

Supplementary Table: Antigens tested in ELISpot assay

	Protein	Evidence for T cell immunogenicity	Biological Significance
Pre-erythrocytic	Circumsporozoite protein (CSP)	Major surface protein of sporozoite; protective in mice, humans [1-4]; basis for RTS,S	Most abundant Ag on sporozoite surface, involved in binding & invasion of hepatocytes
	Thrombospondin-related anonymous protein (TRAP)	Correlate of human protection[5]; protective vaccine immunity in humans[6], mice[7]	Located on the sporozoite, involved in gliding motility and hepatic invasion
	Liver stage antigen 1 (LSA1)	Correlate of T cell protection in mouse adoptive transfer experiments[8]	Synthesis begins at hepatocyte invasion and increases throughout liver cycle[8]
	Cell traversal protein for ookinetes and sporozoites (CeTOS; PFL0800c)	Recognized by 100% of tested human volunteers vaccinated with irradi spz [9]	Abundant sporozoite protein localized to micronemes, key for infectivity[10]
	Sporozoite invasion-associated protein 1 (SIAP-1; PFD0425w)	Highly immunogenic in humans vaccinated w/ irradiated sporozoites[9]	Conserved sporozoite surface protein, implicated in hepatic invasion[9, 11, 12]
	Sporozoite invasion-associated protein 2 (SIAP-2; PF08_0005)	Immunogenic in mice	Conserved sporozoite surface protein, implicated in hepatic invasion [9, 11]
	p52 (PFD0215c)	Immunogenic in mice	Upregulated in sporozoite; mutants attenuate at liver stage, confer sterile immunity[13]
Bloodstage	Apical membrane antigen 1 (AMA1)	Polyfunctional responses induced by vaccination in humans[14]	On merozoite surface, involved in RBC invasion; also pre-erythrocytic expression
	Merozoite surface protein 1 ₄₂ (MSP1 ₄₂)	Correlate of human protection [15]; Memory CD4 responses generated in half of human vaccinees[16]	Expressed on the surface of merozoites, involved in erythrocyte invasion
	Hypoxanthine guanine xanthine phosphoribosyl transferase (HGXPRT)	Correlate of protection in P. yoelii[17]; recognized in acute malaria[18]	Purine salvage enzyme, highly conserved among Plasmodia

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Supplementary Figure: Trial profile. Shown are ELISpots performed at each timepoint

Randomization at age 6 mos

No chemoprevention
n=98

12-16 months
75/93

20 months
81/90

24 months
87/90

28 months
82/88

32-36 months
76/87

Monthly DP
n=98

12-16 months
72/92

20 months
74/88

24 months
82/87

28 months
78/87

32-36 months
83/85

Intervention
Period