RTS,S MEDICAL AND SCIENTIFIC QUESTIONS & ANSWERS

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Disclaimer

The primary focus of this resource is to be an internal training tool for RTS,S malaria vaccine candidate, containing related data in the format of a Q&A for Medical Affairs personnel. Information presented here is not for external distribution.

Whilst this document can be inspirational for reactive responses to experts or medical enquiries, local regulations, the GSK Code of Practice, scientific engagement principles and/or medical information processes should be followed appropriately.

Please Note

- For media enquiries, please refer to the specific reactive Q&A for Media Enquiries and notify the Global Pipeline Communications team before you respond to a request for an interview so that they can help you to prepare (contact person: Aoife Pauley at aoife.x.pauley@gsk.com).
- The vaccine RTS,S/AS01 has completed phase 3 clinical program and positive regulatory assessment from the European Medicines Agency, but is not yet authorized for marketing in any country. The RTS,S vaccine is being developed in Public Private Partnership with PATH-MVI, as an additional tool to be added to the currently available malaria preventive interventions and for implementation through the national immunization programs in malaria endemic regions in sub-Saharan African countries.
- When referencing clinical data on RTS,S any statements should be prefaced by "In this study...", to make it clear that it is too early to make any general statement on the vaccine profile outside the context of the ongoing clinical trails.
- Have you found what you were looking for? If you have any suggestions for information which should be included in this tool please contact us at the following address: Carys Calvert at carys.calvert@gsk.com.

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Is GSK developing any other malaria vaccines? Who are you partnering with?

In parallel to the malaria vaccine candidate RTS,S currently in phase III clinical studies, GSK is also looking into developing other 'second generation' malaria vaccines in alignment with the Malaria Vaccine technology roadmap from WHO[(a)].

Building on previous experience from RTS,S, the main strategy for GSK is to use different approaches to a) enhance or broaden the CS-specific immune response and b) add other antigens to enhance protection against disease and/or block transmission.

GSK is committed to identify and work with partners that can provide expertise, know-how and funding that will accelerate the development of a second generation malaria vaccine. The main partner remains the PATH Malaria Vaccine Initiative (MVI). Other research or clinical development partners are eg WRAIR, University of Oxford and Crucell. Through the acquisition of Okairos and their adenovirus platform, GSK entered into a broader collaboration with the University of Oxford.

The vaccine approaches which are currently in clinical development target *P. falciparum*:

- RTS,S/AS01 delayed, fractional third dose (Malaria-071)[(b)]: assessment of third dose of RTS,S/AS01 given as 1/5th standard dose at month 7. A previous study with RTS,S/AS02 had indicated high protection after sporozoite challenge[(c)]
- Prime-boost with viral vector ChAd63 ME-TRAP/MVA ME-TRAP (Oxford) and RTS,S/AS01 (Malaria-077/Vac-055)[(d)]

Other candidates, eg. a prime-boost approach with Ad35.CS (Crucell) x RTS,S/AS01[(e)] and a blood-stage malaria vaccine candidate FMP2.1/AS02A[(f)], failed to demonstrate clinical proof-of-concept and are no longer actively pursued.

Several other candidates, including targets for *P. vivax*, are or have been in preclinical evaluation.

a. *www.who.int/immunization/topics/malaria/vaccine_roadmap/en*

b. *Clinicaltrials.gov - NCT01857869*

c. *Stoute J. et al. NEJM 1997; 336: 86-9*

d. *ClinicalTrials.gov - NCT01883609*

e. *ClinicalTrials.gov - NCT01366534; Ockenhouse, C. et al. LB-166, November 13, 2012, 61st annual meeting of the American Society for Tropical Medicine and Hygiene*

f. *Thera M, et al. NEJM 2011; 365: 1004-13.*