<table>
<thead>
<tr>
<th>Protein</th>
<th>Evidence for T cell immunogenicity</th>
<th>Biological Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circumsporozoite protein (CSP)</td>
<td>Major surface protein of sporozoite; protective in mice, humans [1-4]; basis for RTS,S</td>
<td>Most abundant Ag on sporozoite surface, involved in binding &amp; invasion of hepatocytes</td>
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<tr>
<td>Thrombospondin-related anonymous protein (TRAP)</td>
<td>Correlate of human protection[5]; protective vaccine immunity in humans[6], mice[7]</td>
<td>Located on the sporozoite, involved in gliding motility and hepatic invasion</td>
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<tr>
<td>Liver stage antigen 1 (LSA1)</td>
<td>Correlate of T cell protection in mouse adoptive transfer experiments[8]</td>
<td>Synthesis begins at hepatocyte invasion and increases throughout liver cycle[8]</td>
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<tr>
<td>Cell traversal protein for ookinetes and sporozoites (CelTOS; PFL0800c)</td>
<td>Recognized by 100% of tested human volunteers vaccinated with irradiated spz[9]</td>
<td>Abundant sporozoite protein localized to micronemes, key for infectivity[10]</td>
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<tr>
<td>Sporozoite invasion-associated protein 1 (SIAP-1; PFD0425w)</td>
<td>Highly immunogenic in humans vaccinated w/ irradiated sporozoites[9]</td>
<td>Conserved sporozoite surface protein, implicated in hepatic invasion[9, 11, 12]</td>
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<tr>
<td>Sporozoite invasion-associated protein 2 (SIAP-2; PF08_0005)</td>
<td>Immunogenic in mice</td>
<td>Conserved sporozoite surface protein, implicated in hepatic invasion[9, 11]</td>
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<tr>
<td>p52 (PFD0215c)</td>
<td>Immunogenic in mice</td>
<td>Upregulated in sporozoite; mutants attenuate at liver stage, confer sterile immunity[13]</td>
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<tr>
<td>Apical membrane antigen 1 (AMA1)</td>
<td>Polymorphic responses induced by vaccination in humans[14]</td>
<td>On merozoite surface, involved in RBC invasion; also pre-erythrocytic expression</td>
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<tr>
<td>Merozoite surface protein 142 (MSP142)</td>
<td>Correlate of human protection[15]; Memory CD4 responses generated in half of human vaccinees[16]</td>
<td>Expressed on the surface of merozoites, involved in erythrocyte invasion</td>
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<tr>
<td>Hypoxanthine guanine xanthine phosphoribosyltransferase (HGXPRT)</td>
<td>Correlate of protection in P. yoelii[17]; recognized in acute malaria[18]</td>
<td>Purine salvage enzyme, highly conserved among Plasmodia</td>
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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 76/87
- 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