

## Sanaria *PfSPZ* malaria vaccine candidate

### THE PROJECT Conduct a safety and test-of- concept trial

The PATH Malaria Vaccine Initiative (MVI) is partnering with Sanaria Inc. to accelerate development of a novel malaria vaccine candidate. This strategic partnership will focus on the development and manufacture of Sanaria's *PfSPZ* malaria vaccine—one that uses a whole-organism approach to target the most deadly malaria parasite, *Plasmodium (P.) falciparum*.

The project aims to determine whether a vaccine using Sanaria's technology is safe, protective, and practical for vaccinating infants and children in Africa. MVI and Sanaria plan to conduct an initial safety and test-of-concept trial among US adult volunteers in 2009.

### THE POTENTIAL Finding the right formula to maximize impact

**Malaria kills close to one million people every year**, most of them children in sub-Saharan Africa. A vaccine is viewed as a critical part of a long-term malaria-control strategy, especially in Africa, where the climate and environment highly favor malaria transmission. Childhood immunization programs, which are among the most cost-effective health interventions, already save the lives of millions of children every year. A safe, effective, and affordable malaria vaccine would have the potential to save even more lives.

Supporting the development of *PfSPZ* is part of MVI's strategy to advance a diversity of vaccine candidates that have the potential to either halt the malaria parasite or greatly reduce the severity of infection. While the approach of much malaria vaccine development centers on using one or more components of the malaria parasite that the human immune system can recognize, Sanaria uses an attenuated (weakened) form of the whole parasite.

Live, attenuated parasites in the form of sporozoites are harvested from the salivary glands of irradiated mosquitoes, purified, and used as the basis for vaccine formulation. The idea is that when this attenuated parasite is given to individuals, they will become immune to malaria but not get sick.

Evidence that this approach may work is based on previous studies in which volunteers were exposed to the bites of irradiated mosquitoes harboring attenuated parasites similar to those in Sanaria's vaccine. Inoculation by mosquito bite with these