



Article

Potential Nosocomial Infections by the Zika and Chikungunya Viruses in Public Health Facilities in the Metropolitan Area of Recife, Brazil

Larissa Krokovsky ¹, Duschinka Ribeiro Duarte Guedes ¹, Fabiana Cristina Fulco Santos ¹, Kamila Gaudêncio da Silva Sales ², Daniela Anastácio Bandeira ³, Claudenice Ramos Pontes ³, Walter Soares Leal ⁴, Constância Flávia Junqueira Ayres ¹ and Marcelo Henrique Santos Paiva ^{1,5,*}

¹ Entomology Department, Aggeu Magalhães Institute, Oswaldo Cruz Foundation, Recife, 50740-465, PE, Brazil

² Immunology Department, Aggeu Magalhães Institute, Oswaldo Cruz Foundation Recife, 50740-465, PE, Brazil

³ Pernambuco's Health Department, Recife, 50751-530, PE, Brazil

⁴ Department of Molecular and Cellular Biology, University of California, Davis, CA 95616, USA

⁵ Life Sciences Center, Agreste Academic Center, Federal University of Pernambuco, Caruaru, 55002-970, PE, Brazil

* Correspondence: marcelo.paiva@fiocruz.br; Tel.: +55-81-21012552

Table S1. Primers and probes sequences used in DENV, CHIKV and ZIKV detection.

Virus	Dye	Oligonucleotide Name	Sequence (5'-3')	Amplicon Size (bp)	Reference
DENV	CY5	DENVG-F	AAGGACTAGAGGTTAGAGGGAGACCC		
		DENVG-R	CGTTCTGTGCCTGGAATGATG	108	[1]
		DENVG-P	CY5-AACAGCATATTGACGCTGGAGAGACCAGA-MGB		
		ZIKV 1163c	CCACTAACGTTCTTGCAGACAT		
ZIKV	FAM	ZIKV 1087	CCGCTGCCAACACAAG	77	[2]
		ZIKV 1108 P	FAM-AGCCTACCTTGACAAGCAGTCAGACACTCAA-MGB		
CHIKV	VIC	CHIKV 6856	TCACTCCCTGTTGGACTTGATAGA		
		CHIKV 6981	TTGACGAGAGTTAGGAACATACC	126	[3]
		CHIKV 6919 P	VIC-AGGTACCGCGTTCAAGTTGGCG-BHQ1		

Table S2. Linear regression analysis values of standard curves for DENV, ZIKV and CHIKV in singleplex and multiplex assays.

Virus	Parameters	RT-qPCR Assays	
		Singleplex	Multiplex
DENV	Slope	-3.608	-3.362
	R ²	0.997366667	0.998
	E%	89.398	98.369
	Y-inter	60.88	59.899
ZIKV	Slope	-3.536	-3.406
	R ²	0.997	0.996
	E%	91.799	96.610
	Y-inter	62.75	62.30
CHIKV	Slope	-3.497799953	-3.448
	R ²	0.994066676	0.996
	E%	93.2	95.118
	Y-inter	61.50	62.589

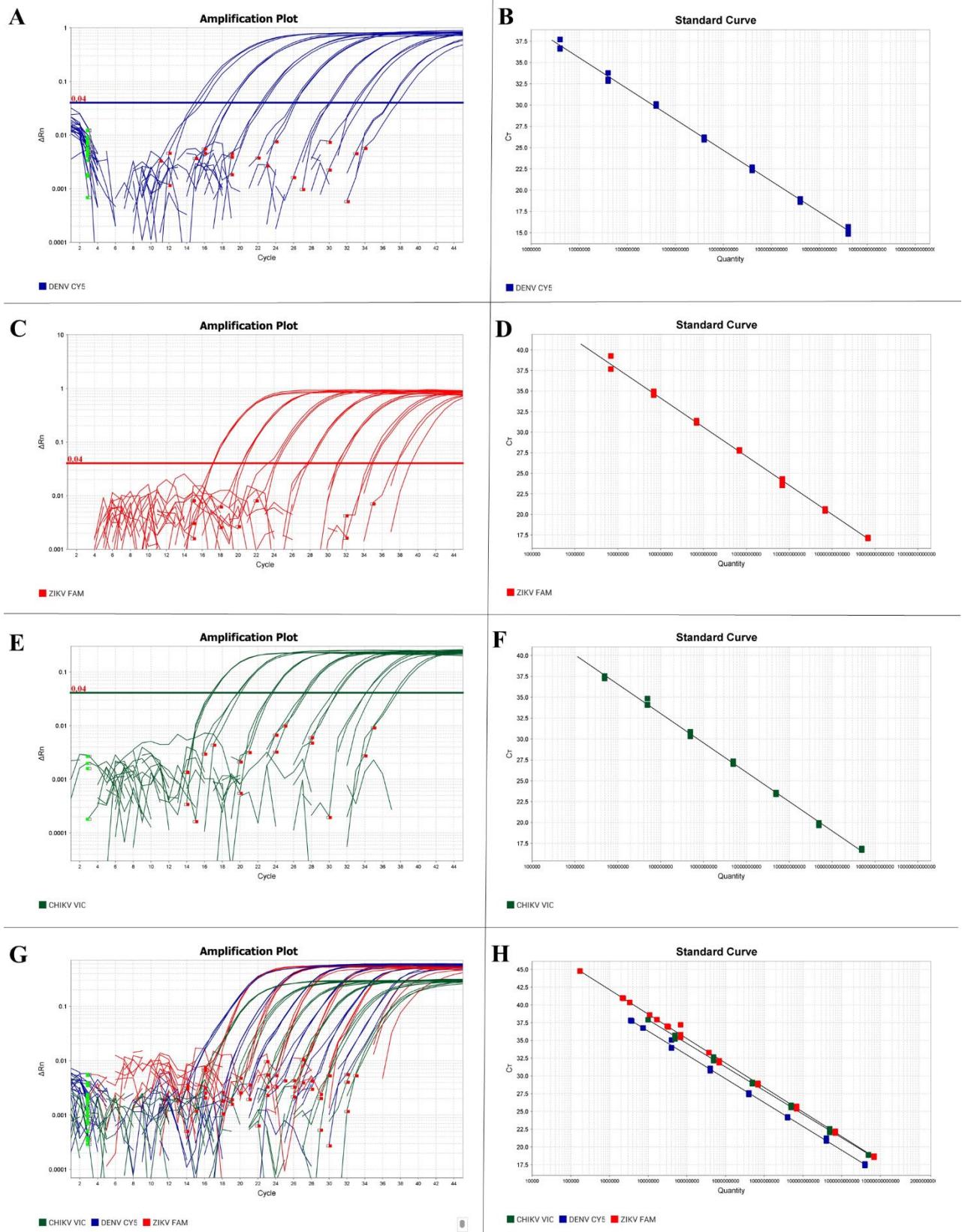


Figure S1. Amplification plot and standard curve of the singleplex and multiplex real-time RT-PCR assays. **A-B:** Singleplex for DENV; **C-D:** Singleplex for ZIKV; **E-F:** Singleplex for CHIKV; **G-H:** Multiplex for DENV, ZIKV and CHIKV. .

References

1. Magalhaes, T.; Braga, C.; Cordeiro, M.T.; Oliveira, A.L.S.; Castanha, P.M.S.; Maciel, A.P.R.; Amancio, N.M.L.; Gouveia, P.N.; Peixoto-da-Silva, V.J.; Peixoto, T.F.L.; et al. Zika Virus Displacement by a Chikungunya Outbreak in Recife, Brazil. *PLoS Negl Trop Dis* **2017**, *11*, e0006055, doi:10.1371/journal.pntd.0006055.
2. Lanciotti, R.S.; Kosoy, O.L.; Laven, J.J.; Velez, J.O.; Lambert, A.J.; Johnson, A.J.; Stanfield, S.M.; Duffy, M.R. Genetic and Serologic Properties of Zika Virus Associated with an Epidemic, Yap State, Micronesia, 2007. *Emerg Infect Dis* **2008**, *14*, 1232–1239, doi:10.3201/eid1408.080287.
3. Lanciotti, R.S.; Kosoy, O.L.; Laven, J.J.; Panella, A.J.; Velez, J.O.; Lambert, A.J.; Campbell, G.L. Chikungunya Virus in US Travelers Returning from India, 2006. *Emerg Infect Dis* **2007**, *13*, 764–767, doi:10.3201/eid1305.070015.