Supplemental Materials:

Table S1: Amino acid differences in bovine IDV compared to swine IDV. HEF Amino acid differences that are unique to D/3-13 are in outlined boxes. Amino acid site mutations that are conserved across bovine species are shaded grey.

Virus	HEF Mutations D/swine AA /site/ D/Bovine AA												
D/1-35				P89S	S164G							A251T	K252T
D/14-22		T78N					R157K					A251T	K252T
D/3-13	I68V		D80A		S164G	V115I		T181K	A188T		V215A	A251T	K252A
D/9-5	I68V		D80A		S164G			T181K	A188T	K212R	V215A	A251T	K252A
D/11-8	I68V		D80A		S164G			T181K	A188T	K212R	V215A	A251T	K252A
D/13-21	I68V		D80A		S164G			T181K	A188T	K212R	V215A	A251T	K252A

Virus	HEF Mutations D/swine AA /site/ D/Bovine AA										
D/1-35					A289T			K308R			
D/14-22								K308R			
D/3-13	F256L	I273V		N288G	A289S			K308R	R312K		D372G
D/9-5	F256L	I273V	M276X	N288G	A289S				R312K		
D/11-8	F256L	I273V		N288G	A289S			K308R	R312K	T348I	
D/13-21	F256L	I273V		N288G	A289S	K292R	S306R	K308R	R312K		

Virus	HEF Mutations D/swine AA /site/ D/Bovine AA											
D/1-35	R448K			I463V								
D/14-22	R448T						G487R					
D/3-13			I459V		V469I	N486S		K627N			S654F	
D/9-5				I463V	V469I	N486S		K627N		V649M	S654F	I658S
D/11-8		I456A			V469I	N486S		K627N	I641M		S654F	
D/13-21					V469I	N486S		K627N			S654F	

Virus	NP Mutations D/swine AA /site/ D/bovine AA						
D/1-35		P74L	S132T	E247D	K381E	A462T	
D/14-22				E247D	K381E		
D/3-13		P74L	S132T	E247D	K381E	A462T	
D/9-5		P74L	S132T	E247D	K381E	A462T	
D/11-8		P74L	S132T	E247D	K381E	A462T	D552N
D/13-21	K41R	P74L	S132T	E247D	K381E	A462T	

Virus	NS Mutations D/swine AA /site/ D/bovine AA			
D/1-35	D168N			
D/14-22				D228N
D/3-13			V189I	
D/9-5		F122L		
D/11-8				
D/13-21				

Virus	P3 Mutations D/swine AA /site/ D/bovine AA													
D/1-35		K69R							L266M	T322I			R539K	
D/14-22				R101K		K110R								
D/3-13	V4I	K69R					R214K	K257R	L266M	T322I	R361K			E675K
D/9-5		K69R			V106I				L266M	T322I				
D/11-8		K69R	I74V						L266M	T322I				
D/13-21	V4I	K69R						K257R	L266M	T322I	R361K	I447V		

Virus	P42 Mutations D/swine AA /site/ D/bovine AA														
D/1-35			M26L	K27R	K37R	E38D	K41R	C91S	N93S		P257S	G290S	L316F		P366L
D/14-22								C91S						S328N	
D/3-13			M26L	K27R	K37R	E38D	K41R	C91S	N93S		P257S	G290S	L316F		P366L
D/9-5	V17I		M26L	K27R	K37R	E38D	K41R	C91S	N93S		P257S	G290S			P366L
D/11-8			M26L	K27R	K37R	E38D	K41R	C91S	N93S	L248W	P257S	G290S	L316F		P366L
D/13-21		P19L	M26L	K27R	K37R	E38D	K41R	C91S	N93S		P257S	G290S	F316L		P366L

Virus	PB1 Mutations D/swine AA /site/ D/bovine AA						
D/1-35		K372R					
D/14-22				R434K			
D/3-13		K372R	D398N				
D/9-5	E64K	K372R				R455K	R663K
D/11-8		K372R	D398E		P458S		R663K
D/13-21		K372R					

Virus	PB2 Mutations D/swine AA /site/ D/bovine AA					
D/1-35	K119R		A293S	M352I	V521I	
D/14-22	K119R	V151M	A293S	M352I	V521I	K599R
D/3-13					V521M	
D/9-5	K119R		A293S	M352I	V521I	
D/11-8	K119R	V151M	A293S	M352I	V521I	
D/13-21	K119R	V151M	A293S	M352I	V521I	