

Validation of a point-of-care testing for Dengue NS1 antigen, a Brazilian endemic disease

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ABSTRACT

Dengue is a mosquito-borne viral infection widespread throughout the tropics. According to WHO¹, 1,465,243 dengue cases were reported in Brazil in 2020, with an incidence rate of 702.77 cases per 100,000 population and 554 deaths. Numbers are often under-reported, since the majority of cases are asymptomatic, mild or self-managed, similar to other febrile illnesses. Dengue NS1 antigenemia is a risk factor associated with severe disease². Therefore, it is important to provide a reliable point-of-care testing (POCT) for screening dengue at the onset of symptoms, especially far from urban centers. In this study we compared the Hilab Dengue NS1 Antigen POCT to the gold-standard methodology for dengue NS1 diagnosis. Our POCT showed a Kappa index of 1.00 (95% CI: 0.86-1.00), suggesting a high agreement between methods, validating the efficiency of the test (Table 1).

Table 1: Dengue NS1 Antigen POCT Clinical Evaluation

Clinical Evaluation		Gold-Standard Laboratory Immunochromatography		Total
		Positive	Negative	
Hilab Dengue NS1 Antigen POCT	Positive	40	0	40
	Negative	0	85	85
Total		40	85	125
Relative Sensitivity		>99%	95% CI: 90%-100%	
Relative Specificity		>99%	95% CI: 95%-100%	

Cohen's Kappa index (k) = 1.00 (95% CI: 0.86 - 1.00) CI: Confidence Interval

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