

Vaccine against Chikungunya successful in phase 1

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The induction of neutralizing antibodies by a prophylactic Chikungunya vaccine candidate has now been confirmed by the final results of a phase 1 clinical trial, as well as its tolerability and safety. Detailed information of the trial has been presented at two international conferences. The vaccine candidate was developed under a R&D collaboration between Themis Bioscience GmbH and the Institut Pasteur (Paris, France) based upon a measles vaccine vector technology (Themaxyn). Following this positive trial outcome both parties agreed to broaden the scope of their collaboration.

The Vienna-based biotech company Themis Bioscience GmbH ('Themis') has received final results of a phase 1 clinical study of its prophylactic Chikungunya fever vaccine. The study was carried out on 42 subjects at the Department of Clinical Pharmacology of the Vienna General Hospital (Allgemeines Krankenhaus der Stadt Wien) and confirms the previous interim results: The candidate not only proved to be well tolerated and safe, but also exhibited the required [immune response](#) in the form of neutralizing [antibodies](#) in all vaccinated subjects. Remarkably, the immune response was clearly dose-dependent with even the lowest dose being effective. Details on the clinical trial were recently presented at two international conferences, namely the 26–28 October "8th Vaccine & ISV Congress" in Philadelphia, USA and the 2–6 November "ASTMH 63rd Annual Meeting" in New Orleans, USA. Commenting on the success of this Chikungunya phase I study, Themis' founder and CEO, Dr. Erich Tauber, states: "We could confirm that our Chikungunya [vaccine candidate](#) is well tolerated, safe and elicits the

expected immune response. Considering the ongoing spread of Chikungunya epidemic, we now focus on making the vaccine available as soon as possible. We will also strengthen our already successful alliance with the Institut Pasteur."

Highly promising platform with production advantage

The now confirmed success of the trial rests on the measles vector platform, whose core technology has been developed at the Institut Pasteur in Paris using a standard commercialised measles vaccine as a vector. Genes coding for selected antigens from the Chikungunya virus have been inserted into the genome of the well-established [measles vaccine](#) delivering those new antigens into the cells, thereby triggering a specific immune response against the Chikungunya virus.

Such phase 1 achievement with the Chikungunya vaccine candidate further validates this core technology, clinically and regulatory-wise, gearing it as well towards large scale, low cost production – a significant advantage for the development of vaccines against epidemic infectious diseases.

Themis and the Institut Pasteur will extend their collaboration towards a common goal of developing vaccines against numerous infectious diseases based on that promising vector. The long standing excellence of the world renowned Institut Pasteur in research, diagnosis and prevention of infectious diseases stands out as a welcome contribution to this process. The pipeline already includes a dengue fever vaccine candidate, and the two partners will now collaborate on using Themaxyn for additional targets. Frédéric Tangy, Institut Pasteur, states: "The phase I results of the Chikungunya vaccine candidate prove that the measles vector vaccine platform can be used successfully to develop a new

generation of prophylactic vaccines, and the Institut Pasteur, which developed its core technology, is keen to strengthen its alliance with Themis to develop those innovative vaccine candidates."

Chikungunya is a mosquito-borne viral disease causing symptoms such as fever, joint pain, muscle pain, headache and nose and gum bleeding. Chikungunya is present in parts of Africa, Southeast Asia, the Americas and on the Indian subcontinent. The first transmission within continental Europe was reported from north-eastern Italy in August 2007. Every year, imported cases among tourists are identified in several European countries. Since late 2013, the first large outbreak of Chikungunya has been identified in the Americas, with more than 780,000 reported cases to date for this single epidemic.

Provided by Themis Bioscience

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