

# Novel method of immunization that completely eliminates malaria parasites

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Singapore scientists report that they have discovered a novel method of immunization that completely eliminates the malaria parasites in both stages of the parasite's development.

The scientists, part of the Singapore Immunology Network (SIgN), attribute the novel method's effectiveness in eliminating the malaria parasites to the fact that it targets common proteins that are found on the parasite in both stages of its sequential development, first, in the liver, and then in the blood.

The malaria research findings, which may serve as a basis for the development of a vaccine, were described in a "report card" about SIgN's first year in its state-of-the-art research facility on the Biopolis biomedical sciences campus of Singapore's Agency of Science, Technology and Research (A\*STAR).

SIgN is a research consortium under A\*STAR, which aims to make the program an international hub for immunology research.

"Building R&D is a strategic priority for Singapore," said A\*STAR Chairman Lim Chuan Poh. "Singapore remains committed to investing in R&D even in this time of global financial crisis."

"The spotlight has increasingly turned on human immunology research over the last few years," said Paola Castagnoli, Ph.D., SIgN's Scientific Director. "There is increasing urgency to devise strategies and methods

for translating what is already known in traditional immunology and develop it into something that can be used in the clinics and hospitals.

"SIgN will continue to ramp up its R&D efforts on human immunology as we believe that such an approach can potentially yield direct clinical applications with greater impact for human health," added Castagnoli, who is also Professor of Immunology and Pathology at the University of Milan-Bicocca.

Castagnoli noted that these plans are consistent with the scientific strategy set by SIgN Chairman Philippe Kourilsky, Ph.D., when he initiated the research program. He also is Professor and Chair of Molecular Immunology at the College de France.

During its first year, SIgN has made significant headway in three major areas of human immunity: infection, immuno-regulation and inflammation.

In cancer inflammation, SIgN scientists are using a skin tumour model that can better mimic the course of disease progression in human cancers and thus is more clinically relevant than other models. SIgN scientists found that skin tumours are able to escape detection because of immuno-tolerance, and in their studies to determine how to reverse immuno-tolerance, they have been investigating how some white blood cells (CD 8+ T cells) could play a role in this phenomenon by contributing to disease progression and the body's efforts to control the spread of the tumour.

A\*STAR Chairman Lim Chuan Poh said, "Under the very able leadership of Professors Philippe Kourilsky and Paola Castagnoli, SIgN has indeed made significant progress.

They have attracted some very notable scientists and built extensive

collaborations both within and outside Singapore. This is truly an anniversary to be celebrated.

"Our steady and sustained investments in R&D will not only differentiate us from the other R&D hubs, but make us very attractive as an R&D partner, and position us as the place to be for international scientific talent. Indeed, as we continue with our research activities, we are developing our capacity and positioning ourselves well for future growth once the global economy recovers."

Source: Agency for Science, Technology and Research (A\*STAR), Singapore

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