

HUMAN IGG ANTIBODY RESPONSE TO AEDES NTERM-34KDA SALIVARY PEPTIDE, AN EPIDEMIOLOGICAL TOOL TO ASSESS VECTOR CONTROL IN CHIKUNGUNYA AND DENGUE TRANSMISSION AREA

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Arboviral diseases are an important public health concerns. Vector control remains the sole strategy to fight against these diseases. Because of the important limits of methods currently used to assess human exposure to *Aedes* mosquito bites, much effort is being devoted to develop new indicators. Recent studies have reported that human antibody (Ab) responses to *Aedes aegypti* Nterm-34kDa salivary peptide represent a promising biomarker tool to evaluate the human-*Aedes* contact. The present study aims investigate whether such biomarker could be used for assessing the

efficacy of vector control against *Aedes*.

Specific human IgG response to Nterm-34kDa peptide was assessed from 102 individuals living in urban area of Saint-Denis at La Reunion Island, Indian Ocean, before and after the implementation of vector control against *Aedes* mosquitoes. IgG response decreased after 2 weeks ($P < 0.0001$), and remained low for 4 weeks post-intervention ($P = 0.0002$). The specific IgG decrease was associated with the decline of *Aedes* mosquito density, as estimated by entomological parameters and closely correlated to vector control implementation and was not associated with the use of individual protection, daily commuting outside of the house, sex and age. Our findings indicate a probable short-term decrease of human exposure to *Aedes* bites just after vector control implementation.

Results provided in the present study indicate that IgG Ab response to *Aedes aegypti* Nterm-34kDa salivary peptide could be a relevant short-time indicator for evaluating the efficacy of vector control interventions against *Aedes* species.