MR4 SEQUENCED CLONE LIBRARIES

Catalog Number	Library Name	Organism
MRA-62	P. falciparum HB3 ESTs	*Plasmodium falciparum Welch*
MRA-63	P. falciparum Dd2 ESTs	*Plasmodium falciparum Welch*
MRA-88	Pfm GSS Clones (glycerol)	*Plasmodium falciparum Welch*
MRA-89	Pfm GSS Clones (miniprep)	*Plasmodium falciparum Welch*
MRA-286	Pb-ANKA-gDNA library #21 glycerol stock	*Plasmodium berghei Vincke and Lips*
MRA-287	Pb-ANKA-gDNA library #21 miniprep	*Plasmodium berghei Vincke and Lips*
MRA-288	Pb-ANKA-gDNA library #21 1/10 dilution	*Plasmodium berghei Vincke and Lips*
MRA-289	Pb-ANKA-cDNA libraries #17 and #20 glycerol stocks	*Plasmodium berghei Vincke and Lips*
MRA-290	Pb-ANKA-cDNA libraries #17 and #20 miniprep	*Plasmodium berghei Vincke and Lips*
MRA-291	Pb-ANKA-cDNA libraries #17 and #20 1/10 dilution	*Plasmodium berghei Vincke and Lips*
MRA-292	P. vivax library #16, 26, 27 (glycerol stocks)	*Plasmodium vivax (Grassi and Feletti) Labbe*
MRA-293	P. vivax library #16, 26, 27 (minipreps)	*Plasmodium vivax (Grassi and Feletti) Labbe*
MRA-294	Plasmodium vivax library #30 (glycerol stocks)	*Plasmodium vivax (Grassi and Feletti) Labbe*
MRA-295	Plasmodium vivax library #30 (minipreps)	*Plasmodium vivax (Grassi and Feletti) Labbe*
MRA-401	P. falciparum XPFn ESTs	*Plasmodium falciparum Welch*
MRA-449	Plasmodium yoelii yoelii 17XL cDNA library PyBS clones (glycerol stocks)	*Plasmodium yoelii yoelii Landau and Killick-Kendrick*
MRA-450	Plasmodium yoelii yoelii 17XL cDNA library PyBS clones (DNA)	*Plasmodium yoelii Landau and Killick-Kendrick*
MRA-451	A.Gam10.1m	*Anopheles gambiae Giles*
MRA-465	A.Gam10.1f	*Anopheles gambiae Giles*
MRA-466	A.Gam10.2f	*Anopheles gambiae Giles*
MRA-467	A.Gam.ad.cDNA1	*Anopheles gambiae Giles*
MRA-468	A.Gam.ad.cDNA.blood1	*Anopheles gambiae Giles*
MRA-469	A.GamMop10.1	*Anopheles gambiae Giles*
MRA-470	A.GamMop14.1	*Anopheles gambiae Giles*
MRA-509	P vivax BE cDNA library	*Plasmodium vivax (Grassi and Feletti) Labbe*
MRA-603	Anopheles gambiae genomic BAC library ND-TAM	*Anopheles gambiae Giles*
MRA-604	ND-1 Anopheles gambiae BAC library [ND-1]	*Anopheles gambiae Giles*
MRA-760	Plasmodium vivax cDNA EST Library	*Plasmodium vivax (Grassi and Feletti) Labbe*
MRA-766	Anopheles gambiae cDNA library AgFL-1	*Anopheles gambiae Giles*
MRA-840	PVA1 genomic library Plasmodium vivax Salvador I	*Plasmodium vivax (Grassi and Feletti) Labbe*

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-62
Designations	P. falciparum HB3 ESTs
Organism	*Plasmodium falciparum* Welch
Depositors	D. Chakrabarti
Description	This item is an EST cloned library deposited with MR4. MR4 policy is not to reproduce the entire clone set for distribution. Users must identify individual clone accession numbers and clone IDs and provide these clone identification to MR4 for production and distribution. Corresponding accession numbers in NCBI EST database are cited below.
Construction	Construct Type: library
DNA	cDNA
Libraries	Range of Insert: >0.4 kb
Tissue	human erythrocytes infected with P. falciparum HB3
Vector	pBluescript (phagemid)
Comments	Cloned expressed sequence tag (EST) library of Pf HB3, Clone number 1 - 500 Expressed Sequence Tags (ESTs) are DNA samples from random cDNA pBluescript plasmid clones derived from P.falciparum HB3 (1-500). The inserts (>0.4 kb) are cloned at EcoRI (5') and Xhol (3') sites. [38924] Corresponding ranges of NCBI Genbank accession numers in this sequenced EST library include: T02482 – T02633 T02809 – T02810 T17984 – T18099 T18248 – T18251
References	Chakrabarti D, et al. Analysis of expressed sequence tags from Plasmodium falciparum. Mol. Biochem. Parasitol. 66: 97-104, 1994.PubMed 7984191
Shipped	frozen
Biosafety Level	1
Revised	Nov 2008

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-63
Designations	P. falciparum Dd2 ESTs
Organism	*Plasmodium falciparum* Welch
Depositors	D. Chakrabarti
Description	This item is an EST cloned library deposited with MR4. MR4 policy is not to reproduce the entire clone set for distribution. Users must identify individual clone accession numbers and clone IDs and provide these clone identification to MR4 for production and distribution. Corresponding accession numbers in NCBI EST database are cited below.
Construction	Construct Type: library
DNA	cDNA
Libraries	Range of Insert: >0.4kb
Tissue	human erythrocyte infected with P. falciparum Dd2
Vector	pBluescript (phagemid)
Comments	Expressed Sequence Tags (ESTs) are DNA samples from random cDNA pBluescript plasmid clones derived from P. falciparum Dd2 (600 and above). The inserts (>0.4 kb) are cloned at EcoRI (5') and Xhol (3') sites. [38924] Corresponding ranges of NCBI Genbank accession numers in this sequenced EST library include: N97532 – N98133
References	Chakrabarti D, et al. Analysis of expressed sequence tags from Plasmodium falciparum. Mol. Biochem. Parasitol. 66:

	97-104, 1994.PubMed 7984191
Shipped	frozen
Biosafety Level	1
Revised	Oct 18 2004

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-88 / MRA-89
Designations	Pfm GSS Clones (glycerol)
Organism	*Plasmodium falciparum* Welch
Depositors	J.B. Dame
Classification	Protozoa
Construction	Construct Type: library
DNA	Genomic
Identifiers And BLAST	Database 1: Nucleotide (Genbank) Genomic Survey Sequences (GSS) Clones in this library correspond to the following ranges of NCBI Genbank accession numbers: T026234 - T02808 T09496 - T09993 N97318 - N97531 AA549844 - AA550701 Clones in this library have the following clone IDs: 0001m to 1890m Example data format: T09992 0546m7 gmbPfHB3.1, G. Roman Reddy Plasmodium falciparum genomic clone 0546m, DNA sequence gi|319824|gb|T09992.1|[319824] IDENTIFIERS dbGSS Id: 2042500 GSS name: 0546m7 GenBank Acc: T09992 GenBank gi: 319824 CLONE INFO Clone Id: 0546m Other GSSs on clone:0546m3 DNA type: Genomic PRIMERS Sequencing: T7
Insert	Range: 0.5 kb - 3.0 kb
Tissue	P. falciparum parasites
Vector	pBluescript SK+ (phagemid)
Comments	Recombinant clones were prepared by fragmentation of the genomic DNA with mung bean nuclease and ligation of resulting fragments into EcoRV-cut pBluescript SK(+). 1356 of these clones were successfully analyzed by partial DNA sequencing. [39955] Sequence Data: These sequences are presented at P. falciparum Genome Tag Sequences Image: PCR of Pfm miniprep of GSS Clones (plate1, plate2, plate3, plate4, plate5, plate6, plate7, plate8, plate9, plate10, plate11, plate13, plate14, plate15, plate16, plate18, plate19, plate20, plate21, plate22, plate23).
References	Reddy GR, et al. Gene sequence tags from Plasmodium falciparum genomic DNA fragments prepared by the genease activity of mung bean nuclease. Proc. Natl. Acad. Sci. USA 90: 9867-9871, 1993.PubMed 8234327 Dame JB, et al. Current status of the Plasmodium falciparum genome project. Mol. Biochem. Parasitol. 79: 1-12, 1996. PubMed 8844667
Propagation	LB Medium with 50 ug/ml ampicillin
Shipped	frozen
Biosafety Level	1

Revised	Nov 2008

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-286 / MRA-287 / MRA-288
Designations	Pb-ANKA-gDNA library #21 glycerol stock
Organism	*Plasmodium berghei* Vincke and Lips
Depositors	J.M. Carlton; J.B. Dame
Description	This library was constructed from Plasmodium berghei ANKA clone 15cy1 genomic DNA by Jane M-R Carlton and Charles A Yowell in April 1999. Genomic DNA was prepared from asynchronous blood stage forms of the cloned ANKA isolate of P. berqhei grown in laboratory Swiss white mice.The DNA was purified from contaminating host DNA by Hoechst Dye 33258-CsCl ultracentrifugation and precipitated. Purified DNA was digested with mung bean nuclease in the presence of 36-38% formamide at 50C. Purified DNA was digested with mung bean nuclease in the presence of 36-38% formamide at 50C. The ends of the digestion fragments were polished using T4 DNA polymerase and the fragments size selected in the range 500-2000 bp. These were ligated into the EcoR V-cleaved and dephosphorylated pBluescript SK(+) vector. Recombinant plasmids were used to transform E. coli XL10-Gold host cells. [PubMed: 2841646] Sequence Data: 5482 of these clones were successfully analyzed by partial DNA sequencing from one end. These sequences are presented at P. berghei Genome Tag Sequences . Clones are numbered according to their plate number and position. Amplification history: clones grown from original colonies picked from agar plates.
Construction	Construct Type: library
DNA	Genomic
Libraries	Range of Insert: 0.5-2.0 kb Independent Recombinants: 6270
Tissue	P. berghei
Vector	pBluescript SK+ (phagemid)
References	Reddy GR, et al. Gene sequence tags from Plasmodium falciparum genomic DNA fragments prepared by the genease activity of mung bean nuclease. Proc. Natl. Acad. Sci. USA 90: 9867-9871, 1993.PubMed 8234327 Dame JB, et al. Current status of the Plasmodium falciparum genome project. Mol. Biochem. Parasitol. 79: 1-12, 1996. PubMed 8844667
Propagation	LB Medium with 50 ug/ml ampicillin
Shipped	frozen
Biosafety Level	1
Revised	Jun 1 2005

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-289 / MRA-290 / MRA-291
Designations	Pb-ANKA-cDNA libraries #17 and #20 glycerol stocks
Organism	*Plasmodium berghei* Vincke and Lips
Depositors	J.M. Carlton; J.B. Dame
Description	MR4 distributes only individual clones from this library. A list of all library clones can be found with the keyword search "Pb cDNA Carlton" on NCBI Entrez Nucleotide search. In the results, 5337 are EST mRNA clones in the HP and 15cy1 EST libraries. Please specify the clone ID and accession no. as listed in the Genbank definition file (example): DEFINITION 067PbH10 Pb cDNA #20, Charles Yowell and Jane Carlton Plasmodium berghei cDNA 3', mRNA sequence ACCESSION BF299400 Mega BLAST search can be run against database "est_others" to aid identification of clones from this library with definitions similar to above.
Classification	Protozoa
Construction	Construct Type: library
Descriptions	This library was constructed from libraries: #17 by Tommaso Pace, Marta Ponzi and Clara Frontail in Rome, Italy; and #20 by Charles A. Yowell and Jane M.-R. Carlton at University of Florida, Florida, USA. Both libraries were constructed from cDNA against polyA+ RNA from P. berghei ANKA.
DNA	cDNA
Insert	Range of Insert: 1.2-1.5 kb (avg)
Libraries	Lib Name: Pb cDNA #20, Charles Yowell and Jane Carlton Genbank ID GSS Accession number range: **BF298224 – BF299401** Lib Name: Pb cDNA #17, Tommaso Pace, Marta Ponzi, and Clara Frontali Plasmodium berghei cDNA 5- Genbank ID GSS Accession number range: **BF294065 – BF298223** Independent Recombinants: 6365
Tissue	P. berghei
Vector	pBluescript SK- (phagemid)
Comments	Library description: vector for #17 and #20 is pBluescript SK(-); source of inserted DNA for #17 is P. berghei ANKA clone HP, and for #20 is clone 15cy1 (clone of the ANKA 8417 clone); insert size for #17 is 1.2 kb and for #21 is 1.96 kb (1.0-5.0 kb avg). Amplification history for the libraries: #17--amplified once and excised once; #21--primary phage excised once only. For clones from library #17 (plates 1-14, 22-61): Total RNA was extracted from asynchronous blood stage forms of the cloned ANKA isolate of P. berghei, grown in Wistar rats to 30% parasitemia and 2-5% gametocytemia. Contaminating host white cells had previously been removed and final host cell contamination was estimated to be approximately 1%. PolyA+ RNA was extracted and reverse transcribed using an oligo dT-XhoI primer (Lambda ZAP II cDNA cloning kit, Stratagene). Second strand cDNA was made following the manufacturer's protocols. EcoRI adaptors were ligated to the cDNA, and fragments were ligated into EcoRI/XhoI digested lambda ZAP II vector. Recombinant plasmids were used to transform E. coli XL1-Blue MRF' host cells. For clones from library #20: (plates 15-21, 62-69): Total RNA was extracted from asynchronous blood stage forms of the cloned ANKA isolate of P. berqhei grown in laboratory Swiss white mice. Contaminating host white cells had previously been removed using a novel biomagnetic bead protocol. [50678] PolyA+ RNA was extracted and reverse transcribed using an oligo dT-XhoI primer. Second strand cDNA was prepared using RNase H and DNA polymerase I. EcoRI adaptors were ligated to the cDNA, and the cDNA was cut with XhoI. Fragments were size selected, and those between 1-5 kb ligated into EcoRI/XhoI digested lambda ZAP II vector Stratagene). Sequence Data: 5580 of clones excised from both libraries #17 and #20 were successfully analyzed by partial DNA sequencing from one end using T3 primer. These sequences are presented at P. berghei Genome Tag Sequences Clones are numbered according to their plate number and position.
References	Reddy GR, et al. Gene sequence tags from Plasmodium falciparum genomic DNA fragments prepared by the genease activity of mung bean nuclease. Proc. Natl. Acad. Sci. USA 90: 9867-9871, 1993.PubMed 8234327 Dame JB, et al. Current status of the Plasmodium falciparum genome project. Mol. Biochem. Parasitol. 79: 1-12, 1996. PubMed 8844667 Carlton JM, Dame JB . The Plasmodium vivax and P. berghei gene sequence tag projects. Parasitol. Today 16: 409, 2000. PubMed 11006469
Propagation	LB Medium with 50 ug/ml ampicillin

Shipped	frozen
Biosafety Level	1
Revised	Mar 15 2007

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-292 / MRA-293
Designations	P. vivax library #16; P. vivax library #26 and #27 (glycerol stocks)
Organism	*Plasmodium vivax* (Grassi and Feletti) Labbe
Depositors	J.M. Carlton; J.B. Dame
Classification	Protozoa
Descriptions	This is library #16, 26 and 27 of P. vivax genomic DNA constructed by M. Galinski and J. Barnwell. Library #16 was amplified twice.
DNA	Genomic
Tissue	P. vivax infected erythrocytes
Vector	pBluescript (phagemid)
Comments	This item is a GSS cloned library deposited with MR4 in a 96-well plate format. MR4 policy is not to reproduce the entire clone set for distribution. **This library encompases Genbank Genome Survey Sequences (GSS) ID numbers 13970143 through 13976203** Users (requesters) must go to P. vivax Genome Tag Sequences to identify individual clones and provide these clone positions to MR4 for production and distribution. The complete list of NCBI Genbank GSS ID numbers is at: ftp://ftp.ncbi.nih.gov/pub/Malaria/CustomBlast/pvivax_gss_20030410.gi Erythrocytes infected with P. vivax strain Belem were purified from contaminating host leukocytes by filtration of ADP activated blood through acid-washed glass beads and Whatman CF11 cellulose columns by gravity filtration. Purified DNA was digested with mung bean nuclease in the presence of 42.5% formamide at 50C. [50679] EcoRI linkers were added, and the constructs ligated into Lambda ZAP II. Individual clones were excised into phagemid pBluescript, and grown in E. coli XL1-Blue. Sequence Data: Approximately 10,000 of all the clones in this library and in library #30 (see MRA-294) were successfully analyzed by partial DNA sequencing from the 3' end with M13 (-20). These sequences are presented at P. vivax Genome Tag Sequences Clones are numbered according to their plate number and position.
References	Carlton JM, Dame JB . The Plasmodium vivax and P. berghei gene sequence tag projects. Parasitol. Today 16: 409, 2000.PubMed 11006469 Galinski MR, et al. A reticulocyte-binding protein complex of Plasmodium vivax merozoites. Cell 69: 1213-1226, 1992. PubMed 1617731
Propagation	37.0C
Shipped	frozen
Biosafety Level	1
Revised	Dec 21 2008

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-294
Designations	Plasmodium vivax library #30 (glycerol stocks)
Organism	*Plasmodium vivax* (Grassi and Feletti) Labbe
Depositors	J.M. Carlton; J.B. Dame
Classification	Protozoa
Construction	Construct Type: library
Descriptions	This plasmodium vivax genomic DNA library was constructed by Esmeralda Vargas-Serrato, John Barnwell, Mary Galinski and Charles Yowell.
DNA	Genomic

Insert	
Libraries	Range of Insert: 0.5-4.0 kb Human Chromosomes: No
Tissue	P. vivax infected blood
Vector	pBluescript SK+ (phagemid)
Comments	This item is a GSS cloned library deposited with MR4 in a 96-well plate format. MR4 policy is not to reproduce the entire clone set for distribution. **This library encompases Genbank Genome Survey Sequences (GSS) ID numbers 13976205 through 13989904** Users (requesters) must go to P. vivax Genome Tag Sequences to identify individual clones and provide these clone positions to MR4 for production and distribution. The complete list of NCBI Genbank GSS ID numbers is at: ftp://ftp.ncbi.nih.gov/pub/Malaria/CustomBlast/pvivax_gss_20030410.gi Host leukocytes were extracted from P. vivax Sal I infected blood using the following methods. First, infected blood was activated by the addition of 0.5 ml of ADP (40 mg/ml) per 10 ml blood. Then, blood was passed ever a column of acid washed 0.1 mm class beads, then through a plasmodiour filter followed by passage through a column of pre-wet Whatman CF11 powder (1:2 volume of blood to CF11). Finally, the blood was centrifuged through a 50% Percoll density cushion. Purified DNA was digested with mung bean nuclease in the presence of 44% formamide at 50C. Digested DNA was end-blunted with dATP, and size fractionated over a Sepharose column. Fractions in the size range 500 bp to 4 kb were ligated into the EcoRV site of pBluescript SK(+), and E. coli XL-10 Gold were transfomed with the ligation mix. Sequence Data: Approximately 10,000 of all the clones in this library and in library #16 (see MRA-292) were successfully analyzed by partial DNA sequencing from the 3' end with M13 (-20). These sequences are presented at P. vivax Genome Tag Sequences Clones are numbered according to their plate number and position.
References	Carlton JM, Dame JB . The Plasmodium vivax and P. berghei gene sequence tag projects. Parasitol. Today 16: 409, 2000.PubMed 11006469
Propagation	Preferred: 37.0C
Shipped	frozen
Biosafety Level	1
Revised	Dec 21 2008

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-295
Designations	Plasmodium vivax library #30 (minipreps)
Organism	*Plasmodium vivax* (Grassi and Feletti) Labbe
Depositors	J.M. Carlton; J.B. Dame
Classification	Protozoa
Construction	Construct Type: library
Descriptions	This plasmodium vivax genomic DNA library was constructed by Esmeralda Vargas-Serrato, John Barnwell, Mary Galinski and Charles Yowell. Qiagen QIAprep 96 Turbo Miniprep preparation in 10 mM Tris-CI, pH 8.5.
DNA	Genomic
Insert	
Libraries	Range of Insert: 0.5-4.0 kb Human Chromosomes: No
Tissue	P. vivax infected blood
Vector	pBluescript SK+ (phagemid)
Comments	This item is a GSS cloned library deposited with MR4 in a 96-well plate format. MR4 policy is not to reproduce the entire clone set for distribution. **This library encompases Genbank Genome Survey Sequences (GSS) ID numbers 13976205 through 13989904** Users (requesters) must go to P. vivax Genome Tag Sequences to identify individual clones and provide these clone positions to MR4 for production and distribution. The complete list of NCBI Genbank GSS ID numbers is at: ftp://ftp.ncbi.nih.gov/pub/Malaria/CustomBlast/pvivax_gss_20030410.gi Host leukocytes were extracted from P. vivax Sal I infected blood using the following methods. First, infected blood was activated by the addition of 0.5 ml of ADP (40 mg/ml) per 10 ml blood. Then, blood was passed ever a column of acid washed 0.1 mm class beads, then through a plasmodiour filter followed by passage through a column of pre-wet Whatman CF11 powder (1:2 volume of blood to CF11). Finally, the blood was centrifuged through a 50% Percoll density cushion. Purified DNA was digested with mung bean nuclease in the presence of 44% formamide at 50C. Digested DNA was end-blunted with dATP, and size fractionated over a Sepharose column. Fractions in the size range 500 bp to 4 kb were ligated into the EcoRV site of pBluescript SK(+), and E. coli XL-10 Gold were transfomed with the ligation mix. Sequence Data: Approximately 10,000 of all the clones in this library and in library #16 (see MRA-292) were successfully analyzed by partial DNA sequencing from the 3' end with M13 (-20). Clones are numbered according to their plate number and position.
References	Carlton JM, Dame JB . The Plasmodium vivax and P. berghei gene sequence tag projects. Parasitol. Today 16: 409, 2000.PubMed 11006469
Propagation	
Shipped	frozen
Biosafety Level	1
Revised	Dec 21 2004

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-401
Designations	P. falciparum XPFn ESTs
Organism	*Plasmodium falciparum* Welch
Depositors	J. Watanabe
Depositor Statement	Users (requesters) must go to Full Malaria to identify individual clones and provide these clone identification to MR4 for production and distribution.
Classification	Protozoa
Construction	Construct Type: library
DNA	cDNA
Libraries	Description: full length enrtiched cDNA library
Vector	pME18S-FL3 (phagemid)
Comments	This item is an EST cloned library deposited with MR4. MR4 policy is not to reproduce the entire clone set for distribution. For sequence data and information of clones, please link to Malaria Full-Length cDNA Database.. A request for more than 49 clones will require permission from the depositor before the request can be processed.
References	Watanabe J, et al. FULL-malaria: a database for a full-length enriched cDNA library from human malaria parasite, Plasmodium falciparum.. Nucleic Acids Res. 29(1): 70-71, 2001.PubMed 11125052
Shipped	freeze-dried
Biosafety Level	1
Revised	Oct 18 2004

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-449 / MRA-450
Designations	Plasmodium yoelii yoelii 17XL cDNA library PyBS clones (glycerol stocks)
Organism	*Plasmodium yoelii yoelii* Landau and Killick-Kendrick
Depositors	J.M. Carlton
Depositor Statement	To search for clone IDs from this library, go to The P. yoelii PyGI search page of the Gene Index Project. P. yoelii EST clones in this library have Genbank ID numbers beginning with BM, a Genbank definition that includes "PyBS Plasmodium yoelii yoelii cDNA clone:" in the name, an accession date of 04-Dec-2001, sequenced at TIGR with reference to Jane Carlton. Note that other P.yoelii cDNA clone accessions listed in this database are not from the MRA-449 and MRA-450 sequenced clone library and are not available at MR4.
Construction	Construct Type: library Total length: 9.100
DNA	cDNA
Insert	XhoI EcoRI
Libraries	Amplified by Depositor: 1 Range of Insert: 0.7 - 2.2 kb Independent Recombinants: 20000 Description: BALB/cByJ mice were infected with a uniform inoculum of Py17XL parasites. When parasitemias reached 20 to 25%, blood was collected from the infected animals. Leukocytes were removed by passage over columns of microcrystalline cellulose. Total RNA was isolated using the guanidinium isothiocyanate method (Qiagen total RNA isolation kit), and mRNA was isolated using oligo(dT)-cellulose chromatography. First strand DNA synthesis was completed using a 50-base primer (5'-GAGAGAGAGAGAGAGAGAGAACTAGTCTCGAGTTTTTTTTTTTTTTTTTT-3', note XhoI site) and reverse transcriptase in the presence of 5-methyl-dCMP. After second strand synthesis, the uneven termini were treated with Pfu DNA polymerase and EcoRI adaptors ligated to the blunt ends (5'-AATTCGGCACGAG-5', 3'-GCCGTGCTC-3'). The sample was cleaved with XhoI and separated on a Sephacryl-S-500 column. The size-fractionated cDNA was precipitated and ligated to HybriZAP arms (directionally using EcoRI-XhoI cleaved arms). After packaging, the phagemid vector (pAD-GAL4 was excised from HybriZAP vector, and the plasmid DNA isolated. Individual clones were sequenced using the primer 5'-TACCACTACAATGGATGATG-3' located 76 bp 5' of the EcoRI site.
Sources	Developmental Stage: mixed
Vector	pAD-GAL4 (phagemid)
Shipped	frozen
Biosafety Level	1
Revised	Feb 12 2007

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-451
Designations	A.Gam10.1m
Organism	*Anopheles gambiae* Giles
Depositors	R.A. Holt
Depositor Statement	This item is a sequenced clone library. MR4 does not reproduce the entire clone set for distribution. Individual clone IDs from the A.Gam10.1m library must be provided to MR4 for clone production and distribution. Clone data is in the NCBI trace archive: http://www.ncbi.nlm.nih.gov/Traces/trace.cgi?
Construction	Construct Type: library
Descriptions	The name 10.1M refers to 10 kb plasmid made from male A. gambiae genomic DNA.
DNA	Genomic
Insert	BstXI BstXI
Libraries	Range of Insert: 10 kb Vector Ends 3': BstXI Vector Ends 5': BstXI
Sources	Gender: male
Vector	pBR194c (plasmid)
References	Holt RA, et al. The genome sequence of the malaria mosquito Anopheles gambiae. Science 298: 129-149, 2002.PubMed 12364791
Propagation	LB Medium with 50 ug/ml ampicillin
Shipped	freeze-dried
Biosafety Level	1
Revised	Oct 10 2006

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-465
Designations	A.Gam10.1f
Organism	*Anopheles gambiae* Giles
Depositors	R.A. Holt
Depositor Statement	This item is a sequenced clone library. MR4 does not reproduce the entire clone set for distribution. Individual clone IDs from the A.Gam10.1f library must be provided to MR4 for clone production and distribution. Clone data is in the NCBI trace archive: http://www.ncbi.nlm.nih.gov/Traces/trace.cgi?
Descriptions	The name 10.1F refers to 10 kb plasmid made from female A. gambiae genomic DNA.
DNA	Genomic
Insert	BstXI BstXI
Libraries	Range of Insert: 10 kb Vector Ends 3': BstXI Vector Ends 5': BstXI
Sources	Developmental Stage: adult Gender: female
Vector	pBR194c (plasmid)
References	Holt RA, et al. The genome sequence of the malaria mosquito Anopheles gambiae. Science 298: 129-149, 2002.PubMed 12364791
Propagation	LB Medium with 50 ug/ml ampicillin
Shipped	freeze-dried
Biosafety Level	1
Revised	Oct 10 2006

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-466
Designations	A.Gam10.2f
Organism	*Anopheles gambiae* Giles
Depositors	R.A. Holt
Depositor Statement	This item is a sequenced clone library. MR4 does not reproduce the entire clone set for distribution. Individual clone IDs from the A.Gam10.1f library must be provided to MR4 for clone production and distribution. Clone data is in the NCBI trace archive: http://www.ncbi.nlm.nih.gov/Traces/trace.cgi?
Construction	Construct Type: library
Descriptions	The name 10.2F refers to the 10 kb plasmid made from female A. gambiae genomic DNA.
DNA	Genomic
Libraries	Range of Insert: 15.0 kb Vector Ends 3': BstXI Vector Ends 5': BstXI
Sources	Developmental Stage: adult Gender: female
Vector	pBR194c (plasmid)
References	Holt RA, et al. The genome sequence of the malaria mosquito Anopheles gambiae. Science 298: 129-149, 2002.PubMed 12364791
Propagation	LB Medium with 50 ug/ml ampicillin
Shipped	freeze-dried
Biosafety Level	1
Revised	Oct 10 2006

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-467
Designations	A.Gam.ad.cDNA1
Organism	*Anopheles gambiae* Giles
Depositors	R.A. Holt
Depositor Statement	This item is a sequenced clone library. MR4 does not reproduce the entire clone set for distribution. Individual clone numbers from A. gambiae EST sequences at NCBI for cDNA1 library clones must be provided. A full list can be found with the NCBI nucleotide search: (txid7165[orgn] AND gbdiv_est[prop]) cDNA1
Construction	Construct Type: library
Descriptions	The name cDNA1 refers to the cDNA from the library made from sugar fed mosquitoes.
DNA	cDNA
Libraries	Range of Insert: 12.0 kb Vector Ends 3': NotI Vector Ends 5': SalI
Sources	Developmental Stage: adult
Vector	pSPORT1 (plasmid)
References	Holt RA, et al. The genome sequence of the malaria mosquito Anopheles gambiae. Science 298: 129-149, 2002.PubMed 12364791
Propagation	LB Medium with 50 ug/ml ampicillin
Shipped	freeze-dried
Biosafety Level	1
Revised	Oct 10 2006

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-468
Designations	A.Gam.ad.cDNA.blood1
Organism	*Anopheles gambiae* Giles
Depositors	R.A. Holt
Depositor Statement	This item is a sequenced clone library. MR4 does not reproduce the entire clone set for distribution. Individual clone numbers from A. gambiae EST sequences at NCBI for Blood1 library clones must be provided. A full list can be found with the NCBI nucleotide search: (txid7165[orgn] AND gbdiv_est[prop]) blood1
Construction	Construct Type: library
Descriptions	The name blood1 refers to the cDNA library made from blood fed mosquitoes.
DNA	cDNA
Libraries	Range of Insert: 12.0 kb Vector Ends 3': NotI Vector Ends 5': SalI
Sources	Developmental Stage: adult
Vector	pSPORT1 (plasmid)
References	Holt RA, et al. The genome sequence of the malaria mosquito Anopheles gambiae. Science 298: 129-149, 2002.PubMed 12364791
Propagation	LB Medium with 50 ug/ml ampicillin
Shipped	freeze-dried
Biosafety Level	1
Revised	Oct 10 2006

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-469
Designations	A.GamMop10.1
Organism	*Anopheles gambiae* Giles
Depositors	R.A. Holt
Depositor Statement	This item is a sequenced clone library. MR4 does not reproduce the entire clone set for distribution. Individual clone IDs from the A.GamMop10.1 library must be provided to MR4 for clone production and distribution. Clone data is in the NCBI trace archive: http://www.ncbi.nlm.nih.gov/Traces/trace.cgi?
Construction	Construct Type: library
DNA	Genomic
Libraries	Range of Insert: 10.0 kb Vector Ends 3': BstXI Vector Ends 5': BstXI
Sources	Developmental Stage: adult
Vector	pBR194c (plasmid)
Propagation	LB Medium with 50 ug/ml ampicillin
Shipped	freeze-dried
Biosafety Level	1
Revised	Oct 10 2006

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-470
Designations	A.GamMop14.1
Organism	*Anopheles gambiae* Giles
Depositors	R.A. Holt
Depositor Statement	This item is a sequenced clone library. MR4 does not reproduce the entire clone set for distribution. Individual clone IDs from the A.GamMop14.1 library must be provided to MR4 for clone production and distribution. Clone data is in the NCBI trace archive: http://www.ncbi.nlm.nih.gov/Traces/trace.cgi?
Construction	Construct Type: library
DNA	Genomic
Libraries	Range of Insert: 14.0 kb Vector Ends 3': BstXI Vector Ends 5': BstXI
Sources	Developmental Stage: adult
Vector	pBR194c (plasmid)
Propagation	LB Medium with 50 ug/ml ampicillin
Shipped	freeze-dried
Biosafety Level	1
Revised	Oct 10 2006

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-509
Designations	P vivax BE cDNA library
Organism	*Plasmodium vivax* (Grassi and Feletti) Labbe
Depositors	H.A. del Portillo
Classification	Protozoa
Construction	Construct Type: library
DNA	cDNA
Insert	Complete
Isolation	Source: blood - human Isolation Method: directional Year: 1996 Country: Brazil
Libraries	Digest: complete Range of Insert: 0.2 - 0.6 kb Independent Recombinants: 1200
Sources	Isolating Organism: 563
Vector	pBS (plasmid)
Comments	This item is a cloned library deposited with MR4 in a 96-well plate format. MR4 policy is not to distribute the entire clone set for distribution. Users should go to Plasmodium vivax ESTS to identify individual clones and provide these clone identification to MR4 for production and distribution.
References	Holt RA, et al. The genome sequence of the malaria mosquito Anopheles gambiae. Science 298: 129-149, 2002.PubMed 12364791
Propagation	LB Medium with 50 ug/ml ampicillin
Publications Citing This Reagent	12914668: Merino E, et al. Pilot survey of expressed sequence tags (ESTs) from the asexual blood stages of Plasmodium vivax in human patients. Malaria Journal. 2(1): 21, 2003
Shipped	freeze-dried
Biosafety Level	1
Revised	Oct 18 2004

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-603
Designations	Anopheles gambiae genomic BAC library ND-TAM
Organism	*Anopheles gambiae* Giles
Depositors	M.J. Gardner; F.H. Collins
Depositor Statement	The BAC library name for MRA-603 is ND-TAM. This item is a cloned library. MR4 does not reproduce the entire clone set for distribution. To order clones from this library, the user must provide the TIGR database clone accession number (beginning with AG) or the Genbank #, the plate number, row and column (e.g., 127N17). Sequence information may also be acquired through AnoBase and ENSEMBL.
Construction	Insert length (kb): 133.000 Construct Type: library
DNA	Genomic
Insert	Range of Insert: 55-275 kb
Libraries	Vector Ends 3': HindIII Vector Ends 5': HindIII
Sources	Developmental Stage: larva Isolating Organism: 5359
Tissue	whole organism
Vector	pECBAC1 (BAC)
References	Hong YS, et al. Construction of a BAC library and generation of BAC end sequence-tagged connectors for genome.. Mol. Gen. Genet. 268: 720-728, 2003.PubMed 12655398
Propagation	LB Medium with chloramphenicol 12.5 mcg/ml
Shipped	frozen
Biosafety Level	1
Revised	Mar 9 2005

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-604
Designations	ND-1 Anopheles gambiae BAC library [ND-1]
Organism	*Anopheles gambiae* Giles
Depositors	F.H. Collins; C. Roth
Depositor Statement	The BAC library name for MRA-604 is ND1 (Notre Dame 1). This item is a cloned library. MR4 does not reproduce the entire clone set for distribution. To order clones from this library, the user must provide the Genbank # and clone number (e.g., 07G04), which provides the plate (7), row (G) and column (4) numbers for the clone. Sequence information may also be acquired through AnoBase and ENSEMBL.
Construction	Construct Type: library
DNA	Genomic
Insert	Range of Insert: 100 kb
Libraries	Digest: complete Independent Recombinants: 12288 Non Recombinant: 2 Vector Ends 3': HindIII Vector Ends 5': HindIII
Vector	pBeloBACII (BAC)
Propagation	LB Medium with chloramphenicol 12.5 ug/ml
Shipped	frozen
Biosafety Level	1
Revised	Jun 15 2006

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-760
Designations	Plasmodium vivax cDNA EST Library
Organism	*Plasmodium vivax* (Grassi and Feletti) Labbe
Depositors	J.M. Carlton
Depositor Statement	This item is a sequenced EST cDNA clone library. MR4 does NOT reproduce the entire clone set for distribution. To order clones from this library, the user must provide the Genbank or TIGR database clone accession number. The EST sequences can be accessed in two ways: 1. By searching the dbEST division of GenBank (accession numbers: CV632848-CV649956 and CX018220-CX022542) 2. Through the P. vivax Gene Index page http://compbio.dfci.harvard.edu/tgi/protist.html (accession numbers as above, clone numbers begin with "PVM"). This website provides access to MANY Plasmodium ESTs generated at TIGR, Harvard, Broad and elsewhere, as well as cluster analysis, annotation and identification of possible alternatively spliced transcripts. Funding for this library was provided by NIAID through a subcontract from the Structural Genomics of Pathogenic Protozoa consortium, and we are indebted to Wim Hol and Wesley van Vooris for facilitating this.
Classification	Protozoa
Construction	Construct Type: library
DNA	cDNA
Isolation	Year: 2004
Libraries	Vector Ends 3': SfiI (directional) Vector Ends 5': SfiI (directional)
Vector	pTripIEx2 (plasmid)
References	Cui L, et al. Gene discovery in Plasmodium vivax through sequencing of ESTs from mixed blood stages. Mol. Biochem. Parasitol. 144: 1-9, 2005.PubMed 16085323
Shipped	freeze-dried
Biosafety Level	1
Revised	Aug 21 2006

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-766
Designations	Anopheles gambiae cDNA library AgFL-1
Organism	*Anopheles gambiae* Giles
Depositors	C.W. Roth
Depositor Statement	This is a sequenced clone library. THE LIBRARY IS NOT DISTRIBUTED AS A WHOLE. Only individual clones will be amplified for distribution upon request. Requestors must provide clone number information. Sequence data and information linking plate well number to cDNA sequence and clone name may be obtained through EMBL from the Institut Pasteur.
Construction	Construct Type: library Total length: 1.300
DNA	cDNA
Insert	XhoI XhoI
Libraries	Vector Ends 3': DraIII Vector Ends 5': DraIII
Vector	pME18S-FL3 (phagemid)
References	Gomez SM, et al. Pilot Anopheles gambiae full-length cDNA study: sequencing and initial characterization of 35,575 clones. Genome Biol. 6: R39, 2005.PubMed 15833126
Shipped	frozen
Biosafety Level	1
Revised	Nov 16 2005

SEQUENCED CLONE LIBRARIES	
ATCC Number	MRA-840
Designations	PVA1 genomic library Plasmodium vivax Salvador I
Organism	*Plasmodium vivax* (Grassi and Feletti) Labbe
Depositor Statement	Sequenced P. vivax Salvador I genomic clone library. Only individual clones will be amplified and distributed upon request. Clone sequences may be searched through TIGR at http://www.TIGR.org/tdb/e2k1/pva1/pva1.shtml
Classification	Protozoa
Construction	Construct Type: vector Total length: 3.569
Vector	pHOS2 (plasmid)
References	Carlton J, et al. The Plasmodium vivax genome sequencing project. Trends Parasitol. 19: 227-31, 2003.PubMed 12763429
Propagation	LB Medium with 50 ug/ml ampicillin
Shipped	frozen
Biosafety Level	1
Revised	Sep 28 2006