCTTCAAAAGGGAGATGAGTATTTCAT
FN869553 1	TTACCTTCAAAAGGGAGAGATGAGTATTTCAT
AJ564622.1	TTACCTTCAAAACCCACATCACTATTCAT
	I HOUT CHARACOUNDATOROTATITCAT

#### F5/R5:

F5:	
KY425646.1	GAGGAATTGATCAGAACATGGCAAATAGAC
KY425655.1	GAGGAATTGATCAGAACATGGCAAATAGAC
MK673563.1	GAGGAATTGATCAGAACATGGCAAATAGAC
MK673561.1	GAGGAATTGATCAGAACATGGCAAATAGAC
MK673560.1	GAGGAATTGATCAGAACATGGCAAATAGAC
MK673559.1	GAGGAATTGATCAGAACATGGCAAATAGAC
MK673558.1	GAGGAATTGATCAGAACATGGCAAATAGAC
KT163249.1	GAGGAATTGATCAGAACATGGCAAGTAGAC
KT163248.1	GAGGAATTGATCAGAACATGGCAAGTAGAC
JN808861.1	GAGGAATTGATCAGAACATGGCGAATAGAC
AY858110.1	GAGGAATTGACCAGAACATGGCAAATAGAC
MK673565.1	GAGGAATTGATCAGAACATGGCGAATAGAC
MK673590.1	GAGGGATTGATCAGAACATGGCGAATAGAC
MK673589.1	GAGGGATTGATCAGAACATGGCGAATAGAC
JN808857.1	GAGGAATTGATCAGAACATGGCGAATAGAC
MK673570.1	GAGGAATTGATCAGAACATGGCGAATAGAC
MK673564.1	GAGGGATTGATCAGAACATGGCGAATAGAC
AY988601.1	GAGGGATTGATCAGAACATGGCGAATAGAC
JN808864.1	GAGGGATTGATCAGAACATGGCGAATAAAC
MK673583.1	GAGGAATTGATCAGAACATGGCGAATAGAC
MK673578.1	GAGGAATTGATCAGAACATGGCGAATAGAC
MK673582.1	GAGGAATTGATCAGAACATGGCGAATAGAC
MK673577.1	GAGGGATTGATCAGAACATGGCGAATAGAC
KT163252.1	GAGGAATTGATCAGAACATGGCGAATAGAC
KT163255.1	GAGGAATTGATCAGAACATGGCGAATAGAC
KT163254.1	GAGGAATTGATCAGAACATGGCGAATAGAC
KT163251.1	GAGGAATTGATCAGAACATGGCGAATAGAC
KT163256.1	GAGGAATTGATCAGAACATGGCGAATAGAC
FJ513078.1	GAGGAATTGATCAGAACATGGCGAATAGAC
NC_002728.1	GAGGAATTGATCAGAACATGGCAAATAGAC
KT163250.1	GAGGAATTGATCAGAACATGGCAAGTAGAC
KT163253.1	GAGGAATTGATCAGAACATGGCGAATAGAC
JN808858.1	GAGGGATTGATCAGAACATGGCGAATAGAC
JN808860.1	GAGGAATTGATCAGAATATGGCGAATAGAC
AY029768.1	GAGGAATTGATCAGAACATGGCAAATAGAC
AY029767.1	GAGGAATTGATCAGAACATGGCAAATAGAC
AJ627196.1	GAGGAATTGATCAGAACATGGCAAATAGAC
AJ564623.1	GAGGAATTGATCAGAACATGGCAAATAGAC
FN869553.1	GAGGAATTGATCAGAACATGGCAAATAGAC
AJ564622.1	GAGGAATTGATCAGAACATGGCAAATAGAC

R5:	**** GTTACC	***** TTCAA	***** AGGGA	**** **** GATGAGTATT	**: ГС
KY425646.1	GTTACC	TTCAA	AAGGGA	ATGAGTATTT	C.
KY425655.1	GTTACC	TTCAA	AAGGGAG	ATGAGTATT	C.
MK673563.1	GTTACC	TTCAA	AAGGGAG	ATGAGTATT	C.
MK673561.1	GTTACC	TTCAA	AAGGGAG	ATGAGTATTI	C.
MK673560.1	GTTACC	TTCAA	AAGGGAG	ATGAGTATT	C.
MK673559.1	GTTACC	TTCAA	AAGGGAC	GATGAGTATT1	C.
MK673558.1	GTTACC	TTCAA	AAGGGA	ATGAGTATT1	C.
KT163249.1	.GTTACC	TTCAA	AAGGGAG	GATGAGTATT1	C.
KT163248.1	. <mark>GTTA</mark> CC	TTCAA	AAGGGA	GATGAGTATTI	C.
JN808861.1	.GTT <mark>A</mark> CT	TTCAA	AA <mark>GGG</mark> AA	A T G A G T A T T T	C.
AY858110.1	. <mark>GTTA</mark> CC	TTCAA	AAGGGAG	GATGAGTATT1	C.
MK673565.1	. <mark>GTTAC</mark> T	TTCAA	AA <mark>GGG</mark> AA	ATGAGTATT1	C.
MK673590.1	. <mark>G T T A C</mark> T	TTCAA	AA <mark>GGG</mark> AA	A T G A G T A T T I	C.
MK673589.1	.GTT <mark>AC</mark> T	TTCAA	AA <mark>GGG</mark> AA	A T G A G T A T T I	C.
JN808857.1	. <mark>G T T A C</mark> T	TTCAA	AA <mark>GGG</mark> AA	A T G A G T A T T I	C.
MK673570.1	. <mark>GTTAC</mark> T	TTCAA	AA <mark>GGG</mark> AA	A T G A G T A T T I	C.
MK673564.1	.GTT <mark>AC</mark> T	TTCAA	AA <mark>GGG</mark> AA	A T G A G T A T T T	C.
AY988601.1	.GTTACT	TTCAA	AA <mark>GGG</mark> AA	A T G A G T A T T T	C.
JN808864.1	.GTTACT	TTCAA	AA <mark>GGG</mark> AA	ATGAGTATTT	C.
MK673583.1	.GTTACT	TTCAA	AAGGGAA	ATGAGTATTI	C.
MK673578.1	GTTACT	TTCAA	AAGGGAA	ATGAGTATTI	C
MK673582.1	GTTACT	TTCAA	AAGGGAA	ATGAGTATTI	C.
MK673577.1	GTTACT	TTCAA	AAGGGAA	ATGAGTATTI	C
KT163252.1	GTTACT	TTCAA	AAGGGAA	ATGAGTATTI	C.
KT163255.1	GTTACT	TTCAA	AAGGGAA	ATGAGTATTI	C
KT163254.1	GTTACT	TTCAA	AAGGGAA	ATGAGTATTI	C.
KT163251.1	GTTACT	TTCAA	AAGGGAA	ATGAGTATTI	C
KT163256.1	GTTACT	TTCAA	AAGGGAA	GTGAGTATTI	C.
FJ513078.1	GTTACT	TTCAA	AAGGGAA	ATGAGTATTI	C
NC_002728.1	GTTACC	TTCAA	AAGGGAC	GATGAGTATTI	C.
KT163250.1	GTTACC	TTCAA	AAGGGAG	ATGAGTATTI	C
KT163253.1	GTTACT	TTCAA	AAGGGAA	ATGAGTATTT	CI
JN808858.1	GITACI	TICAA	GAGGGAF	ATGAGTATTT	CI
JN808860.1	GTTACT	TTCAA	AAGGGAA	ATGAGTATTT	CI
AY029768.1	GTTACC	TTCAA	AAGGGAC	ATGAGTATTI	C
AY029767.1	GTTACC	TTCAA	AAGGGAC	GATGAGTATTI	C.
AJ627196.1	GITACC	TTCAA	AAGGGAC	AIGAGTATTT	C
AJ564623.1	GITACC	TTCAA	AAGGGAC	AIGAGTATTI	C.
FN869553.1	GITACC	TICAA	AAGGGAC	AIGAGTATTT	C
AJ564622.1	GTTACC	TTCAA	AAGGGAC	ATGAGTATTI	C.

#### F6/R6:

F6:	** ***** ****** ***********************
KY425646 1	CAAAGTGAAACTAGAAGATGGGCTAAATAC
KY425655.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
MK673563.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
MK673561.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
MK673560.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
MK673559.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
MK673558.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
KT163249.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
KT163248.1	GAAAGTGAAGCTAGAAGATGGGCTAAATAC
JN808861.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
AY858110.1	GAAAGTGAAACTAGAAGGTGGGCTAAATAT
MK673565.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673590.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673589.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
JN808857.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673570.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673564.1	GATAGTGAAACTAGAAGATGGGCTAAGTAC
AY988601.1	GATAGTGAAACTAGAAGATGGGCTAAGTAC
JN808864.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673583.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK6/35/8.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK6/3582.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK6/35//.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
KT163252.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
KT163255.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
KT163254.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
KT163251.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
KT163256.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
FJ513078.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
NC_002728.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
KT163250.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
KT163253.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
JN808858.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
JN808860.1	GAGAGTGAAACTAGAAGATGGGCTAAGTAC
AY029768.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
AY029767.1	GAAAG <mark>T</mark> GAAA <mark>C</mark> TAGAAGA <mark>T</mark> GGG <mark>C</mark> TAAATAC
AJ627196.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
AJ564623.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
FN869553.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC
AJ564622.1	GAAAGTGAAACTAGAAGATGGGCTAAATAC

R6:	*** ***********************************
KY425646.1	AGTAGAAATAATCTCAGACATCGGAAACTA
KY425655.1	AGTAGAAATAATCTCAGACATCGGAAACTA
MK673563.1	AGTAGAAATAATCTCAGACATCGGAAACTA
MK673561.1	AGTAGAAATAATCTCAGACATCGGAAACTA
MK673560.1	AGTAGAAATAATCTCAGACATCGGAAACTA
MK673559.1	AGTAGAAATAATCTCAGACATCGGAAACTA
MK673558.1	AGTAGAAATAATCTCAGACATCGGAAACTA
KT163249.1	AGTAGAAATAATCTCAGACATCGGAAACTA
KT163248.1	.AGTAGAAATAATCTCAGACATCGGAAACTA
JN808861.1	.AGTGGAAATAATCTCAGACATTGGAAACTA
AY858110.1	.AGTAGAAATAATCTCAGACATTGGAAACTA
MK673565.1	.AGTGGAAATAATCTCAGACATTGGAAACTA
MK673590.1	.AGTGGAAATAATCTCAGACATTGGAAACTA
MK673589.1	AGTGGAAATAATCTCAGACATTGGAAACTA
JN808857.1	AGTGGAAATAATCTCAGACATTGGAAACTA
MK673570.1	AGTGGAAATAATCTCAGACATTGGAAACTA
MK673564.1	AGTGGAAATAATCTCAGACATTGGAAACTA
AY988601.1	AGTGGAAATAATCTCAGACATTGGAAACTA
JN808864.1	AGTGGAAATAATCTCAGACATTGGAAACTA
MK673583.1	AGTGGAAATAATCTCAGACATTGGAAACTA
MK673578.1	AGTGGAAATAATCTCAGACATTGGAAACTA
MK673582.1	AGTGGAAATAATCTCAGACATTGGAAACTA
MK673577.1	AGTGGAAATAATCTCAGACATTGGAAACTA
KT163252.1	AGTGGAAATAATCTCAGACATTGGAAACTA
KT163255.1	AGTGGAAATAATCTCAGACATTGGAAACTA
KT163254.1	AGTGGAAATAATCTCAGACATTGGAAACTA
KT163251.1	AGTGGAAATAATCTCAGACATTGGAAACTA
KT163256.1	AGTGGAAATAATCTCAGACATTGGAAACTA
FJ513078.1	AGTGGAAATAATCTCAGACATTGGAAACTA
NC_002728.1	AGTAGAAATAATCTCAGACATCGGAAACTA
KT163250.1	AGTAGAAATAATCTCAGACATCGGAAACTA
KT163253.1	AGTGGAAATAATCTCAGACATTGGAAACTA
JN808858.1	AGTGGAAATAATCTCAGACATTGGAAACTA
JN808860.1	AGTGGAAATAATCTCAGACATTGGAAACTA
AY029768.1	AGTAGAAATAATCTCAGACATCGGAAACTA
AY029767.1	AGTAGAAATAATCTCAGACATCGGAAACTA
AJ627196.1	AGTAGAAATAATCTCAGACATCGGAAACTA
AJ564623.1	AGTAGAAATAATCTCAGACATCGGAAACTA
FN869553.1	AGTAGAAATAATCTCAGACATCGGAAACTA
AJ564622.1	AGTAGAAATAATCTCAGACATCGGAAACTA

#### F7/R7:

F7:	*** ****** ****** ******* *** GGAAAGTGAAACTAGAAGATGGGCTAAATAC
KY425646.1	GGAAAGTGAAAC TAGAAGATGGGC TAAATAC
KY425655.1	GGAAAGTGAAAC TAGAAGATGGGC TAAA TAC
MK673563.1	GGAAAGTGAAAC TAGAAGATGGGC TAAATAC
MK673561.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
MK673560.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
MK673559.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
MK673558.1	GGAAAGTGAAAC TAGAAGATGGGC TAAA TAC
KT163249.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
KT163248.1	GGAAAG <mark>T</mark> GAAGC <mark>T</mark> AGAAGA <mark>T</mark> GGGC <mark>T</mark> AAA <mark>T</mark> AC
JN808861.1	GGAGAG <mark>T</mark> GAAAC <mark>T</mark> AGAAGA <mark>T</mark> GGGC <mark>T</mark> AAG <mark>T</mark> AC
AY858110.1	GGAAAG <mark>T</mark> GAAA <mark>C</mark> TAGAAGGTGGGC <mark>T</mark> AAATAT
MK673565.1	GGAGAG <mark>T</mark> GAAA <mark>C</mark> TAGAAGA <mark>T</mark> GGG <mark>C</mark> TAAGTAC
MK673590.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673589.1	GGAGAG <mark>T</mark> GAAA <mark>C</mark> TAGAAGA <mark>T</mark> GGG <mark>C</mark> TAAGTAC
JN808857.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673570.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673564.1	GGATAGTGAAACTAGAAGATGGGCTAAGTAC
AY988601.1	GGATAGTGAAACTAGAAGATGGGCTAAGTAC
JN808864.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673583.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673578.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
MK673582.1	GGAGAG <mark>T</mark> GAAAC <mark>T</mark> AGAAGA <mark>T</mark> GGG <mark>C</mark> TAAG <mark>T</mark> AC
MK673577.1	GGAGAG <mark>T</mark> GAAA <mark>C</mark> TAGAAGA <mark>T</mark> GGG <mark>C</mark> TAAGTA <mark>C</mark>
KT163252.1	GGAGAG <mark>T</mark> GAAA <mark>C</mark> TAGAAGA <mark>T</mark> GGG <mark>C</mark> TAAGTA <mark>C</mark>
KT163255.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
KT163254.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
KT163251.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
KT163256.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
FJ513078.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
NC_002728.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
KT163250.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
KT163253.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
JN808858.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
JN808860.1	GGAGAGTGAAACTAGAAGATGGGCTAAGTAC
AY029768.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
AY029767.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
AJ627196.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
AJ564623.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
FN869553.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC
AJ564622.1	GGAAAGTGAAACTAGAAGATGGGCTAAATAC

R7:	***** ********************************	******** *****
KY425646.1	GCAGTAGAAATAATC	TCAGACATCGGAAAC
KY425655.1	GCAGTAGAAATAATC	TCAGACATCGGAAAC
MK673563.1	<b>GCAGTAGAAATAAT</b> C	TCAGACATCGGAAAC
MK673561.1	GCAGTAGAAATAATC	I CAGACATCGGAAAC
MK673560.1	GCAGTAGAAATAATC	I CAGACA <mark>T</mark> CGGAAAC
MK673559.1	GCAGTAGAAATAATC	ICAGACA <mark>T</mark> C <mark>GG</mark> AAAC
MK673558.1	GCAGTAGAAATAATC	I CAGACA <mark>T</mark> CGGAAAC
KT163249.1	GCAGTAGAAATAATC	<mark>I CAGACATCGG</mark> AAAC
KT163248.1	GCAGTAGAAATAATC	I <mark>cagacatcgg</mark> aaac
JN808861.1	GCAGTGGAAATAATC	<mark>I CAGACA<mark>TT</mark>GGAAAC</mark>
AY858110.1	GCAGTAGAAATAATC	<mark>I CAGACA<mark>TT</mark>GGAAAC</mark>
MK673565.1	GCAGTGGAAATAATC	<mark>I CAGACA T T G G</mark> A A A C
MK673590.1	GCAGTGGAAATAATC	<mark>I CAGACA T T GG</mark> AAAC
MK673589.1	GCAGTGGAAATAATC	<mark>I CAGACA<mark>T TGG</mark>AAAC</mark>
JN808857.1	GCAGTGGAAATAATC	I CAGACA <mark>TTGG</mark> AAAC
MK673570.1	GCAGTGGAAATAATC	I CAGACA <mark>TTGG</mark> AAAC
MK673564.1	<b>GCAGTGGAAATAAT</b> C	I CAGACATTGGAAAC
AY988601.1	GCAGTGGAAATAATC	ICAGACATIGGAAAC
JN808864.1	GCAGTGGAAATAATC	<b>ICAGACATTGGAAAC</b>
MK673583.1	GCAGTGGAAATAATC	ICAGACATTGGAAAC
MK6/35/8.1	GCAGTGGAAATAATC	ICAGACATIGGAAAC
MK6/3582.1	GCAGTGGAAATAATC	TCAGACATTGGAAAC
MK673577.1	GCAGTGGAAATAATC	TCAGACATTGGAAAC
KT163252.1	GCAGTGGAAATAATC	ICAGACATTGGAAAC
KT163255.1	GCAGTGGAAATAATC	ICAGACATTGGAAAC
KT163254.1	GCAGTGGAAATAATC	TCAGACATTGGAAAC
KT163251.1	GCAGTGGAAATAATC	TCAGACATTGGAAAC
K1163256.1	GCAGTGGAAATAATC	ICAGACATTGGAAAC
FJ513078.1	GCAGTGGAAATAATC	ICAGACATTGGAAAC
NC_002728.1	GCAGTAGAAATAATC	TCAGACATCGGAAAC
KT163250.1	GCAGTAGAAATAATC	TCAGACATCGGAAAC
KT163253.1	GCAGTGGAAATAATC	TCAGACATTGGAAAC
JN808858.1	GCAGTGGAAATAATC	ICAGACATTGGAAAC
JN808860.1	GCAGTGGAAATAATC	TCAGACATTGGAAAC
AY029768.1	GCAGTAGAAATAATC	TCAGACATCGGAAAC
AY029767.1	GCAGTAGAAATAATC	ICAGACATCGGAAAC
AJ627196.1	GCAGTAGAAATAATC	ICAGACATCGGAAAC
AJ564623.1	GCAGTAGAAATAATC	ICAGACATCGGAAAC
FN869553.1	GCAGTAGAAATAATC	ICAGACATCGGAAAC
AJ564622.1	GCAGTAGAAATAATC	I CAGACATCGGAAAC

2. Five candidate crRNAs targeting the conserved regions of N gene.

CR1:

CR1:	PAM TTTNACAC	Spacer	sequence
KY425646.1	TTTCACAC		TCTATGTATT
KY425655.1	TTTCACAC		TCTATGTATT
MK673563.1	TTTCACAC		TCTATGTATT
MK673561.1	TTTCACAC		TCTATGTATT
MK673560.1	TTTCACAC	CTCATC	TCTATGTATT
MK673559.1	TTTCACAC	CTCATC	TCTATGTATT
MK673558.1	TTTCACAC	TCATC	TCTATGTATT
KT163249.1	TTTCACAC	TCATC	TCTATGTATT
KT163248.1	TTTCACAC	CTCATC	TCTATGTATT
JN808861.1	TTTTACAC	CTCATC	TCTATGTATT
AY858110.1	TTTTACAC	CTCATC	TCTATGTATT
MK673565.1	TTTTACAC	CTCATC	TCTATGTATT
MK673590.1	TTTT <mark>ACA</mark> C	CTCATC	T C T A T G T A T T
MK673589.1	TTTT <mark>AC</mark> AC	CTCATC	T <mark>C T A</mark> T G T <mark>A</mark> T T
JN808857.1	TTTTACAC	CTCATC	T C T A T G T A T T
MK673570.1	TTTTACAC	CTCATC	T C T A T G T A T T
MK673564.1	TTTTACAC	C <mark>TCAT</mark> C	T C T A T G T A T T
AY988601.1	TTTTACAC	C <mark>TCAT</mark> C	T C T A T G T A T T
JN808864.1	TTTTACAC	C <mark>TCAT</mark> C	T C T A T G T A T T
MK673583.1	TTTTACAC	CTCATC	T <mark>CTA</mark> TGTATT
MK673578.1	TTTTACAC	CTCATC	T C T A T G T A T T
MK673582.1	TTTTACAC	C <mark>TCAT</mark> C	T C T A T G T A T T
MK673577.1	TTTTACAC	CTCATC	T C T A T G T A T T
KT163252.1	TTTTACAC	C <mark>TCAT</mark> C	TCTATGTATT
KT163255.1	TTTTACAC	C <mark>TCAT</mark> C	T <mark>C T A T G T A</mark> T T
KT163254.1	TTTT <mark>AC</mark> AC	CTCATC	T <mark>C T A T G T A</mark> T T
KT163251.1	TTTTACAC	CTCATC	T <mark>C T A T G T A</mark> T T
KT163256.1	TTTT <mark>AC</mark> AC	CTCATC	T <mark>C T A T G T A</mark> T T
FJ513078.1	TTTT <mark>ACA</mark> C	C <mark>TCAT</mark> C	T <mark>C T A T G T A</mark> T T
NC_002728.1	TTTCACAC	C <mark>TCAT</mark> C	T C T A T G T A T T
KT163250.1	TTTCACAC	C <mark>TCAT</mark> C	T <mark>C T A T G T A</mark> T T
KT163253.1	T T T T <mark>A C</mark> A C	C <mark>TCAT</mark> C	TCTATGTATT
JN808858.1	TTTTACAC	C <mark>TCAT</mark> C	TCTATGTATT
JN808860.1	TTTCACAC	C <mark>TCAT</mark> C	TCTATGTATT
AY029768.1	TTTCACAC	C <mark>TCAT</mark> C	TCTATGTATT
AY029767.1	TTTCACAC	C <mark>TCAT</mark> C	TCTATGTATT
AJ627196.1	TTTCACAC	CTCATC	TCTATGTATT
AJ564623.1	TTTCACAC	CTCATC	TCTATGTATT
FN869553.1	TTTCACAC	CTCATC	TCTATGTATT
AJ564622.1	TTTCACAC	CTCATC	TCTATGTATT

**CR2**:

CR2:	PAM Spacer sequence
VV125616 1	TTTN GGAGUUAUCAAUCUAAGUU
K1423040.1 KV425655 1	TTTAGGAGTTATCAATCTAAGTT
NV 672562 1	TTTAGGAGTTATCAATCTAAGTT
MK0/5505.1	TTTAGGAGTTATCAATCTAAGTT
MK0/5501.1	TTTAGGAGTTATCAATCTAAGTT
MK0/3300.1	TTTAGGAGTTATCAATCTAAGTT
MK0/3009.1	TTTAGGAGTTATCAATCTAAGTT
MK0/3008.1	TTTAGGAGTTATCAATCTAAGTT
K1163249.1	TTTAGGAGTTATCAATCTAAGTT
KT163248.1	TTTAGGAGTTATCAATCTAAGTT
JN808861.1	TTTAGGAGTTATCAATCTAAGTT
AY858110.1	TTTAGGAGTTATCAATCTAAGTT
MK673565.1	TTTAGGAGTTATCAATCTAAGTT
MK673590.1	TTTAGGAGTTATCAATCTAAGTT
MK673589.1	TTTAGGAGTTATCAATCTAAGTT
JN808857.1	TTTAGGAGTTATCAATCTAAGTT
MK673570.1	TTTAGGAGTTATCAATCTAAGTT
MK673564.1	TTTAGGAGTTATCAATCTAAGTT
AY988601.1	TTT <mark>AGGAGTTAT</mark> CAATCTAAGTT
JN808864.1	TTTAGGAGTTATCAATCTAAGTT
MK673583.1	TTTAGGAGTTAT <mark>C</mark> AATC <mark>TAAG</mark> TT
MK673578.1	TTTAGGAGTTATCAATCTAAGTT
MK673582.1	TTTAGGAGTTATCAATCTAAGTT
MK673577.1	TTTAGGAGTTATCAATCTAAGTT
KT163252.1	TTTAGGAGTTATCAATCTAAGTT
KT163255.1	TTTAGGAGTTATCAATCTAAGTT
KT163254.1	TTTAGGAGTTATCAATCTAAGTT
KT163251.1	TTTAGGAGTTATCAATC TAAGTT
KT163256.1	TTTAGGAGTTATCAATCTAAGTT
FJ513078.1	TTTAGGAGTTATCAATCTAAGTT
NC_002728.1	TTTAGGAGTTATCAATCTAAGTT
KT163250.1	TTTAGGAGTTATCAATCTAAGTT
KT163253.1	TTTAGGAGTTATCAATCTAAGTT
JN808858.1	TTTAGGAGTTATCAATCTAAGTT
JN808860.1	TTTAGGAGTTATCAATCTAAGTT
AY029768.1	TTTAGGAGTTATCAATCTAAGTT
AY029767.1	TTTAGGAGTTATCAATCTAAGTT
AJ627196.1	TTTAGGAGTTATCAATCTAAGTT
AJ564623.1	TTTAGGAGTTATCAATCTAAGTT
FN869553.1	TTTAGGAGTTATCAATCTAAGTT
AJ564622.1	<b>TTTAGGAGTTATCAATCTAAGTT</b>

**CR3**:

<b>CR3:</b> PAM Spacer sequence			
	TTTNACAACCAAGAUAAGGAUAU		
KY425646.1	TTTGACAACCAAGATAAGGATAT		
KY425655.1	TTTGACAACCAAGATAAGGATAT		
MK673563.1	TTTGACAACCAAGATAAGGATAT		
MK673561.1	TTTGACAACCAAGATAAGGATAT		
MK673560.1	TTT <mark>GAC</mark> AA <mark>CC</mark> AAGATAAGGATAT		
MK673559.1	TTT <mark>GAC</mark> AA <mark>CC</mark> AAGATAAGGATAT		
MK673558.1	TTT <mark>GAC</mark> AA <mark>CC</mark> AAGATAAGGATAT		
KT163249.1	TTTGACAACCAAGATAAGGATAT		
KT163248.1	TTTGACAACCAAGA <mark>T</mark> AAGGATAT		
JN808861.1	TTTGACAACCAAGATAAGGATAT		
AY858110.1	TTTGACAACCAAGATAAGGATAT		
MK673565.1	TTTGACAACCAAGATAAGGATAT		
MK673590.1	TTTGACAACCAAGATAAGGATAT		
MK673589.1	TTTGACAACCAAGATAAGGATAT		
JN808857.1	TTTGACAACCAAGA <mark>T</mark> AAGGATAT		
MK673570.1	TTTGACAACCAAGA <mark>T</mark> AAGGATAT		
MK673564.1	TTTGACAACCAAGATAAGGATAT		
AY988601.1	TTTGACAACCAAGATAAGGATAT		
JN808864.1	TTTGACAACCAAGATAAGGATAT		
MK673583.1	TTTGACAACCAAGA <mark>T</mark> AAGGATAT		
MK673578.1	TTTGACAACCAAGATAAGGATAT		
MK673582.1	TTTGACAACCAAGATAAGGATAT		
MK673577.1	TTTGACAACCAAGATAAGGATAT		
KT163252.1	TTTGACAACCAAGATAAGGATAT		
KT163255.1	TTTGACAACCAAGATAAGGATAT		
KT163254.1	TTTGACAACCAAGATAAGGATAT		
KT163251.1	TTTGACAACCAAGATAAGGATAT		
KT163256.1	TTTGACAACCAAGATAAGGATAT		
FJ513078.1	TTTGACAACCAAGATAAGGATAT		
NC_002728.1	TTTGACAACCAAGATAAGGATAT		
KT163250.1	TTTGACAACCAAGATAAGGA <mark>T</mark> AT		
KT163253.1	TTTGACAACCAAGATAAGGATAT		
JN808858.1	TTT <mark>GAC</mark> AA <mark>CC</mark> AAGATAAGGATAT		
JN808860.1	TTTGACAACCAAGATAAGGATAT		
AY029768.1	TTTGACAACCAAGATAAGGATAT		
AY029767.1	TTTGA <mark>C</mark> AA <mark>CC</mark> AAGA <mark>T</mark> AAGGA <mark>T</mark> AT		
AJ627196.1	TTTGA <mark>C</mark> AA <mark>CC</mark> AAGA <mark>T</mark> AAGGA <mark>T</mark> AT		
AJ564623.1	TTTGA <mark>C</mark> AA <mark>CC</mark> AAGATAAGGATAT		
FN869553.1	TTTGA <mark>C</mark> AA <mark>CC</mark> AAGATAAGGATAT		
AJ564622.1	TTTGACAACCAAGA <mark>T</mark> AAGGA <mark>T</mark> A		

CR4:

<b>CR4:</b> PAM Spacer sequence			
VV405646 1	TTTNCUG	CAGGAGGUGUGCUCAU	
K I 423040.1	TTTGCTG(	CAGGAGGTGTGCTCAT	
KY423033.1	TTTGCTG(	CAGGAGGTGTGCTCAT	
MK6/3563.1	TTTGCTG(	CAGGAGGTGTGCTCAT	
MK6/3561.1	TTTGCTG(	CAGGAGGTGTGCTCAT	
MK673560.1	TTTG <mark>C</mark> TG	CAGGAGGTGTGCTCAT	
MK673559.1	TTTG <mark>C</mark> TG(	CAGGAGGTGTGCTCAT	
MK673558.1	TTTG <mark>C</mark> TG	CAGGAGGTGTGCTCAT	
KT163249.1	TTTGCTG	CAGGAGGTGTGCTCAT	
KT163248.1	TTTGCTG	CAGGAGGTGTGCTCAT	
JN808861.1	TTTG <mark>C</mark> TG	CAGGAGGTGTGCTCAT	
AY858110.1	TTTG <mark>C</mark> TG	CAGGAGGTGTGCTCAT	
MK673565.1	TTTGCTG	CAGGAGGTGTGCTCAT	
MK673590.1	TTTGCTG	CAGGAGGTGTGCTCAT	
MK673589.1	TTTGCTG	CAGGAGGTGTGCTCAT	
JN808857.1	TTTGCTG	CAGGAGGTGTGCTCAT	
MK673570.1	TTTGCTG	CAGGAGGTGTGCTCAT	
MK673564.1	TTTGCTG	CAGGAGGTGTGCTCAT	
AY988601.1	TTTGCTG	CAGGAGGTGTGCTCAT	
JN808864.1	TTTGCTG	CAGGAGGTGTGCTCAT	
MK673583.1	TTTGCTG	CAGGAGGTGTGCTCAT	
MK673578.1	TTTGCTG	CAGGAGGTGTGCTCAT	
MK673582.1	TTTGCTG	CAGGAGGTGTGCTCAT	
MK673577.1	TTTGCTG	CAGGAGGTGTGCTCAT	
KT163252.1	TTTGCTG	CAGGAGGTGTGCTCAT	
KT163255.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
KT163254.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
KT163251.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
KT163256.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
FJ513078.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
NC_002728.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
KT163250.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
KT163253.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
JN808858.1	TTT <mark>GC</mark> TG <mark>C</mark>	CAGGAGGTGTGCTCAT	
JN808860.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
AY029768.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
AY029767.1	TTT <mark>GC</mark> TGC	CAGGAGGTGTGCTCAT	
AJ627196.1	TTT <mark>GC</mark> TG	CAGGAGGTGTGCTCAT	
AJ564623.1	TTT <mark>GC</mark> TG	C <mark>AGGAGGTGTGCTCAT</mark>	
FN869553.1	TTT <mark>GC</mark> TG	C <mark>AGGAGGTGTGCTC</mark> AT	
AJ564622.1	TTT <mark>G</mark> CTG	C <mark>AGGAGGTGTGCTC</mark> AT	

CR5:

CR5	Spacer sequence	PAM
VV4056461	AGUUCUUUCCUCCUAGAC	GNTTT
K I 423040.1 VV425655 1	TCAAGAAAGGAGGATCIG	
NV672562 1		
MK073505.1	TCAAGAAAGGAGGATCIG	
MK672560 1	TCAAGAAAGGAGGATCIG	
MK673550.1		
MK673558 1		
KT163240 1		
KT163249.1	TCAACAAACCACCATCTC	
NI808861 1	TCAACAAACCACCATCTC	
AV858110 1	TCAACAAACCACCATCTC	
MK 673565 1	TCAAGAAAGGAGGATCTG	
MK673590 1	TCAAGAAAGGAGGATCTG	
MK673589.1	TCAAGAAAGGAGGATCTG	
JN808857.1	TCAAGAAAGGAGGATCTG	СТААА
MK673570.1	TCAAGAAAGGAGGATCTG	СТААА
MK673564.1	TCAAGAAAGGAGGATCTG	СТААА
AY988601.1	TCAAGAAAGGAGGATCTG	СТААА
JN808864.1	TCAAGAAAGGAGGATCTG	CTAAA
MK673583.1	TCAAGAAAGGAGGATCTG	CTAAA
MK673578.1	TCAAGAAAGGAGGATCTG	CTAAA
MK673582.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> A A A
MK673577.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> A A A
KT163252.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> A A A
KT163255.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> A A A
KT163254.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> A A A
KT163251.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> AAA
KT163256.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> AAA
FJ513078.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> A A A
NC_002728.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> AAA
KT163250.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> A A A
KT163253.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> A A A
JN808858.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> AAA
JN808860.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> A A A
AY029768.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> AAA
AY029767.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> AAA
AJ627196.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> AAA
AJ564623.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> AAA
FN869553.1	TCAAGAAAGGAGGATCTG	C <mark>T</mark> AAA
AJ564622.1	<b>TCAAGAAAGGAGGATCTG</b>	CTAAA

Primer	Sequence (5'-3')	Product size	
F1	ATGAGTGATATCTTTGAAGAGGCGGCTAGT	225	
R1	TGACCATTGATCCAACATCTATTATTACAGCTTC	525	
F2	TAGGAGTTATCAATCTAAGTTAGGGAGAGATG	201	
R2	ACCATTGATCCAACATCTATTATTACAGCTTC	291	
F3	GGAGTTATCAATCTAAGTTAGGGAGAGATG	212	
R3	TCTCTGAATACATAGAGATGAGTGTGAAAG	215	
F4	CAAATAGACTGGGACTAAGTTCAGATCAAG	225	
R4	ATGAAATACTCATCTCCCTTTTGAAGGTAA	225	
F5	GAGGAATTGATCAGAACATGGCAAATAGAC	245	
R5	TGAAATACTCATCTCCCTTTTGAAGGTAAC	245	
F6	GAAAGTGAAACTAGAAGATGGGCTAAATAC	212	
R6	TAGTTTCCGATGTCTGAGATTATTTCTACT	212	
F7	GGAAAGTGAAACTAGAAGATGGGCTAAATAC	211	
R7	GTTTCCGATGTCTGAGATTATTTCTACTGC	211	

Table S1. RAA primer pairs used in this study.



**Figure S1**. The sensitivity of the qPCR assay in NiV detection. qPCR was conducted with the CFX96 real-time PCR detection systems, and the amplification curves of each sample were shown in this figure.