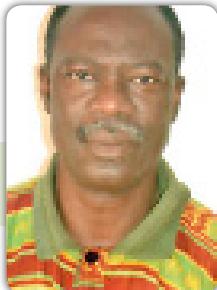


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Immunological and molecular similarities between human filarial *Loa loa* and *Brugia pahangi* antigens**Jean Paul Akue Medzegue^{*1}, E R Eyang- Assengone^{1, 2}, Dieki Roland¹ and E Devaney³**¹Centre international de recherche médicale de Franceville (CIRMF), Gabon²Ecole doctorale Régionale de Franceville, Gabon³University of Glasgow, Scotland

After long-term, 7-year follow-up, *Loa loa*-exposed individuals from one village in Gabon were divided into four groups according to parasitological and clinical findings, mainly: endemic controls, amicrofilaraemic, low microfilaraemic and high microfilaraemic individuals. This study carried out using *Brugia pahangi* adults, microfilariae and L3 antigens compared the level of specific isotypes (IgA, IgE, IgG and IgM) and IgG subclasses in different defined groups of villagers. The study showed that the levels of IgG1 and IgM were significantly higher in amicrofilaraemics compared to high and low microfilaraemics. IgG4 was high in all groups, but there was no significant increase in IgG2 and IgG3. Interestingly, the level of IgG1 was inversely correlated with microfilarial density when using L3 antigen (Spearman's $r = -0.839$; $p < 0.0001$). Identification of antigen targets of this response shows several molecules with their molecular weight varying from 8 kDa to 150 kDa. Amplification followed by Southern blot of *Loa loa* DNA using primers designed from *Brugia* gp29 confirms the homology between *B.pahangi* and *L.loa* genes. The removal of the glycosylated portion of the antigen in the *B.pahangi* adult did not inhibit the reactivity of the major reacting antibodies IgG1 and IgG4 from the *L.loa*-infected population, suggesting that the reactivity is linked to the peptide backbone. This study shows that the map of the distribution of lymphatic filarial in *L.loa* endemic zones should be re-evaluated. The similarities in structural epitopes could be exploited in view of a vaccine strategy designed to control *L.loa*.

Biography

Jean Paul Akue Medzegue has completed his PhD at the University of Liverpool (Liverpool School of Tropical Medicine). He has been a Wellcome Trust Fellow in the Department of Veterinary Parasitology from the University of Glasgow and Visiting Scientist at the CDC, Atlanta, GA, USA (infectious diseases). Currently, he is a Senior Researcher at the Franceville (Gabon) International Centre for Medical Research. He has published more than 40 papers in reputed journals and serves as reviewer for several other scientific journals.

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