

Table 2. Candidate Malaria Vaccines in Pre-clinical Development
October 2008

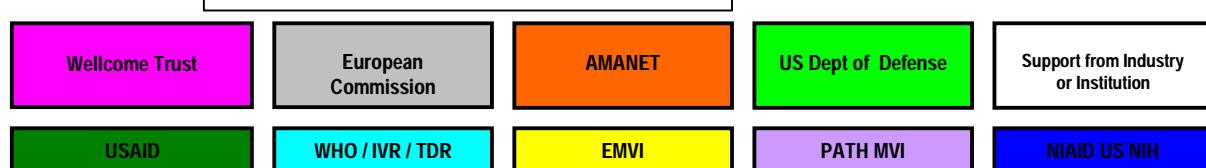
Activities completed or ongoing are marked with a bold X
 Support for activities indicated with colour and without an X have been secured
 The various stages are considered as initiated at the steps indicated below:
 Preclinical development stage: serious process development has been initiated

Pre-erythrocytic Vaccines		
	Research	Preclinical development
CSP Adenovirus 26 (Crucell Holland/MVI/USAID)	X	
LSA-3 Long synthetic peptide (Institut Pasteur)	X	X
LSA-3 <i>L. lactis</i> expressed recombinant/ AS02 (Institut Pasteur)	X	X
	X	X
LSA-3 lipopeptides (Institut Pasteur)	X	X
LSA-1 Adenovirus vectored (LSA-NRC) (WRAIR/Crucell Holland)	X	X
CSP-Ag2-LSA1 in polyvalent Adeno 5(GenVec/NMRC)	X	
BCG/rAd35 prime-boost CSP/LSA1(Crucell Holland)	X	
LSA-1 <i>Drosophila melanogaster</i> expressed (Hawaii Biotech, Inc.)	X	X
DNA Multi- pre-erythrocytic epitope vaccination (Epimmune/NMRC)	X	X
Attenuated <i>P. falciparum</i> sporozoite vaccine (Sanaria)	X	X
Genetically modified sporozoites (SBRI)	X	X



Bold red border means that the project has been terminated

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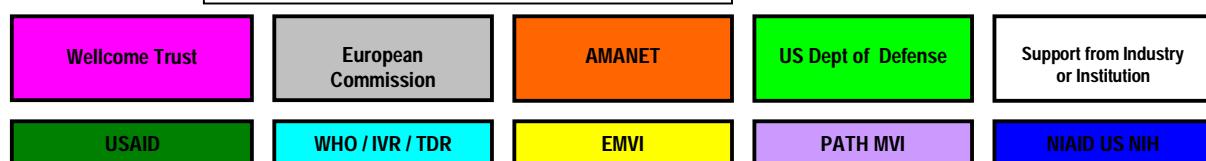
Blood-stage Vaccines

	Research	Preclinical development
MSP-1 19 <i>E. coli</i> expressed (ICGEB)	X	X X
MSP-1 42 <i>E. coli</i> expressed (ICGEB)	X	X
MSP-1 3D7 Recombinant full length (Heidelberg/WRAIR)	X	X
MSP-1 FCB1 Recombinant full length (Heidelberg/WRAIR)	X	X
MSP-1 3D7 + FCB1 Recombinant full length (Heidelberg/WRAIR)	X	X
MSP-1 19 Baculovirus expressed (Institut Pasteur)	X	X
MSP-1 19 MeV (Crucell/Holland)	X	X
MSP-1 19 Ad/MVA prime/boost (Oxford)	X	X
MSP-1 hybrid insert Ad/MVA prime/boost (Oxford)	X	X
MSP-1 19/ or 42 IIRIVs (Pevion)	X	X
MSP-1 multi-subunit Block N (Edinburgh)	X	X
MSP-1/AMA-1 Pichia expressed (BPRC)	X	X
MSP-1 42 FUP Baculovirus expressed(U of Hawaii/Antigenics)	X	X X X
MSP-1 42 FVO Transgenic mammals expressed (GTC Biotherapeutics/SAIC)	X	X
MSP1-42/ EBA-175 chimera <i>E. coli</i> expressed (WRAIR/USAID)	X	X
MSP1-19/ EBA-175 F1 <i>E. coli</i> expressed (ICGEB)	X	X
MSP1 19 <i>D. melanogaster</i> expressed (Hawaii Biotech, Inc)	X	X
MSP1 42 <i>D. melanogaster</i> expressed BCG vectored (AECOM)	X	X
MSP-2 3D7+ (FC27) Long synthetic peptide (Lausanne)	X	X



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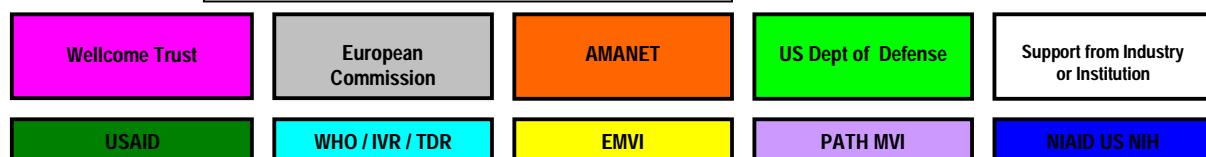
Blood-stage Vaccines

	Research	Preclinical development
MSP-4 <i>E. coli</i> expressed (Monash)	X	X
MSP-5 <i>E. coli</i> expressed (Monash)	X	X
AMA-1 FVO (FMP009) <i>E. coli</i> expressed (WRAIR)	X	X
AMA-1 IRIVs (Pevion)	X	X
AMA-1 Pichia-expressed in DDA/TDB (SSI/BPRC)	X	X
AMA-1 19 MeV (Crucell/Holland)		
GLURP (GMZ1)/AIOH <i>L. lactis</i> expressed (SSI/EMVI)	X	X
MSP-3/GLURP (GMZ2) <i>L. lactis</i> expressed in DDA/TDB(SSI)	X	X
Region II Duffy Binding Protein <i>E. coli</i> expressed (ICGEB)	X	X
EBA-175 F1 <i>E. coli</i> expressed (ICGEB)	X	X
EBA-175 (F1 +F2) <i>P. pastoris</i> expressed (EntreMed/SAIC)	X	X
MAEBL (Notre Dame University)	X	X
EBP2/BAEBL <i>P. Pastoris</i> expressed (Entremed)	X	X
RAP-2 <i>E. coli</i> expressed (QIMR)	X	X
PfEMP1 <i>E. coli</i> , <i>P. pastoris</i> , baculovirus expressed, different domains (various EU groups)	X	X
PfEMP1 DBL1α-TM-AS Recombinant Semliki-forest virus(SFV) (Karolinska Institute)	X	X
<i>P. falciparum</i> synthetic GPI toxin (WEHI/IMIT)	X	X
	X	



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Transmission-blocking Vaccines		
	Research	Preclinical development
PfS25 <i>P Pastoris</i> expressed (MVDU)	X	X
PvS28 DNA immunization (JHU)	X	X

Combination Multi-stage Vaccines		
	Research	Preclinical development
Multi-epitope recombinant protein CSP, MSP-1, MSP-2, LSA-1, AMA-1, RAP-1, EBA-175 (FALVAC CDC)	X	X
DNA/ Adenovirus 5 prime-boost CSP, AMA-1 (Genvec/NMRC)	X	X
DNA in co-block polymer +/- viral boost CSP, SSP2, LSA-1, AMA-1, MSP-1 (NMRC)	X	X
MVA CSP, SSP2, LSA-1, AMA-1, MSP-1 (NMRC)	X	X
Adenovirus 5 CSP, Ag2, LSA-1, AMA-1, MSP-1 (Genvec/NMRC)	X	X



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