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Tetteh, KK; Conway, DJ; (2011) A polyvalent hybrid protein elicits antibodies against the diverse allelic types of block 2 in Plasmodium falciparum merozoite surface protein 1. *Vaccine*, 29 (44). pp. 7811-7. ISSN 0264-410X DOI: <https://doi.org/10.1016/j.vaccine.2011.07.106>

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DOI: <https://doi.org/10.1016/j.vaccine.2011.07.106>

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Supplementary Figure 1.

Antigen 1 [(+)-T-3D7-R033] [pQE30]

[HHHHHH]GSVTHESYQELVKKLEALEDAVLTGYSLFQKEKMLN~~EEIIT~~TKGASAQSGASAQSGASAQSGASAQSGASAQSGTSGPSGPGSGTSPSSRSNTLPRSNTSSGASAPADASELKDGA
NTQVVAKPADA**VSTQSAKNPPGATVPSGTASTKGAIRSPGAANPSDDSS**GT[PGRPAAKL].

Antigen 2 [(-)-T-R033-Wellcome] [pQE30]

[HHHHHHGSAC]ELKD**GANTQVVAKPADA**VSTQSAKNPPGATVPSGTASTKGAIRSPGAANPSDDSSGT**NEGTS**GTAVTTSTPGSKGSVASGGSGGSVASGGSVASGGSVASGGSVASGGSGNSRRT
NPSDNSS.

Antigen 3 [(+)-T-3D7-R033-Wellcome] [pQE30]

[HHHHHH]GSVTHESYQELVKKLEALEDAVLTGYSLFQKEKMLN~~EEIIT~~TKGASAQSGASAQSGASAQSGASAQSGASAQSGTSGPSGPGSGTSPSSRSNTLPRSNTSSGASAPADASELKDGA
NTQVVAKPADA**VSTQSAKNPPGATVPSGTASTKGAIRSPGAANPSDDSS**GT**NEGTS**GTAVTTSTPGSKGSVASGGSGGSVASGGSVASGGSVASGGSVASGGSGNSRRTNPSDNSS**PG**[STCSQA].

Antigen 4 [(-)-T-3D7-R033-Wellcome] [pET15b]

[HHHHHHSSQLVPRQS]HM**SAQSGASAQSGASAQSGASAQSGASAQSGASAQSGTSGPSGPGSGTSPSSRSNTLPRSNTSSGASPPADAS**ELKD**GANTQVVAKPADA**VSTQSAKNPPGATVPSGTASTK
GAIRSPGAANPSDDSSGT**NEGTS**GTAVTTSTPGSKGSVASGGSGGSVASGGSVASGGSVASGGSVASGGSGNSRRTNPSDNSS.

Antigen 5 [(-)-T-K1SR-R033-Wellcome] [pET15b]

[HHHHHHSSQLVPRQS]HM**SAQSGASAQSGASAQSGTSAQSGTSAQSGTSGTSGASAQSGTSGPSGTSGTSGPSGPGSGTSGPSGTSPSSRSNTLPRSNTSSGASPPADAS**ELKD**GAN**
TQVVAKPADA**VSTQSAKNPPGATVPSGTASTKGAIRSPGAANPSDDSS**GT**NEGTS**GTAVTTSTPGSKGSVASGGSGGSVASGGSVASGGSVASGGSVASGGSGNSRRTNPSDNSS.

Antigen 6 [(+)-T-K1SR-R033-Wellcome] [pET15b]

[HHHHHHSSQLVPRQS]HMVTHESYQELVKKLEALEDAVLTGYSLFQKEKMLN~~EEIIT~~TKGASAQSGASAQSGASAQSGTSAQSGTSGTSGTSGASAQSGTSGPSGTSGTSGPSGPGSGT
SPSSRSNTLPRSNTSSGASPPADASELKD**GANTQVVAKPADA**VSTQSAKNPPGATVPSGTASTKGAIRSPGAANPSDDSSGT**NEGTS**GTAVTTSTPGSKGSVASGGSGGSVASGGSVASGGSVASGGSGNSRRTNPSDNSS.

Supplementary Figure 1. Amino acid sequences showing the final candidate immunogen (Antigen 6) with the five comparative reagents (antigens 1-5). Green shading highlights the K1 amino acid sequence (antigens 1, 3 & 4: 3D7; antigens 5 & 6 K1SR). The T1 (conserved) and T2 (semi-conserved) T cell epitopes are underlined. Red and blue shading highlight R033 and Wellcome block 2 sequences respectively. Restriction sites within the hybrid coding sequences are shown in bold (BamHI = GS; SacI = EL; KpnI = GT; SmaI = PG and NdeI = HM). Vector specific sequences are shown within parentheses [].