



BEST
SCIENCE
FOR THE MOST
NEGLECTED

ASMQ FDC Development

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DNDi

Drugs for Neglected Diseases *initiative*

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WHO recommendations, the catalyst of the ASMQ Project

2001

- **Use of ACTs** (artemisinin-based combination therapies), including AS+MQ for uncomplicated *P. falciparum* malaria
- **Fixed-dose combinations** (FDC) strongly recommended over co-packaged drugs to **promote compliance** and reduce the use of monotherapies
- AS+MQ: one of recommended ACTs **for areas of low to moderate transmission** (Asia & LA)

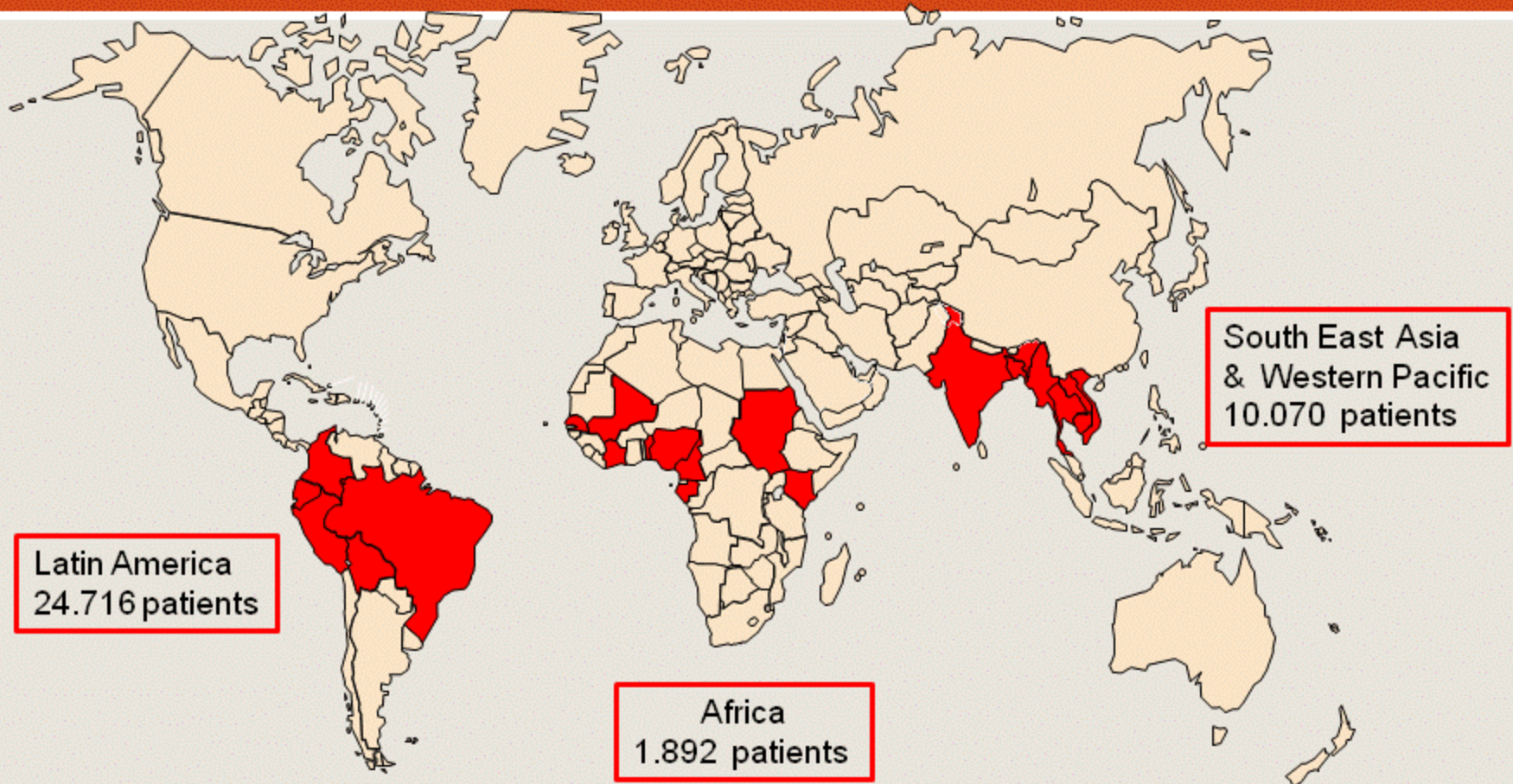
2010

- Reconsidering use of **AS+MQ in Africa**, with specific consideration of nausea/vomiting and other potential side-effects

ASMQ Project & WHO recommendations

- ❑ **2002-2008**: FACT Project developed ASMQ FDC
- ❑ **2008**: ASMQ FDC registration in Brazil
- ❑ **2008-2010**: ASMQ technology transfer between Farmanguinhos/Fiocruz and Cipla was completed
- ❑ **2010**: ASMQ dossier submitted to WHO pre-qualification
- ❑ **2010-2011**: ASMQ FDC registration process ongoing in countries where AS+MQ is part of the national policy
- ❑ **2011**: ASMQ FDC registration in India
- ❑ **2012**: ASMQ FDC registration in Malaysia
- ❑ **2012**: ASMQ FDC pre-qualified by WHO

ASMQ, well established use, 85 studies in 20 countries

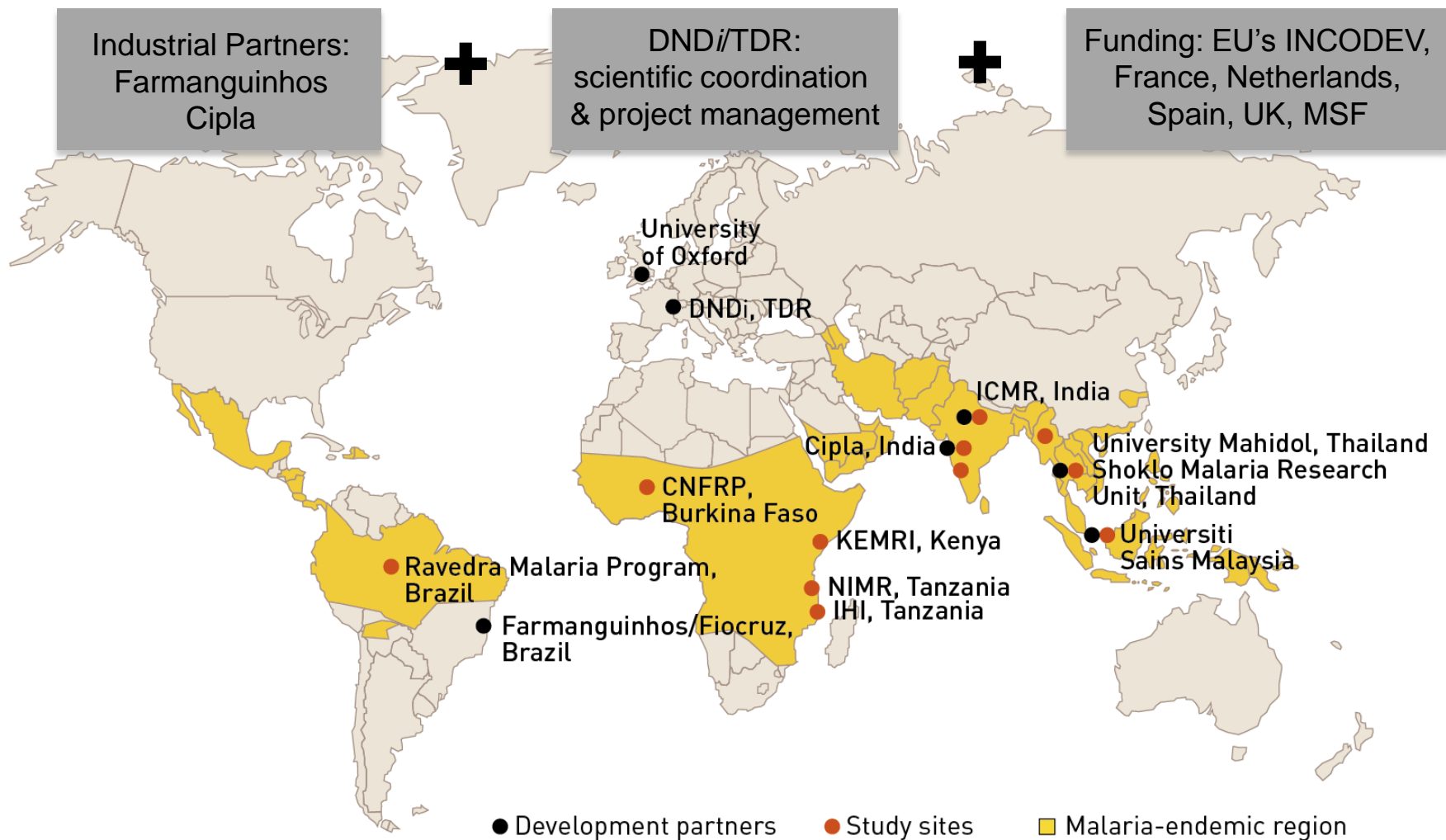


The **Blueprint** of ASMQ Tablet



- Quality components (AS, MQ, excipients)
- Smallest possible size (Minimum excipients)
- Good aspect (Coating)
- Paediatric strengths; rapid disintegration in water
- Simple (1 or 2 tablets for 3 days)
- Stable (Process and Tropical conditions)
- Adequate biopharmaceutical properties
- Affordable price for the public/NGO sector

The Partnership for Artesunate-Mefloquine Fixed Dose Combination



The Malaysian contribution

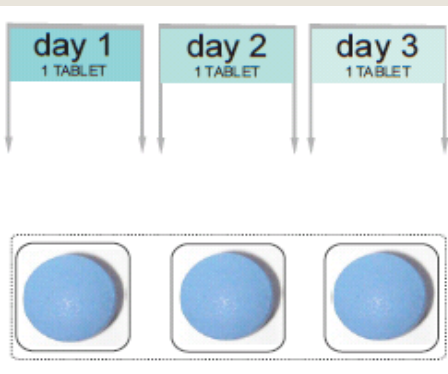
- Member of the FACT team
- Analytical and bioanalytical method development
- Bioavailability studies in healthy volunteers and patients
- Protocol design and PK report for the ASMQ-FDC registration file
- Harmonized review of the ASMQ-FDC registration file by ASEAN countries

Farmanguinhos' contribution

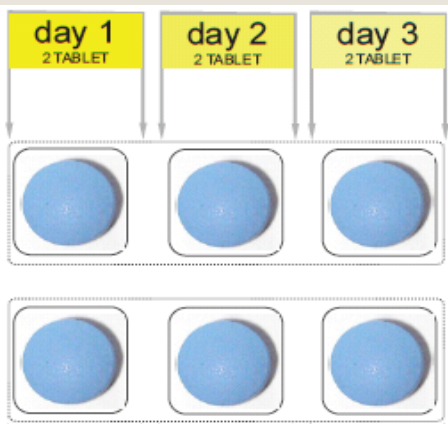


- ASMQ FDC development with FACT partners
- Generation of pharmaceutical process and quality control data for the Registration file
- Industrial production of ASMQ FDC after first scale up
- Clinical supplies, supplies to Brazilian malaria programme as well as donations
- Registration in Brazil
- Technology Transfer to Cipla
- Continued production for product availability in Latin America

Cipla's contribution



Cipla
Artesunate+Mefloquine
artesunate+mefloquine hydrochloride
Coated tablets / Oral Use



- Technology transfer to ensure product availability in Asia
- Improvements for increased robustness of the manufacturing process
- Extensive dissolution profiling of registration and clinical batches
- Collaborative work on degradation product
- Scale up to industrial production
- Contribution to the filing in the ASEAN countries
- Registration in India and Malaysia
- Achieving WHO Pre-qualification

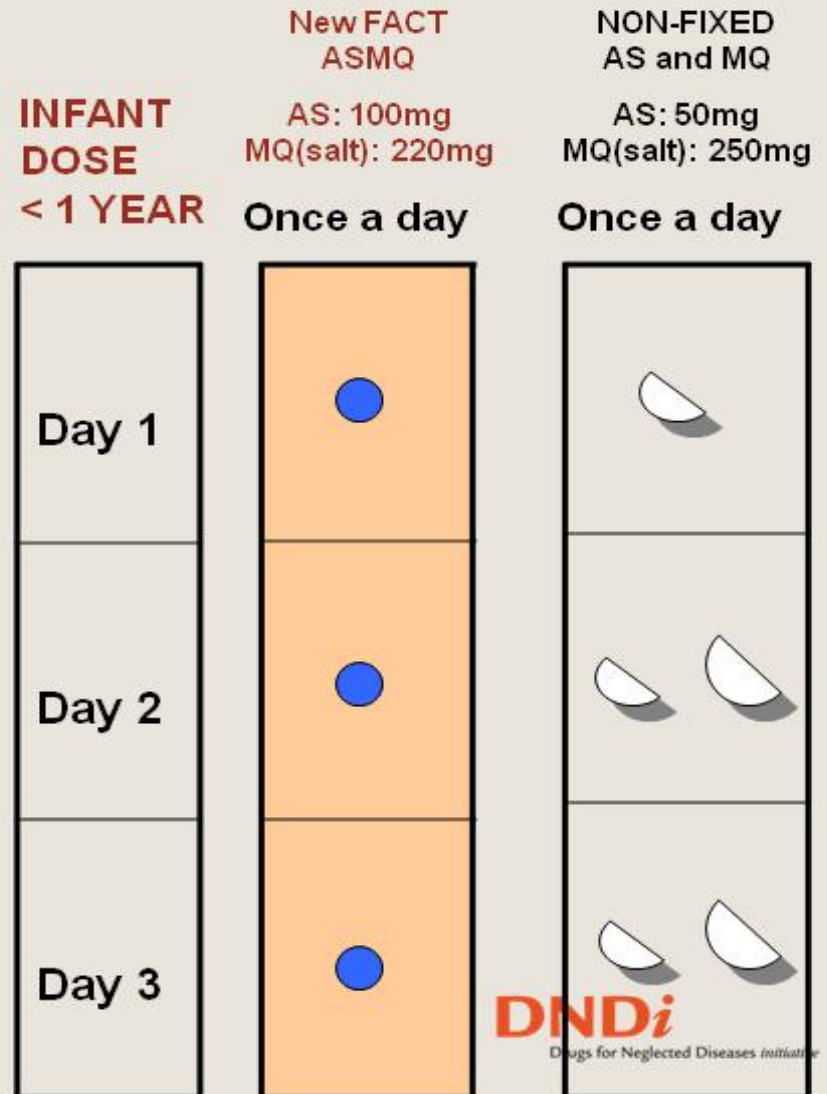
ASMQ

Small Tablets-Paediatric Strengths & Easy to use

ASMQ FDC
as easy to use
as 1 2 3!

1 dose **2** products **3** days

One single daily dose of 1 or 2 tablets of two highly effective combined products for three days of affordable medicine



ASMQ:

Small Tablets-Paediatric Strengths & Easy to use



ASMQ FDC Indication

ASMQ FDC tablets are indicated for the treatment of acute uncomplicated *P. falciparum* malaria, resulting from mono infection and mixed infections with *P. vivax*.
In combination with primaquine for radical cure.

SEA, Latin America and multi-drug resistance areas targeted in priority.

ASMQ FDC Status and Perspective

- Extension of registrations to other countries in South East Asia, Western Pacific and Latin America
- On-going studies to assess efficacy in Africa. Registration-implementation via WHO pre-qualification coordinated review
- Indication extension to pregnant women (studies in Burkina Faso, Ghana, Malawi, Zambia, Thailand) and *P. vivax* malaria (Brazil)
- Collaboration with MMV to lower the cost of mefloquine

Thank you:

To all the people and institutions who participated in the development of the product across the world.