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Comparison of six different methods of DNA extraction of *Loa loa* Microfilaria

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Loa loa is a filarial worm restricted to West and Central Africa. Numerous imported cases are reported, including encephalitis cases, which are problematic in that treatment impedes control of other filaria in areas where this filaria is co-endemic with other filaria. Furthermore, the lack of a suitable animal model induces a paucity of material for study of the molecular and immunological bases underlying the relationship with its human host. Therefore, a recombinant DNA technology approach is required. But this approach needs a suitable method for extraction of nucleic acid. In this view, microfilaria was split into triplicate patches of 1, 10, 100, 1000 and 1500 to evaluate six DNA extraction methods, namely, phenol-chloroform (A), Qiagen Kit (B), salting-out (C), methanol (D), CTAB (E) and Tris-EDTA (F). The DNA extracts were analysed spectrophotometrically at 260, 230, 280 and 320nm using the Nanoview and Qubit methods. Determination of the concentration, yield and quality of the extracted DNA showed that concentrations varied from 0.5ng/ml to 26.30±3ng/ml. The highest yield achieved using method B (5.77±1.41ng/ml) and the lowest with method C (0.032ng). The quality of DNA was assessed by the A260/A280 (0.9 to 1.9) and the A260/A230 ratio (0 to 18.5). The time required, hazardous exposure, simplicity of execution and costs were also compared. Taking together, the results obtained suggest that the use of the Qiagen and phenol-chloroform may be suitable for cloning, whereas the Tris-EDTA may be suitable for field use.

Biography

Elsa Rush Eyang Assengone is a PhD student at the Ecole Doctorale Regionale d'Afrique Centrale (EDR). She is a first year PhD student. She is doing her work at the Department of Parasitology of the International Centre of Medical Research (CIRMF) at Franceville in Gabon.

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