

# Appendix A

## Glossary

### A.1 Abbreviations Used in this work

ADP: adenine diphosphate

AP: alkaline phosphatase

APC: antigen-presenting cell

AVEXIS: Avidity-based extracellular interaction screening

BBB: blood-brain barrier

BSA: bovine serum albumin

BSI: Back-scattering interferometry

cDNA: complementary DNA

COS: A simian cell line, CV-1 in Origin, and carrying the SV40 virus genetic material

CTL: C-type lectin

DC: dendritic cell

DNA: deoxyribonucleic acid

dNTPs: deoxyribonucleotide triphosphates

EBV: Epstein-Barr Virus

ECM: experimental cerebral malaria

EDTA: ethylenediaminetetraacetic acid

ELISA: enzyme-linked immunosorbant assay

FACS: fluorescense-associated cell sorting

FCS: foetal calf serum

FITC: fluorescein isothiocyanate

FLAG: DYKDDDDK octapeptide tag

GPI: glycosphosphatidylinositol

GST: glutathione S-transferase,  
HBS: HEPES-buffered saline  
HBST: HBS containing 0.2% Tween  
HEK: Human Embryonic Kidney  
HEPES: 4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid  
HRP: Horseradish peroxidase  
HSPG: heparan sulphate proteoglycan  
HUVEC: human umbilical vein endothelial cell  
IMAC: immobilised metal ion affinity chromatography  
ITN: insecticide-treated net  
IRS: indoor residual spraying  
LB: Luria broth  
mAB: monoclonal antibody  
MWCO: molecular weight cut-off  
PAGE: polyacrylamide gel electrophoresis  
PAMP: pathogen-associated molecular pattern  
PBS: phosphate-buffered saline  
PCR: polymerase chain reaction  
PEI: polyethylenimine  
PMA: Phorbol 12-myristate 13-acetate  
PPI: protein-protein interaction  
pRBC: parasitised red blood cell  
PRP: platelet-rich plasma  
PVDF: Polyvinylidene fluoride  
RBC: red blood cell  
SDS: sodium dodecyl sulphate  
SEC: size-exclusion chromatography  
sLe<sup>X</sup>: Sialyl-Lewis<sup>X</sup>  
SMA: severe malarial anaemia  
SNP: single nucleotide polymorphism  
SPR: surface plasmon resonance  
TM: transmembrane  
WHO: World Health Organisation  
Y2H: yeast two-hybrid

## A.2 Protein names

- AMA1: Apical membrane antigen 1 (*P. falciparum*)  
APLP2: Amyloid precursor-like protein 2 (*H.sapiens*)  
ASP: Apical sushi protein (*P. falciparum*)  
BirA: Biotin protein ligase (*E. coli*)  
BSG: Basigin (*H.sapiens*)  
CD: Cluster of differentiation protein (*H.sapiens*, *R.norvegicus*)  
COMP: Cartilage oligomeric matrix protein (*H.sapiens*)  
CR1: Complement receptor 1 (*H.sapiens*)  
CSA: Chondroitin sulfate A (*H.sapiens*)  
CSP: Circumsporozoite protein (*H.sapiens*)  
EBA: Erythrocyte-binding antigen (*P. falciparum*)  
EBL1: Erythrocyte binding ligand 1 (*P. falciparum*)  
EBNA1: Epstein Barr Nuclear Antigen 1 (Epstein Barr virus)  
EGF: Epidermal growth factor (*H.sapiens*)  
EMP: Erythrocyte membrane protein (*P. falciparum*)  
EPCR: Endothelial protein C receptor (*H.sapiens*)  
ESAM: Endothelial cell-selective adhesion molecule (*H.sapiens*)  
GFP: Green fluorescent protein (*A. victoria*)  
GLURP: Glutamate rich protein (*P. falciparum*)  
GYPA: Glycophorin A (*H.sapiens*)  
ICAM: Intercellular adhesion molecule (*H.sapiens*)  
IFN: Interferon (*H.sapiens*)  
LAMP2: Lysosome-associated membrane protein 2 (*H.sapiens*)  
MIF: Macrophage migration inhibitory factor (*H.sapiens*)  
MSP: merozoite surface protein (*P. falciparum*, *P.vivax*, *P. berghei*)  
MSRP: MSP7-related protein (*P. falciparum*, *P. berghei*)  
MTRAP: merozoite TRAP-like protein (*P. falciparum*)  
PECAM1: Platelet endothelial cell adhesion molecule 1 (*H.sapiens*)  
PMIF: Plasmodium macrophage migration inhibitory factor (*P. falciparum*)  
PSGL1: P-selectin glycoprotein ligand 1 (*H.sapiens*)  
RH: Reticulocyte binding-like homologue (*P. falciparum*)  
SCARF2: Scavenger receptor class F member 2 (*H.sapiens*)  
SEA1: Schizont egress antigen 1 (*P. falciparum*)

SELE: E-selectin (*H.sapiens*)  
SELL: L-selectin (*H.sapiens*)  
SELP: P-selectin (*H.sapiens*, *M. musculus*)  
SELPLG: P-selectin ligand (*H.sapiens*)  
SEMA7a: Semaphorin 7a (*H.sapiens*)  
SERA: Serine repeat antigen (*P. falciparum*)  
SPATR: Sporozoite protein with an altered thrombospondin repeat (*P. falciparum*)  
STARP: Sporozoite threonine-asparagine-rich protein (*P. falciparum*)  
TLR: Toll-like receptor (*H.sapiens*)  
TNF: Tumour necrosis factor (*H.sapiens*)  
TRAP: Thrombospondin-related adhesive protein (*P. falciparum*, *P.berghei*)  
TRSP: Thrombospondin-related sporozoite protein (*P. falciparum*)

### A.3 Weblinks

1000 genomes sequencing database: [www.1000genomes.org](http://www.1000genomes.org)  
dbSNP database: [www.ncbi.nlm.nih.gov/SNP](http://www.ncbi.nlm.nih.gov/SNP)  
Disopred3: Found at [bioinf.cs.ucl.ac.uk/psipred](http://bioinf.cs.ucl.ac.uk/psipred)  
Disprot: [www.disprot.org/pondr-fit.php](http://www.disprot.org/pondr-fit.php)  
IUPred:[iupred.enzim.hu](http://iupred.enzim.hu)  
Pfam database: [pfam.xfam.org](http://pfam.xfam.org)  
PlasmoDB: [plasmodb.org/plasmo/](http://plasmodb.org/plasmo/)  
PrDOS:[prdos.hgc.jp/cgi-bin/top.cgi](http://prdos.hgc.jp/cgi-bin/top.cgi)  
T-COFFEE multiple protein sequence alignment: [www.ebi.ac.uk/Tools/msa/tcoffee](http://www.ebi.ac.uk/Tools/msa/tcoffee)  
Uniprot: [www.uniprot.org](http://www.uniprot.org)