



Improvement of SE36 malaria vaccine and development of tertian malaria vaccine

Outline

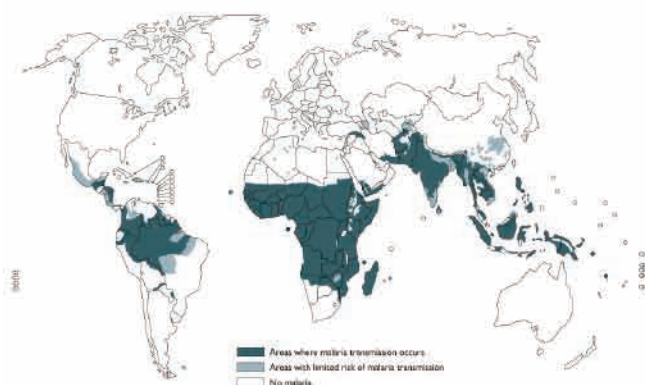
Tropical malaria is one of the most dangerous infectious diseases in tropical and subtropical areas. Although the toll is 300-500 million cases and 2-3 million deaths per year, an effective malaria vaccine has not yet been developed. SE36 malaria vaccine is one of the promising candidates and clinical trial has been proceeded in Uganda. In this research, we develop a next generation SE36 malaria vaccine with an augmented immunogenicity by multiplying the protective epitopes in the antigen molecule and by addition of TLR9 ligand adjuvant that activates innate immunity. We will also identify a counterpart of SE36 antigen in tertian malaria and develop a tertian malaria vaccine.

Expected Outcome

When modification of SE36 vaccine by additional protective epitopes and TLR9 ligand adjuvant provoke higher immunogenicity, the vaccine will be useful for not only travelers and transients from non-endemic area but also inexpensive for the residents in endemic area. The tertian malaria vaccine will also be a preventive measure for two billion residents in endemic areas all over the world.

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Tropical malaria is infectious diseases in tropical and subtropical areas.



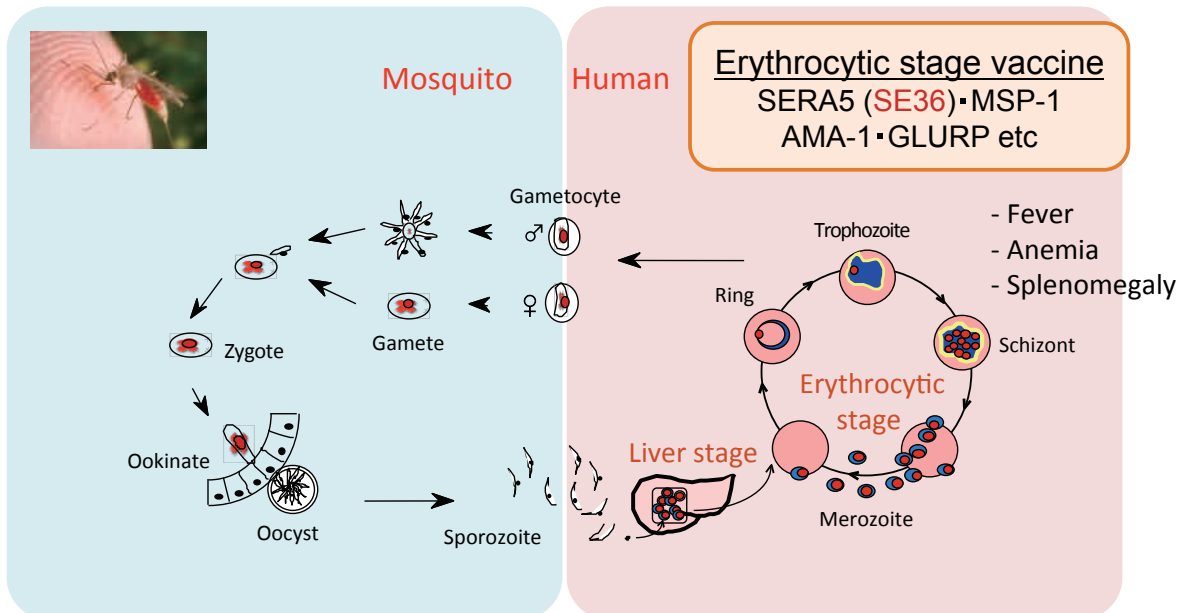
Excerpt from homepage of WHO

300-500 M cases / year
1-3 M deaths / year
(1 death / 30 sec.)
Most victims are infants.

- Travelers to malaria-endemic areas should be cautious, although malaria is not familiar for Japanese.
- We develop a travelers' vaccine by improvement of the antigen and formulation of novel adjuvant.

Life cycle and current vaccine candidates of falciparum malaria

SE36 vaccine is especially expected as reagent suppressing the symptoms.



Development of 2nd generation SE36 malaria vaccine

1st generation SE36 malaria vaccine



Promoting an acquisition for protective immunity of residents in endemic area.

Phase Ia (Japan) 2005
Phase Ib (Uganda) 2010
Phase II
Phase III
Clinical trial is proceeding.

2nd generation SE36 malaria vaccine



This vaccine is useful for travelers from non-endemic area as well as residents in endemic area.