

Supplementary Table S1. Neutralization results for sera obtained from a flavivirus-vaccinated human cohort

Neg, Negative; ND, not determined.

Gender	Vaccinations	Neutralizing antibody titre (PRNT ₅₀)							
		Sero-conversion				Cross-neutralization			
		YFV (17D)	YFV (Asibi)	TBEV	JEV	LIV	DENV-2	WNV	MVEV
M	TBEV, JEV	Neg	Neg	1:10	1:20	1:10	Neg	Neg	Neg
M	TBEV, JEV	Neg	Neg	1:10	Neg	1:10	1:20	Neg	Neg
M	TBEV, JEV	Neg	Neg	Neg	1:10	Neg	Neg	Neg	Neg
M	TBEV, JEV	Neg	Neg	1:10	1:10	1:10	Neg	Neg	Neg
M	TBEV, JEV	Neg	Neg	ND	1:20	ND	ND	Neg	Neg
M	TBEV, JEV	ND	ND	1:160	1:160	1:40	Neg	Neg	Neg
F	TBEV, JEV	Neg	Neg	Neg	1:160	1:10	Neg	Neg	Neg
F	TBEV, JEV	Neg	Neg	Neg	1:80	ND	1:20	Neg	Neg
F	TBEV, JEV	Neg	Neg	1:10	1:40	1:20	Neg	Neg	Neg
F	TBEV, JEV	Neg	Neg	Neg	1:80	1:10	Neg	Neg	Neg
F	TBEV, JEV	Neg	Neg	1:10	1:40	Neg	1:20	Neg	Neg
F	TBEV, JEV	Neg	Neg	1:10	1:20	Neg	1:40	Neg	Neg
F	TBEV, JEV	Neg	Neg	1:20	1:40	1:10	Neg	Neg	Neg
F	TBEV, JEV	Neg	Neg	1:40	1:160	1:10	Neg	1:20	Neg

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M	TBEV, JEV, YFV	Neg	Neg	Neg	1:40	Neg	Neg	1:10	Neg
M	TBEV, JEV, YFV	1:40	1:80	1:20	1:40	1:10	1:20	1:40	Neg
M	TBEV, JEV, YFV	1:80	1:80	Neg	1:10	Neg	1:20	1:10	Neg
M	TBEV, JEV, YFV	1:80	1:80	Neg	Neg	ND	Neg	Neg	Neg
M	TBEV, JEV, YFV	1:40	1:80	Neg	1:10	1:10	Neg	Neg	Neg
M	TBEV, JEV, YFV	1:20	1:20	Neg	1:160	Neg	1:20	1:160	Neg
M	TBEV, JEV, YFV	1:40	1:40	1:10	1:80	Neg	Neg	Neg	Neg
M	TBEV, JEV, YFV	1:40	1:80	1:160	1:80	1:40	1:80	1:80	Neg
F	TBEV, JEV, YFV	1:80	1:160	ND	1:160	1:10	1:20	1:80	Neg
F	TBEV, JEV, YFV	1:80	1:320	1:20	Neg	1:20	Neg	Neg	Neg
F	TBEV, JEV, YFV	Neg	Neg	1:20	1:160	1:10	Neg	Neg	Neg

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M	Unknown	Neg	Neg	1:20	1:40	1:10	Neg	Neg	Neg
M	Unknown	ND	ND	ND	1:80	Neg	ND	1:10	Neg
F	Unknown	Neg	1:40	1:1280	1:160	1:1280	1:40	1:40	Neg

Supplementary Table S2. Details of viruses used in PRNTs

Virus	Original ID	Species	Location	Date
West Nile virus (WNV) – lineage 1	DAK ArB310	Mosquito	Central Africa	1967
Louping ill virus (LIV)	Louping ill 3/1	Sheep	Oban, Scotland	1962
Tick-borne encephalitis virus (TBEV)	Neudoerfl H2J	Tick (<i>Ixodes ricinus</i>)	Austria	1950s
Japanese encephalitis virus (JEV)	P3	Mosquito	China	1949
Murray Valley encephalitis virus (MVEV)	H102/94	Unknown	Unknown	Unknown
Dengue-2 (DENV-2)	New Guinea C	Human	New Guinea	1944
Yellow fever virus (YFV)	Asibi	Human	Ghana	1927

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YFV	17D	Vaccine strain derived from YFV Asibi, passage 240
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Supplementary Table S3. Neutralization titres and target distances for selected sera

ED₅₀, Reciprocal 50% end-point dilutions; TD, target distance (described in Methods) used for Fig. 3; *, no distance.

Serum	TBEV		JEV		YF 17D		YF Asibi		WNV		LIV		DENV-2	
	ED ₅₀	TD	ED ₅₀	TD	ED ₅₀	TD	ED ₅₀	TD	ED ₅₀	TD	ED ₅₀	TD	ED ₅₀	TD
1	10	7.0	20	6.0	<10	>7.0	<10	>7.0	<10	>7.0	10	7.0	<10	>7.0
2	10	7.0	<10	>7.0	<10	>7.0	<10	>7.0	<10	>7.0	10	7.0	20	6.0
4	10	7.0	10	7.0	<10	>7.0	<10	>7.0	<10	>7.0	10	7.0	<10	>7.0
6	160	3.0	160	3.0	<10	>7.0	<10	>7.0	<10	>7.0	40	5.0	<10	>7.0
9	10	7.0	40	5.0	<10	>7.0	<10	>7.0	<10	>7.0	20	6.0	10	>7.0
11	10	7.0	40	5.0	<10	>7.0	<10	>7.0	<10	>7.0	<10	>7.0	20	6.0
12	10	7.0	20	6.0	<10	>7.0	<10	>7.0	<10	>7.0	<10	>7.0	40	5.0
13	20	6.0	40	5.0	<10	>7.0	<10	>7.0	<10	>7.0	10	7.0	<10	>7.0
14	40	5.0	160	3.0	<10	>7.0	<10	>7.0	20	6.0	10	7.0	<10	>7.0
16	20	6.0	40	5.0	40	5.0	80	4.0	40	5.0	10	7.0	20	6.0
17	<10	>7.0	10	7.0	80	4.0	80	4.0	10	7.0	<10	>7.0	20	6.0
19	<10	>7.0	10	7.0	40	5.0	80	4.0	<10	>7.0	10	7.0	<10	>7.0

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22	160	3.0	80	4.0	40	5.0	80	4.0	80	4.0	40	5.0	80	4.0
23	*	*	160	3.0	80	4.0	160	3.0	80	4.0	10	7.0	20	6.0
24	20	6.0	<10	>7.0	80	4.0	320	2.0	<10	>7.0	20	6.0	<10	>7.0
25	20	6.0	160	3.0	<10	>7.0	<10	>7.0	<10	>7.0	10	7.0	<10	>7.0
26	20	6.0	40	5.0	<10	>7.0	<10	>7.0	<10	>7.0	10	7.0	<10	>7.0

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