

Supplementary table 1. Differences of amino acid sequence compared with the reference strain NS80567.

Gene	AA Change	CDS AA no.	TH20p	83-MB	91c1	01-10-1	03-VR	05-1-202	11-10	12-1-203	405-76	RT4-70	R19-68	1532-99	1546-99	ER39-67	475-78	3056-07	2387-75	960-80	3408-77	3407-77	157-69	308-74	
ORF1	V>L	21			V79I																				
ORF2	V>M	56					V56M			V21L															
	S>P	83			S83P																				
	R>H	155											R155H												
	D>E	112																							
ORF3	N>H	198								N198H															
	S>F	213								S213F															
	G>S	229																							
	S>L	30																							
ORF5	P>H	79				P79H																			
	A>T	402	A402T	A402T							A402T	A402T	A402T	A402T	A402T	A402T	A402T	A402T	A402T		P79H	P79H			
	K>N	439	K439N	K439N							K439N	K439N	K439N	K439N	K439N	K439N	K439N	K439N	K439N						K439N
	E>K	104																							
ORF7	T>P	486	T486P	T486P																					
	P>L	527																							
	D>N	614	D614N	D614N																					
	Q>R	791																							
ORF9	V>A	4																							
	G>W	158																							
	Y>S	205	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S	Y205S
	N>D	280	N280D	N280D																					
ORF10	T>A	8																							
	M>I	95	M95I																						
ORF12	D>Y	7																							
ORF13	G>R	31																							
	E>D	152																							
	G>E	350																							
	R>Q	489																							
	V>A	610																							
ORF14	L>I	26	L26I																						
	G>A	134	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A	G134A
	M>I	477	M477I	M477I																					
	H>R	504	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R	H504R
	E>K	731																							
ORF15	D>N	24																							
	I>T	162	I162T	I162T																					
	S>G	194	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G	S194G
ORF16	NAKEVD>K-RDRG	274																							
	E>D	277																							
	D>E	309	D309E	D309E																					
	S>G	448																							
	V>M	478																							
ORF17	H>Y	86																							
ORF18	S>L	169																							
	Q>H	225																							
	D>N	366																							
ORF19	T>A	139	T139A																						
	T>A	260																							
	P>H	309																							
	S>A	346	S346A	S346A																					
	R>H	355																							
ORF20	N>K	5																							
	L>S	15	L15S	L15S																					
	A>S	75																							
	T>S	253	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S	T253S
ORF21	T>I	24																							
M>I	354																								
ORF22	A>V	416	A416V																						
ORF23	A>T	206	A206T	A206T																					
	I>M	217	IA217MT	IA217MT																					
	P>S	550																							
	T>A	647	T647A																						
	A>S	776																							
ORF24	A>T	95																							
	V>A	140																							
	E>V	180																							
	G>E	197																							
	E>G	258	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G	E258G
	I>V	265																							
	S>G	365	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G	S365G
	D>Y	402																							
	A>T	501																							
	P>S	508																							
	C>G	595	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G	C595G
	M>L	1236																							
PSTE>ALNR	1513	PSTE1513ALNR																							

Gene	AA Change	CDS AA no.	TH20p	83-MB	91c1	01-10-1	03-VR	05-1-202	11-10	12-1-203	405-76	R14-70	R19-68	1532-99	1546-99	EP39-67	475-78	3056-07	2387-75	960-90	3409-77	3407-77	157-69	306-74			
ORF67	G > S	50	G50S	G50S				G50S				G50S	G50S	G50S	G50S	G50S	G50S	G50S									
	Y > C	170																				Y170C	Y170C				
ORF68	I > T	118	I118T	I118T				I118T				I118T	I118T	I118T	I118T	I118T	I118T	I118T									
ORF69	S > A	281							S281A	S281A																	
ORF70	T > A	342					T342A																				
	E > G	343																							E349G		
	G > S	344																							G344S		
	V > I	350	V350I	V350I				V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	V350I	
	- > G	354	-354G	-354G		-354G		-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	-354G	
ORF71	T > S	132	T132S	T132S				T132S				D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	
	D > E	153	D153E	D153E				D153A				D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	D153E	
	D > A	153						D153A																			
	L > S	228	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	L228S	
	K > R	315	K315R	K315R				K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R	K315R
	R > Q	326				R326Q																					
	Q > R	361	Q361R	Q361R				Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R	Q361R
	A > V	441				A441V																					
ORF72	L > V	27	L27V	L27V				L27V				L27V	L27V	L27V	L27V	L27V	L27V	L27V	L27V	L27V	L27V	L27V	L27V	L27V	L27V		
	G > E	193						G193E				G193E	G193E	G193E	G193E	G193E	G193E	G193E	G193E	G193E	G193E	G193E	G193E	G193E	G193E		
	G > E	382	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	G382E	
ORF73	L > I	58										L58I															
	R > W	134	R134W	R134W				R134W				R134W	R134W	R134W	R134W	R134W	R134W	R134W	R134W	R134W	R134W	R134W	R134W	R134W	R134W	R134W	
	F > L	186				F186L			F186L	F186L																	
	A > T	229						A229T																			
	D > A	298	D298A	D298A				D298A				D298A	D298A	D298A	D298A	D298A	D298A	D298A	D298A	D298A	D298A	D298A	D298A	D298A	D298A	D298A	
ORF74	A > V	334				A334V			A334V	A334V																	
	E > K	60									E60K															E60K	
	G > E	123					M155I												G123E								
	M > I	155						S330L													M155I	M155I	M155I				
	S > L	330													L371P												
ORF75	S > I	497			S497I				S497I	S497I																	
	E > G	58				E58G														E58G	E58G						
ORF76	V > A	7		V7A																							
	D > E	34							D34E	D34E																	
	D > G	41	D41G	D41G				D41G				D41G	D41G	D41G	D41G	D41G	D41G	D41G	D41G	D41G	D41G	D41G	D41G	D41G	D41G	D41G	
	C > R	94				C94R														C94R	C94R						
	A > V	95																									
	G > S	122						A95V	A95V																		
	G > S	141						G122S	G122S																		
	T > M	194																								T194M	