# COMPARISON OF PANBIO DENGUE IgM ELISA ASSAY WITH PENTAX DENGUE IgM PARTICLE AGGLUTINATION ASSAY TO EVALUATE FACTORS AFFECTING FALSE POSITIVE RESULTS

Alain Berlioz-Arthaud[1] and Albert Gurusamy[2]

[1]Institut Pasteur de Nouvelle-Calédonie, Nouméa; [2]Secretariat of the Pacific Community (SPC), PHS and CDC section, Nouméa, New Caledonia

**Abstract.** The objectives of this study were to conduct a further evaluation of performance characteristics (sensitivity/specificity, predictive values, cross-reactivity) of PanBio Dengue IgM (IgM-EIA test), particularly during non-epidemic periods in New Caledonia, and (ii) to evaluate an alternative test, Pentax Dengue IgM-Particle Agglutination (PA-IgM) test. A total of 1,808 samples were first tested with the IgM-EIA test and reactive specimens were then re-tested with IgM-PA test. Sensitivity and specificity were measured on a prospective mode from 2005 and 2006. Other etiologies were also investigated to confirm the non-specific reactive results. One hundred fifty-three samples were initially reactive with IgM-EIA test. Of these, 147 were classified as non specific and only 16 were reactive with the particle agglutination test (89.1% reduction of this interference). The specificity and positive predictive value of the ELISA test was 91.8% and 5.8%, respectively. The extrapolated specificity and positive predictive value for the particle agglutination test was 99.1% and 33.3%, respectively. Hepatitis A was identified as a major source of false positive, followed by rheumatoid factor and leptospirosis. Sensitivity of both tests was100% on samples taken from the fifth day of the disease.

Correspondence: Alain Berlioz-Arthaud, Institut Pasteur de Nouvelle-Calédonie, B.P. 61, 98845 Nouméa, New Caledonia.
Tel : (687) 27-02-85; Fax : (687) 27-33-90
E-mail: aberlioz@pasteur.nc