

ADDITIONAL FILE 3: LARGE FORMAT SUPPLEMENTARY TABLES

Genetic Determinants Of Anti-Malarial Acquired Immunity In A Large Multi-Centre Study

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This file contains:

Additional File LFST1A: Details of gene regions selected for genotyping. Gene positions are with respect to Ensembl Release 75 and human genome build GRCh37(<http://feb2014.archive.ensembl.org/index.html>)

Additional File LFST1B: Details of the SNP assays and multiplexes (SNP groups) designed for the Sequenom (Agena Bioscience; <http://agenabio.com/iplx-genotyping>) iPLEX platform. Each multiplex is highlighted by colour and are separated by blank rows. SNPs are ordered according to multiplex and the universal extension primer (UEP) mass (Daltons). Headings with an orange background provide details of each SNP in the human genome, while headings with a grey background are part of the assay design file. Further details of the assay design file specification can be obtained from Sequenom (Agena Bioscience).

HUGO gene symbol	synonym	Gene name/details	gene transcription strand	chr	gene_region	SNPs per gene ^a			Core MalariaGEN gens/SNPs ^b	Notes/ key reference
						Initial 202 SNPs	Analysis 196 SNPs	Final 178 SNPs		
GBP7		guanylate binding protein 7 [Source:HGNC Symbol;Acc:29606]	-1	1	89597434-89641723	1	1	1	GBP7	1
DARC	duffy	Duffy blood group, atypical chemokine receptor [Source:HGNC Symbol;Acc:4035]	1	1	159173097-159176290	1	1	1	DARC	1
FCER1A		Fc fragment of IgE, high affinity I, receptor for; alpha polypeptide [Source:HGNC Symbol;Acc:3609]	1	1	159259504-159278014	1	1	1		Antibody receptor
FCGR2A		Fc fragment of IgG, low affinity IIA, receptor (CD32) [Source:HGNC Symbol;Acc:3616]	1	1	161475220-161493803	1	1	1		Antibody receptor
FCGR3B	CD16	Fc fragment of IgG, low affinity IIIb, receptor (CD16b) [Source:HGNC Symbol;Acc:3620]	-1	1	161592986-161601753	1	1	1		Antibody receptor
RG52		regulator of G-protein signaling 2, 24kDa [Source:HGNC Symbol;Acc:9998]	1	1	192778169-192781403	1	0	0		G-protein signalling
IL10		interleukin 10 [Source:HGNC Symbol;Acc:5962]	-1	1	206940947-206945839	6	6	6	IL10	1
CR1		complement component (3b/4b) receptor 1 (Knops blood group) [Source:HGNC Symbol;Acc:2334]	1	1	207669492-207813992	2	2	2	CR1	1
IL1A		interleukin 1, alpha [Source:HGNC Symbol;Acc:5991]	-1	2	113531492-113542167	2	2	2	IL1A	1
IL1B		interleukin 1, beta [Source:HGNC Symbol;Acc:5992]	-1	2	113587328-113594480	1	1	1	IL1B	1
IL17RE		interleukin 17 receptor E [Source:HGNC Symbol;Acc:18439]	1	3	9944296-9958086	1	1	1	IL17RE	1
TLR9		tol-like receptor 9 [Source:HGNC Symbol;Acc:15633]	-1	3	52255096-52273183	2	2	2	TLR9	1
IL17RD		interleukin 17 receptor D [Source:HGNC Symbol;Acc:17616]	-1	3	57124010-57204334	1	1	1	IL17RD	1
TLR1		tol-like receptor 1 [Source:HGNC Symbol;Acc:11847]	-1	4	38792298-38858438	2	2	2	TLR1	1
TLR6		tol-like receptor 6 [Source:HGNC Symbol;Acc:16711]	-1	4	38825336-38858438	2	2	2	TLR6	1
IL8		interleukin 8 [Source:HGNC Symbol;Acc:6025]	1	4	74606223-74609433	1	1	1		cytokine
IL7R		interleukin 7 receptor [Source:HGNC Symbol;Acc:6024]	1	5	35852797-35879705	2	2	2		cytokine
C6		complement component 6 [Source:HGNC Symbol;Acc:1339]	-1	5	41142336-41261540	1	1	1	C6	1
TSLP		thymic stromal lymphopoietin [Source:HGNC Symbol;Acc:30743]	1	5	110405760-110413722	1	1	1		
IL3		interleukin 3 (colony-stimulating factor, multiple) [Source:HGNC Symbol;Acc:6011]	1	5	131396222-131398897	7	7	6		2
CSF2		colony stimulating factor 2 (granulocyte-macrophage) [Source:HGNC Symbol;Acc:2434]	1	5	131409483-131411859	5	5	4		2
P4HA2		prolyl 4-hydroxylase, alpha polypeptide II [Source:HGNC Symbol;Acc:8547]	-1	5	131527531-131631008	4	4	4		2
PDLIM4		PDZ and LIM domain 4 [Source:HGNC Symbol;Acc:16501]	1	5	131593364-131609147	4	4	3		2
SLC22A4		solute carrier family 22 (organic cation/zwitterion transporter), member 4 [Source:HGNC Symbol;Acc:10968]	1	5	131630136-131679899	8	8	5		2
SLC22A5		solute carrier family 22 (organic cation/carnitine transporter), member 5 [Source:HGNC Symbol;Acc:10969]	1	5	131705444-131731306	4	4	2		2
C5orf56	LOC441108	chromosome 5 open reading frame 56 [Source:HGNC Symbol;Acc:33838]	1	5	131746328-131811736	5	5	5		2
IRF1		interferon regulatory factor 1 [Source:HGNC Symbol;Acc:6116]	-1	5	131817301-131826490	5	5	5	IRF1	1,2
IL5		interleukin 5 (colony-stimulating factor, eosinophil) [Source:HGNC Symbol;Acc:6016]	-1	5	131877136-131892530	3	3	2		2
RAD50		RAD50 homolog (S. cerevisiae) [Source:HGNC Symbol;Acc:9816]	1	5	131891711-131980313	17	17	9		2
IL13		interleukin 13 [Source:HGNC Symbol;Acc:5973]	1	5	131991955-131996802	5	5	5	IL13	1,2
IL4		interleukin 4 [Source:HGNC Symbol;Acc:6014]	1	5	132009678-132018368	6	6	6	IL4	1,2
IL12B		interleukin 12B (natural killer cell stimulatory factor 2, cytotoxic lymphocyte maturation factor 2, p40) [Source:HGNC Symbol;Acc:5970]	-1	5	158741791-158757895	4	4	4		cytokine
LTA		lymphotoxin alpha [Source:HGNC Symbol;Acc:6709]	1	6	31527243-31529513	2	2	2	LTA	1
TNF		tumor necrosis factor [Source:HGNC Symbol;Acc:11892]	1	6	31555632-31557434	5	5	5	TNF	1
SLC44A4	CTL4	solute carrier family 44, member 4 [Source:HGNC Symbol;Acc:13941]	-1	6	31870631-31870874	1	1	1	CTL4	1
IL20RA		interleukin 20 receptor, alpha [Source:HGNC Symbol;Acc:6003]	-1	6	137321108-137366298	1	1	1	IL20RA	1
IFNGR1		interferon gamma receptor 1 [Source:HGNC Symbol;Acc:5439]	-1	6	137518621-137540586	1	1	1		cytokine receptor
NOD1		nucleotide-binding oligomerization domain containing 1 [Source:HGNC Symbol;Acc:16390]	-1	7	30464143-30518400	1	1	1	NOD1	1
GLI3		GLI family zinc finger 3 [Source:HGNC Symbol;Acc:4319]	-1	7	42000548-42277469	1	1	1		
HECW1-IT1	HECW	HECW1 intronic transcript 1 (non-protein coding) [Source:HGNC Symbol;Acc:41465]	1	7	43157495-43202786	2	2	2		
IKZF1		IKAROS family zinc finger 1 (Ikaros) [Source:HGNC Symbol;Acc:13176]	1	7	50343720-50472799	7	6	6		3
DDC		dopa decarboxylase (aromatic L-amino acid decarboxylase) [Source:HGNC Symbol;Acc:2719]	-1	7	50526134-50633154	24	24	24		3
CD36		CD36 molecule (thrombospondin receptor) [Source:HGNC Symbol;Acc:1663]	1	7	79988891-80308593	2	2	2	CD36	1
CFTR		cystic fibrosis transmembrane conductance regulator (ATP-binding cassette sub-family C, member 7) [Source:HGNC Symbol;Acc:1884]	1	7	117105838-117356025	1	1	1	CFTR	1
TLR4		tol-like receptor 4 [Source:HGNC Symbol;Acc:11850]	1	9	120466610-120479149	2	2	2	TLR4	1
ABO		ABO blood group (transferase A, alpha 1-3-N-acetylgalactosaminyltransferase; transferase B, alpha 1-3-galactosyltransferase) [Source:HGNC Symbol;Acc:79]	-1	9	136125788-136150617	2	2	2	ABO	1
HBB		hemoglobin, beta [Source:HGNC Symbol;Acc:4827]	-1	11	5246694-5250625	3	3	2	HBB	1
TRIM5		tripartite motif containing 5 [Source:HGNC Symbol;Acc:16276]	-1	11	5684425-5959849	1	1	1	TRIM5	1
MS4A2		membrane-spanning 4-domains, subfamily A, member 2 [Source:HGNC Symbol;Acc:7316]	1	11	59855734-59863444	1	1	1		
RTN3		reticulon 3 [Source:HGNC Symbol;Acc:10469]	1	11	63448918-63527363	1	1	1	RTN3	1
STAT6		signal transducer and activator of transcription 6, interleukin-4 induced [Source:HGNC Symbol;Acc:11368]	-1	12	57489191-57525922	5	5	5		IL4 inducer
IFNG		interferon, gamma [Source:HGNC Symbol;Acc:5438]	-1	12	68548548-68553527	5	5	5		cytokine
IL22		interleukin 22 [Source:HGNC Symbol;Acc:14900]	-1	12	68642022-68647387	5	5	5	IL22	1
SPTB		spectrin, beta, erythrocytic [Source:HGNC Symbol;Acc:11274]	-1	14	65213002-65346601	1	1	1	SPTB	1
ADCY9		adenylate cyclase 9 [Source:HGNC Symbol;Acc:240]	-1	16	4003388-4166186	2	2	2	ADCY9	1
IL4R		interleukin 4 receptor [Source:HGNC Symbol;Acc:6015]	1	16	27324989-27376099	1	1	1	IL4R	1
HP		haptoglobin [Source:HGNC Symbol;Acc:5141]	1	16	72088491-72094954	1	1	1		Haptoglobin
ADORA2B		adenosine A2b receptor [Source:HGNC Symbol;Acc:264]	1	17	15848231-15879060	1	1	1	ADORA2B	1
NOS2		nitric oxide synthase 2, inducible [Source:HGNC Symbol;Acc:7873]	-1	17	26083792-26127525	5	5	5	NOS2	1
EMR1		egf-like module containing, mucin-like, hormone receptor-like 1 [Source:HGNC Symbol;Acc:3336]	1	19	6887577-6940470	2	2	2	EMR1	1
FCER2		Fc fragment of IgE, low affinity II, receptor for (CD23) [Source:HGNC Symbol;Acc:3612]	-1	19	7753644-7767032	1	1	1		Antibody receptor
ICAM1		intercellular adhesion molecule 1 [Source:HGNC Symbol;Acc:5344]	1	19	10381511-10397291	2	2	2	ICAM1	1
GNAS		GNAS complex locus [Source:HGNC Symbol;Acc:4392]	1	20	57414773-57486247	2	1	1	GNAS	1
DERL3		derlin 3 [Source:HGNC Symbol;Acc:14236]	-1	22	24176690-24181315	1	1	1	DERL3	1
AMELX		amelogenin, X-linked [Source:HGNC Symbol;Acc:461]	1	X	11311533-11318881	3	0	0	AMELX	1, used for determining genetic gender

Additional File LFST1A: Details of gene regions selected for genotyping. Gene positions are with respect to Ensembl Release 75 and human genome build GRCh37(<http://feb2014.archive.ensembl.org/index.html>)

^a: SNP multiplexes can be found in Table 2 below

^b: A description of the selection and analysis of these SNPs in severe malaria can be found in reference 1.

Further details of the associations with malaria can be found here or from references cited in the main text:

1: Malaria Genomic Epidemiology Network. (2014) Reappraisal of known malaria resistance loci in a large multicenter study. *Nat Genet.* **46:1197-204.** (<http://www.ncbi.nlm.nih.gov/pubmed/25261933>)

2: Rihet P1, Traoré Y, Abel L, Aucan C, Traoré-Leroux T, Fumoux F. (1998) Malaria in humans: Plasmodium falciparum blood infection levels are linked to chromosome 5q31-q33. *Am. J. Hum. Genet.* **63:498-505.** (<http://www.ncbi.nlm.nih.gov/pubmed/9683598>)

3: Jallow M, et al. (2008) Genome-wide and fine-resolution association analysis of malaria in West Africa. *Nat Genet.* **41:657-65.** (<http://www.ncbi.nlm.nih.gov/pubmed/19465909>)

