

Potential vaccine aims to block transmission of malaria parasites

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The Jenner Institute at Oxford University, together with partners Imaxio and GSK, has started a phase I clinical trial of a novel vaccine candidate aimed at blocking transmission of malaria.

Around half the world's population is at risk of [malaria](#) and the disease led to an estimated 584,000 deaths in 2013. Mosquirix™, a malaria vaccine candidate developed by GSK, has just received a positive scientific opinion from the European Medicines Agency for use in

young children. Mosquirix™ aims at addressing the objectives set for a first generation vaccine in the WHO malaria vaccine technology roadmap. The roadmap also outlines ambitious goals for second generation vaccines including transmission-blocking vaccines. The latter prevent mosquitoes from transmitting malaria to non-infected persons.

The clinical trial is being conducted at Southampton, the lead trial site, and Oxford. It is a dose escalation study, where amounts of the potential vaccine are increased. The study will assess the safety of the vaccine candidate in people and its ability to generate immune responses that inhibit the growth of malaria eggs in mosquitos, preventing transmission of malaria.

The vaccine candidate, developed by the team led by Dr Sumi Biswas at the Jenner Institute, University of Oxford, is composed of a transmission-blocking antigen from Plasmodium falciparum, the more dangerous form of malaria. The antigen is combined with Imaxio's pro-immunogenic technology IMX313, designed to increase immune responses, and two viral vectors, which are virus carriers modified to be harmless but which can transport the vaccine elements into the body's cells. One of those is a proprietary viral vector from Okairos (acquired by GSK in 2014). It is being administered through a course of treatment developed by the Jenner Institute in Oxford.

'Blocking transmission of malaria by mosquitoes from human to human is increasingly seen as one several complementary ways to fight this very important disease.' said Prof. Adrian Hill, Director of the Jenner Institute at Oxford University. 'The [malaria vaccine](#) programme at the Jenner Institute is now unique in having vaccines against all stages of the parasite's life cycle in clinical development. The combination of technologies from Oxford, Imaxio & GSK is a very promising way to develop a transmission blocking vaccine candidate.'

'After a first clinical trial involving our pro-immunogenic technology "IMX313" in 2013, we are very enthusiastic to see it reaching the clinic within a second [vaccine candidate](#)", said Mr. Alexandre Le Vert, Chief Executive Officer of Imaxio. "Collaborating with Oxford University's Jenner Institute and GSK in the development of vaccines is a great honour for us and reinforces our confidence in IMX313.'

Provided by Oxford University

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