

Supplementary Material

Supplementary Tables:

Supplementary Table 1. The background information for viruses used for phylogenetic analyses in this study

Genus	Serogroup	Viruses	Strain	Accession No.					
				Location	Date	Isolated source	S	M	L
		Ebinur lake orthobunyavirus	Cu20-XJ	China: Xinjiang	2013	Culex modestus	KJ710424	KJ710423	KJ710425
		Anadyr virus	LEIV 13395Mg	NA	1989	NA	MH48428 1	MH48428 0	MH48427 9
<i>Orthobunyavirus</i>	Bunyamwera	Batai virus	ZJ2014	China: Zhejiang	2014	duck	KU746869	KU746870	KU746871
		Birao virus	DakArB 2198	Central African Republic: Banugui	1969	Anopheles pharoensis	MH37082 3	MH37082 2	MH37082 1
		Bozo virus	DakArB 7343	Central African Republic: Bozo	1975	Aedes opok	MH37082 6	MH37082 5	MH37082 4

Bunyamwera virus	prototype	Uganda	1946	mosquito	NC_001927	NC_001926	NC_001925
Cache Valley virus	6V633	USA	1955	Culiseta inornata	KX100133	KX100134	KX100135
Fort Sherman virus	86MSP18	Panama	1985	human serum	MH484296	MH484295	MH484294
Germiston virus	NA	Uganda	1968	rodents/ mosquito	M19420	M21951	NA
Ilesha virus	R5964	NA	NA	NA	KF234073	KF234074	KF234075
Kairi virus	BeAr8226	Brazil	1957	Ochlerotatus scapularis	NC_038740	NC_038739	NC_038738
Lokern virus	A 10391	USA	NA	NA	MH484305	MH484304	MH484303
Maguari virus	BeAr 7272	Brazil: Utinga forest	1957	mosquito	KY910431	KY910430	KY910429
Main Drain virus	72V2567	USA: New Mexico	1972	Aedes vexans	MH484308	MH484307	MH484306

	Ngari virus	Adrar	Mauritania	2010	small ruminant	KJ716848	KJ716849	KJ716850
	Northway virus	243	USA: Alaska, Northway	1971	Aedes sp.	MH48431 4	MH48431 3	MH48431 2
	Playas virus	75V3066	Ecuador	1975	Aedes taeniorhynchus	KX100121	KX100122	KX100123
	Potosi virus	89-3380	USA: Potosi, Missouri	1989	Aedes albopictus	MH48432 3	MH48432 2	MH48432 1
	Shokwe virus	SAAr 4042	South Africa: Ndumu, Natal, Shokwe pan	1962	Aedes cumminsii	MH48433 2	MH48433 1	MH48433 0
	Tensaw virus	A9-171B	USA: Baldwin County, Alabama	1960	Anopheles crucians	MH48433 5	MH48433 4	MH48433 3
	Tlacotalpan virus	61D240	Mexico: Tlacotalpan, Veracruz	1961	Mansonia titillans	MH48434 4	MH48434 3	MH48434 2
California	California encephalitis virus	BFS 283	USA: California	1943	Aedes dorsalis	KX817314	KX817313	KX817312
	Keystone virus	AVA170944 1	USA: Orange county, Texas	2017	Culex sp.	MG76547 1	MG76547 0	MG76546 9

	Inkoo virus	LEIV-15248Iv	Russia: Ivanovo district	1973	Aedes sp.	KT288271	KT288270	KT288269
	Serra do Navio virus	BeAr 103645	Brazil: Ampa	1966	Aedes fulvus	KX817335	KX817334	KX817333
	La Crosse virus	Human/78	NA		human	NC_004110	NC_004109	NC_004108
	San Angelo virus	20230	USA: Texas	1958	Anopheles pseudopunctipennis	KX817332	KX817331	KX817330
	Snowshoe hare virus	original	USA: Montana	1959	hare brain	EU294510	EU262553	EU203678
	South River virus	NJO-94F	USA: New Jersey	1960	Anopheles crucians	KX817338	KX817337	KX817336
	Tahyna virus	XJ0708	China: Xinjiang	2007	Aedes vexans	HM243139	HM243138	HM243137
	Trivittatus virus	AR42	USA: Denton County, Texas	2016	Aedes trivittatus	KX891323	KX891322	KX891321
Group C	Caraparu virus	BeAn3994	Brazil	1956	Sapajus apella	MG029274	MG029273	MG029272

	Madrid virus	BT4075	Panama	1956	human	NC_03449 8	NC_03450 5	NC_03449 7
	Marituba virus	BeAn15	Brazil	1954	Sapajus apella	MG02928 3	MG02928 2	MG02928 1
	Oriboca virus	BeAn17	Brazil	1954	Sapajus apella	MG02929 2	MG02929 1	MG02929 0
	Bimiti virus	TRVL 8362	Russian: Trinidad and Tobago	1955	Culex spissipes	NC_03872 5	NC_03872 3	NC_03872 4
Guama	Catu virus	BeH 151	Brazil	1955	human	NC_03872 6	NC_03872 7	NC_03872 8
	Guama virus	BeAn 277	Brazil	1955	Cebus apella	NC_03873 7	NC_03873 5	NC_03873 6
	Buffalo Creek virus	DPP186	Australia	1982	Anopheles meraukensis	KJ481927	KJ481928	KJ481929
Mapputta	Mapputta virus	MRM186	Australia	1960	Anopheles meraukensis	KJ481921	KJ481922	KJ481923

	Maprik virus	MK7532	Australia	1966	Verrallina funerea complex sp.	NC_02628 2	NC_02628 3	NC_02628 1
	Murrumbidgee virus		934 Australia	1997	Anopheles annulipes	NC_02259 7	NC_02259 6	NC_02259 5
	Abras virus	75V1183	Ecuador	1974	Culex paracrybda	MH01726 9	MH01728 1	MH01727 5
	Babahoyo virus	75V2858	Ecuador	1975	Culex ocosa	MH01727 0	MH01728 2	MH01727 6
Patois	Patois virus	63A49	Mexico	1963	Culex sp.	MH01727 3	MH01728 3	MH01727 7
	Shark river virus	64U80	Mexico	1964	sentinel hamster	MH01727 1	MH01728 4	MH01727 8
	Akabane virus	OBE-1	Japan:Okayama	1974	Bovine fetus	NC_00989 6	NC_00989 5	NC_00989 4
Simbu	Jatobal virus	BeAn 423380	Brazil	1984	Nasua	JQ675601	JQ675602	JQ675603

	Thimiri orthobunyavirus	VRC 66414	India: Thimiri, Walljah Tk., N. Arcot District	1963	Ardeola grayii	MH48433 8	MH48433 7	MH48433 6
	Oropouche virus	OROV/EC/E smeraldas/08 7/2016	Ecuador	2016	human	MF926352	MF926353	MF926354
	Sathuperi virus	BH80/11-4	NA	2011	NA	NC_01846 2	NC_01846 6	NC_01846 1
	Shamonda virus	Ib An 5550	NA	NA	NA	NC_01846 4	NC_01846 7	NC_01846 3
	Aino virus	38K	NA	NA	NA	NC_01846 0	NC_01845 9	NC_01846 5
	Simbu virus	SA Ar 53	NA	NA	NA	NC_01847 7	NC_01847 8	NC_01847 6
Herbert herbevirus	Herbert virus	F23/CI/2004	Cote d'Ivoire	2004	Culex nebulosus	NC_03871 2	NC_03871 3	NC_03871 4

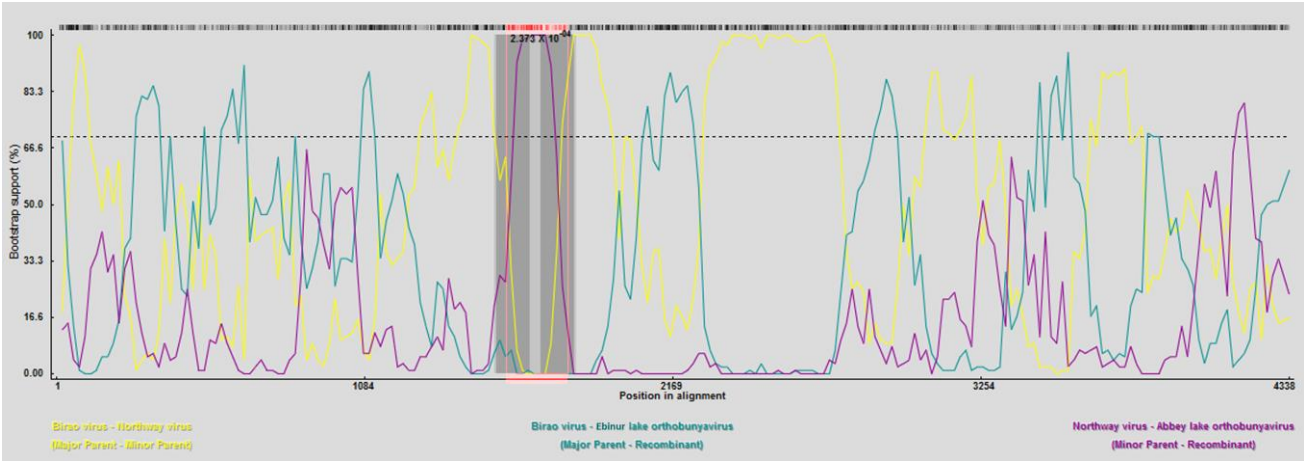
Supplementary Table 2. Putative reassortment/recombination event of the M segment among EBIV and members of Bunyamwera serogroup, predicted by RDP software v. 4.74

Recombinant *	Ebinur lake orthobunyavirus	
Event	2	
Initial Breakpoint Position	1584	
Ending Breakpoint Position	1800	
Genomic segment	M	
Minor parent	Unknown (Birao virus)	
Major parent	Northway virus	
P-values determined by different algorithms	RDP	8.359E-3
	Bootscan	2.373E-4
	MaxChi	6.333E-3
	Chimaera	2.658E-2

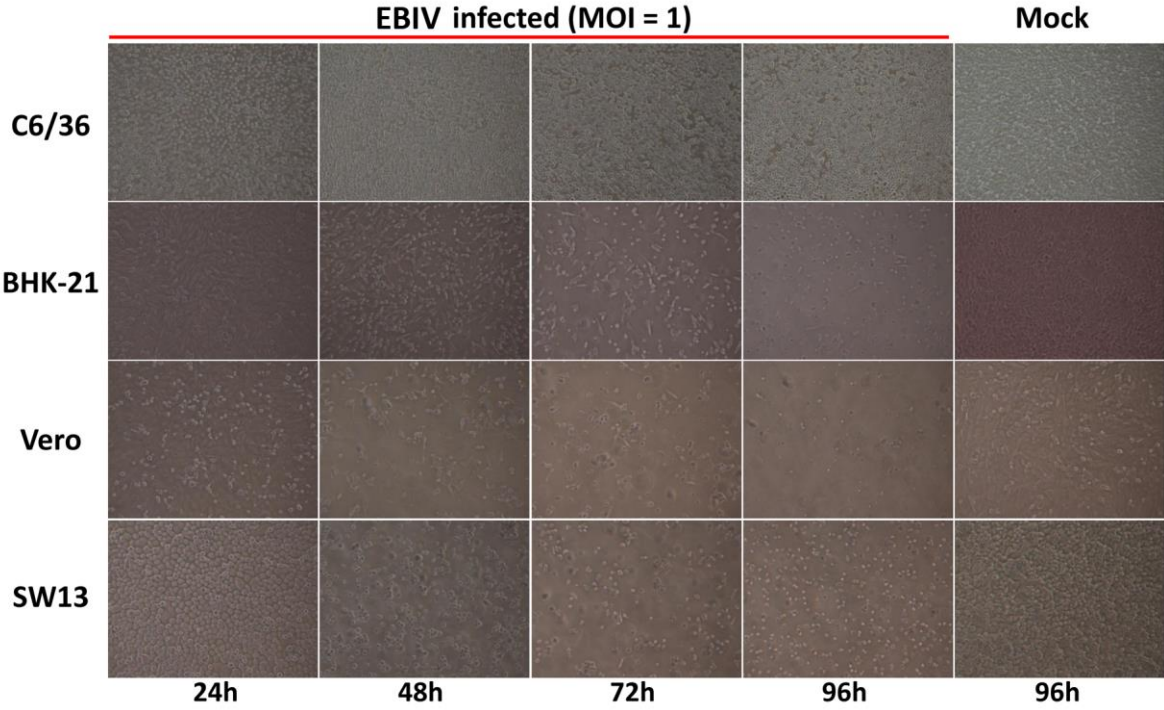
* Possible misidentification of the recombinant was suggested by the software

** Statistical analysis was performed at an highest acceptable P-value of 0.05

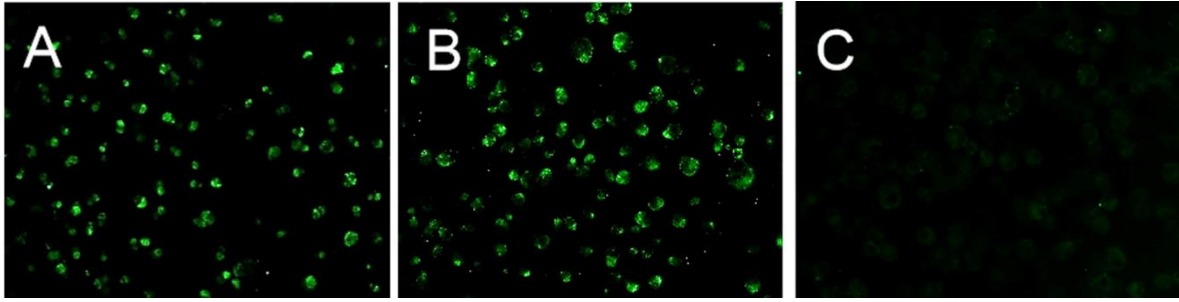
Supplementary Figures:



Supplementary Figure 1. Diagram for Putative recombination event of EBIV.



Supplementary Figure 2. Strong cytopathic effect observed in EBIV infected BHK-21, Vero, and SW13 cells



Supplementary Figure 3. Indirect Immunofluorescence assay for EBIV antibody in human serum. (A) IgM positive (B) IgG positive, and (C) negative control.