Wolbachia endobacteria in filarial infections - exploring their usefulness as targets for novel chemotherapies that are anti-filarial, reduce filarial pathology and interrupt transmission

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Filarial infections belong to the major diseases in sub-Saharan Africa and are strongly associated with poverty. At present, WHO-led control activities in Africa mainly rely on mass administration of micro- filaricidal drugs, with quite some success. However, it has become clear that new, complementary therapies must be developed for sustain- able control. Depletion of Wolbachia essential endosymbionts of filariae with doxycycline resulted in macrofilaricidal activity in lymphatic filariasis (LF) and in long-term-sterilizing activity of adult female worms in onchocerciasis. In this project, new treatment methods will be investigated, and the understanding of the functional role of Wolbachia endosymbionts in human filariasis will be improved. An additional important goal lies in a fast translation of the findings into clinical practice.

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