

Supplemental Table 1: ISO 366-1 Three letter country codes

Code	Country	Code	Country
AUS	Australia	KOR	South Korea
BRA	Brazil	LKA	Sri Lanka
CHN	China	MYS	Malaysia
CZE	Czech Republic	NPL	Nepal
DEU	Germany	PAK	Pakistan
ESP	Spain	PER	Peru
FRA	France	PRI	Puerto Rico
GRC	Greece	SWE	Sweden
HKG	Hong Kong	TUR	Turkey
IND	India	TWN	Taiwan
IRN	Iran	USA	United States
ISR	Israel	VNM	Vietnam
ITA	Italy	ZAF	South Africa
KAZ	Kazakhstan		

Supplemental Table 2: Mutations previously identified. “X” represents allele found in isolate genome while “*” represents an alternate allele detected using deep sequencing.

Gene	Study Reference Cutoff N	Wang [16] UNK 108	Tang [15] 1 103	Pachetti [10]	Khailany [14]	Wang [13] 3 95	Forster [17]	Yin [12] UNK 558	Shen [18] 5% 8
5'UTR	4A > T				X				
5'UTR	16C > T				X				
5'UTR	75C > A				X				
5'UTR	104T > A				X				
5'UTR	111T > C				X				
5'UTR	112T > G				X				
5'UTR	119C > G				X				
5'UTR	120T > C				X				
5'UTR	124G > A				X				
5'UTR	241C > T				X			X	
ORF1ab	359-382del				X				
ORF1ab	376G > T								*
ORF1ab	394T > C								*
ORF1ab	490T > A		X		X				
ORF1ab	565T > C		*						
ORF1ab	614		X						
ORF1ab	1397			X					
ORF1ab	1440G > A								*
ORF1ab	1497G > A				X				
ORF1ab	1548G > A				X				
ORF1ab	1623T > C								*
ORF1ab	1636G > C								*
ORF1ab	1821G > A		*						*
ORF1ab	1912C > T				X				
ORF1ab	1914G > A								*
ORF1ab	1991T > G								*
ORF1ab	2297T > C								*
ORF1ab	2662C > T		X		X	X			
ORF1ab	2721C > T								*
ORF1ab	2891			X					
ORF1ab	3036			X					
ORF1ab	3037C > T	X						X	
ORF1ab	3177C > T		X		X				
ORF1ab	3683C > T								*
ORF1ab	3778A > G				X				
ORF1ab	3792C > T				X				
ORF1ab	4122T > A								*
ORF1ab	4771T > A								*
ORF1ab	4794C > T								*
ORF1ab	4795C > T		*						
ORF1ab	5084		X						
ORF1ab	5214T > C								*
ORF1ab	5869C > T								*
ORF1ab	6027C > T								*
ORF1ab	6031C > T				X				
ORF1ab	6035A > G				X				
ORF1ab	6051A > T								*
ORF1ab	6254G > T								*
ORF1ab	6360A > G		*						
ORF1ab	6492T > C								*
ORF1ab	6496T > C								*
ORF1ab	6503G > T								*
ORF1ab	6766T > C								*
ORF1ab	6968C > A				X				
ORF1ab	6996T > C				X				

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ORF1ab	7016G > A				X				
ORF1ab	7042G > A		*						
ORF1ab	7866G > T				X				*
ORF1ab	8001A > C				X				
ORF1ab	8242T > C								*
ORF1ab	8286T > C								*
ORF1ab	8615G > A								*
ORF1ab	8388A > G				X				*
ORF1ab	8615G > A								*
ORF1ab	8782C > T	X	X	X	X	X	X	X	
ORF1ab	8987T > A				X				
ORF1ab	9064TTAT > TT		*						
ORF1ab	9534C > T				X				
ORF1ab	9805G > A								*
ORF1ab	9989A > G								*
ORF1ab	10024A > T								*
ORF1ab	10481G > A								*
ORF1ab	10625G > C								*
ORF1ab	10771T > C								*
ORF1ab	10779T > A								*
ORF1ab	10817G > C								*
ORF1ab	11083G > T	X	X	X	X	X		X	
ORF1ab	11147T > C								*
ORF1ab	11148T > C								*
ORF1ab	11367A > T								*
ORF1ab	11557G > T				X				
ORF1ab	11563C > T		*						
ORF1ab	11749T > A				X				
ORF1ab	11764T > A				X				
ORF1ab	12153C > T		*						
ORF1ab	12258A > G								*
ORF1ab	13225C > G				X				
ORF1ab	13226T > C				X				
ORF1ab	13899T > C								*
ORF1ab	14408T > C			X				X	
ORF1ab	14438T > C								*
ORF1ab	15324C > T		X		X				
ORF1ab	15597T > C				X				
ORF1ab	15921G > T		*						
ORF1ab	16080C > T								*
ORF1ab	16474A > G		*						
ORF1ab	16467A > G				X				
ORF1ab	17190T > C								*
ORF1ab	17373		X			X			
ORF1ab	17423A > G				X				
ORF1ab	17746			X					
ORF1ab	17747C > T							X	
ORF1ab	17825C > T		*						
ORF1ab	17857			X					
ORF1ab	17858A > G							X	
ORF1ab	17934C > A								*
ORF1ab	18060C > T		X	X	X	X		X	
ORF1ab	18488		X						
ORF1ab	18512C > T				X				
ORF1ab	19164C > T		*						
ORF1ab	19879G > T								*
ORF1ab	19948A > C								*

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ORF1ab	20141C > G								*
ORF1ab	20240G > A								*
ORF1ab	20344C > T		*						
ORF1ab	20670		X						
ORF1ab	20679G > A		X		X				
ORF1ab	20703C > T								*
ORF1ab	20716A > T								*
ORF1ab	20815T > C								*
ORF1ab	21137A > G				X				
ORF1ab	21316G > A				X				
ORF1ab	21383A > C								*
ORF1ab	21386insT				X				
ORF1ab	21386C > T				X				
ORF1ab	21388- 21390insTT				X				
S	21707		X			X			
S	22432C > T				X				
S	22661G > T	X	X						
S	23127C > T								*
S	23185C > T				X				
S	23308T > A								*
S	23403A > G	X		X				X	
S	23569		X						
S	23585C > T								*
S	23605		X						
S	23725T > A								*
S	23920A > G								*
S	23923A > C								*
S	23952T > G				X				
S	24034C > T		X		X	X			
S	24265A > G								*
S	24292A > G				X				
S	24323A > C		*						
S	24325A > G		X		X				
S	24404C > T								*
S	24428G > A								*
S	24816G > C								*
ORF3a	25399T > G								*
ORF3a	25590A > G								*
ORF3a	25810C > G				X				
ORF3a	26102T > A								*
ORF3a	26143			X					
ORF3a	26144G > T	X	X		X	X	X	X	
E	26314G > A		*						
M	26590T > C		*						
M	26729T > C		X		X	X			
M	27046C > T							X	
ORF6	27347A > T								*
ORF7a	27403A > T								*
ORF7a	27493C > T		X		X				*
ORF7a/b	27864C > A								*
ORF8	27966T > C								*
ORF8	27971T > C								*
ORF8	28038G > A								*
ORF8	28077G > C		X		X	X			
ORF8	28144T > C	X	X	X	X	X	X		
ORF8	28253C > T		X		X				*
N	28350G > A								*

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N	28805G > A								*
N	28854C > T		X		X	X			
N	28878		X						
N	28792A > C				X				
N	28881G > A			X				X	
N	28882G > A							X	
N	28883G > C							X	
N	29039A > T								*
N	29095C > T		X		X	X	X		*
N	29140G > C								*
N	29212G > C								*
N	29303C > T		X		X				*
N	29398G > C								*
N	29441C > A		*						*
N	29513G > A								*
N	29515T > A								*
N	29516G > A								*
ORF10	29642C > T				X				
3'UTR	29705G > T				X				
3'UTR	29749- 29759del				X				
3'UTR	29854C > T				X				
3'UTR	29856T > A				X				
3'UTR	29869del				X				