SUPPLEMENTARY INFORMATION

ViannaTopes: a database of predicted immunogenic peptides for *Leishmania* (*Viannia*) species

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Figure S1. Frequency of the selected MHC alleles in the target geographical region.

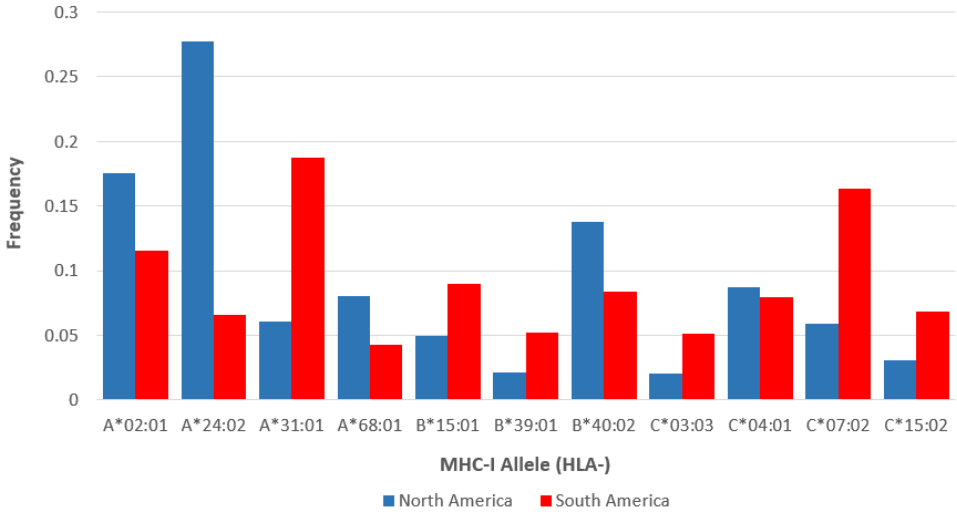
Figure S2. Venn diagrams showing the distribution of epitope predictions by MHC class, method and selection scheme.

Table S1. Genes in potentially *Viannia*-specific ortholog groups.

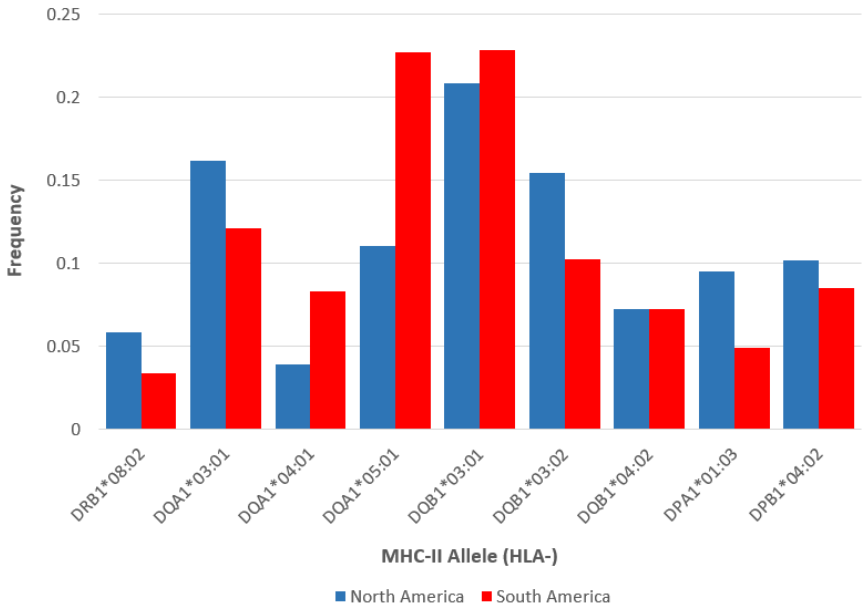
Table S2. Potentially promiscuous peptides predicted to act as MHC-I and MHC-II epitopes derived from proteins within Viannia-specific ortholog groups.

Table S3. Peptides from previously published studies applying reverse vaccinology strategy to pathogenic *Leishmania* species, used in the validation of our prediction methodology.

Table S4. Peptides with positive experimental results in IEDB, reported in studies exclusively conducted on *L. braziliensis* or *L. panamensis*.



(A)



(B)

Figure S1. Frequency of the selected MHC alleles in the target geographical region. Figure shows the frequency of MHC-I **(A)** and MHC-II **(B)** alleles in the dbMHC database for North and South American populations.

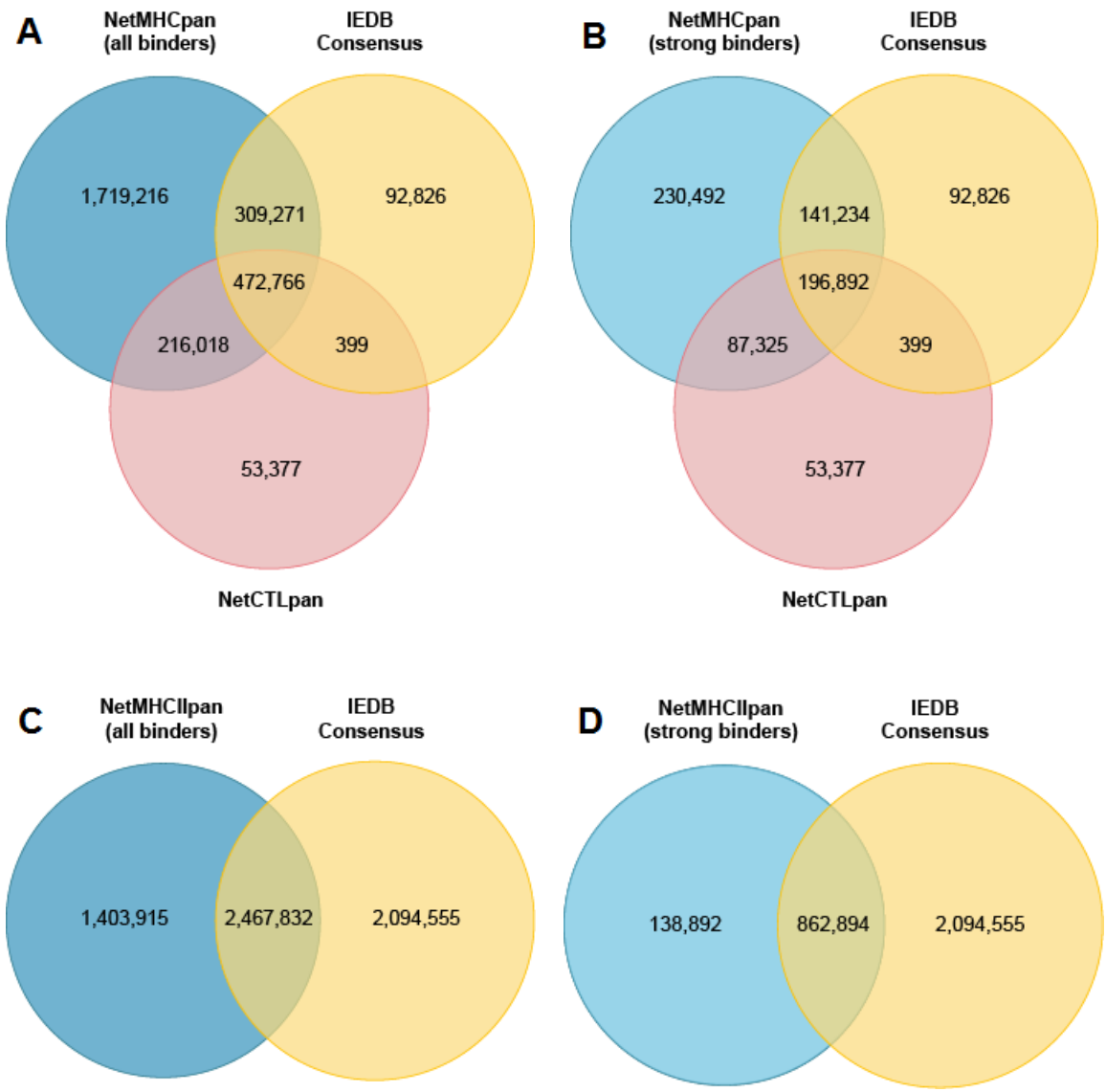


Figure S2. Venn diagrams showing the distribution of epitope predictions by MHC class, method and selection scheme. Figures show all the MHC-I binding predictions **(A)** and those with strong binders **(B)**, as well as all the MHC-II binding predictions **(C)** and those with strong binders **(D)**.

Table S1. Genes in potentially *Viannia*-specific ortholog groups.

Group ID	Putative function	Genes	Gene IDs
VIANNIA_0058	hypothetical protein	13	LBRM2903_070016100.1 LBRM2903_070016200.1 LBRM2903_250008700.1 LBRM2903_270035000.1 LBRM2903_290010400.1 LBRM2903_350047900.1 LBRM2903_350048000.1 LPAL13_000010400.1 LPAL13_000038200.1 LPAL13_000041600.1 LPAL13_010009100.1 LPAL13_070014100.1 LPAL13_290009500.1
VIANNIA_0471	amastin-like protein	7	LBRM2903_200018900.1 LBRM2903_200019000.1 LPAL13_200016200.1 LPAL13_200030900.1 LPAL13_200050300.1 LpmP.20.1620 LpmP.20.1640
VIANNIA_0472	beta-tubulin	6	LbrM.33.1010 LBRM2903_330013900.1 LBRM2903_330014000.1 LPAL13_000036800.1 LPAL13_210025500.1 LPAL13_330013200.1
VIANNIA_0765	phosphoglycan beta 1,3 galactosyltransferase	6	LbrM.02.0240 LBRM2903_020007400.1 LBRM2903_320048000.1 LPAL13_020006600.1 LPAL13_020007000.1 LpmP.02.0140
VIANNIA_0766	hypothetical protein	6	LbrM.25.0540 LBRM2903_150010200.1 LBRM2903_250014200.1 LPAL13_000040000.1 LPAL13_250012800.1 LpmP.25.0720
VIANNIA_0767	hypothetical protein	6	LbrM.31.2370 LBRM2903_230023600.1 LBRM2903_310033200.1 LPAL13_230021800.1 LPAL13_310026500.1 LpmP.31.1960
VIANNIA_0768	hypothetical protein	6	LbrM.32.0080 LBRM2903_200006800.1 LBRM2903_200034200.1 LBRM2903_320016700.1 LPAL13_000026400.1 LPAL13_200030500.1
VIANNIA_0769	ABC transporter, putative	5	LbrM.33.1550 LBRM2903_330021200.1 LPAL13_000053800.1 LPAL13_010008000.1 LPAL13_330019400.1

VIANNIA_0770	hypothetical protein	5	LBRM2903_310035700.1 LBRM2903_310035800.1 LPAL13_310028900.1 LPAL13_310029000.1 LpmP.31.2180
VIANNIA_1594	unspecified product	5	LbrM.23.0770 LBRM2903_230016400.1 LBRM2903_230016500.1 LPAL13_110009000.1 LPAL13_110009100.1
VIANNIA_1595	beta tubulin-like protein	5	LBRM2903_010014400.1 LBRM2903_010014500.1 LPAL13_000027000.1 LPAL13_010012500.1 LpmP.01.0810
VIANNIA_1596	cysteine peptidase, Clan CA, family C2, putative	4	LbrM.20.5390 LBRM2903_200068700.1 LBRM2903_200068800.1 LPAL13_200060400.1
VIANNIA_1597	amastin-like surface protein-like protein	4	LbrM.24.1280 LBRM2903_240018900.1 LPAL13_240018700.1 LPAL13_330042500.1
VIANNIA_1598	alpha tubulin	4	LbrM.29.2700 LBRM2903_130007300.1 LBRM2903_130007400.1 LBRM2903_290035900.1
VIANNIA_7163	hypothetical protein	4	LbrM.06.1180 LBRM2903_060019200.1 LPAL13_060018200.1 LpmP.06.1180
VIANNIA_7164	amastin-like protein	4	LbrM.08.0680 LBRM2903_290021100.1 LPAL13_080010300.1 LpmP.29.1390
VIANNIA_7165	hypothetical protein	4	LbrM.11.1130 LBRM2903_110019600.1 LPAL13_110017700.1 LpmP.11.1320
VIANNIA_7166	hypothetical protein	4	LBRM2903_130014200.1 LBRM2903_130014300.1 LPAL13_100012100.1 LPAL13_130013500.1
VIANNIA_7167	Carboxypeptidase Taq (M32) metallopeptidase, putative	4	LBRM2903_140006700.1 LBRM2903_140006800.1 LPAL13_140006600.1 LPAL13_140006700.1
VIANNIA_7168	hypothetical protein, conserved	4	LbrM.16.1060 LBRM2903_160017700.1 LPAL13_160014500.1 LpmP.16.0990
VIANNIA_7169	hypothetical protein	4	LbrM.20.3580 LBRM2903_200050000.1 LPAL13_200043300.1 LpmP.20.3720
VIANNIA_7170	hypothetical protein	4	LbrM.20.5420 LBRM2903_200069100.1 LPAL13_200060800.1 LpmP.20.5390
VIANNIA_7171	hypothetical protein	4	LbrM.22.1470 LBRM2903_220021500.1 LPAL13_220018200.1 LpmP.22.1460

VIANNIA_7172	hypothetical protein	4	LbrM.26.0010 LBRM2903_260005000.1 LPAL13_260005000.1 LpmP.26.0010
VIANNIA_7173	glutathione peroxidase-like protein, putative	4	LbrM.26.0810 LBRM2903_260012900.1 LPAL13_260012600.1 LpmP.26.0780
VIANNIA_7174	histone H1-like protein	4	LbrM.27.1740 LBRM2903_270023100.1 LPAL13_270023200.1 LpmP.27.1600
VIANNIA_7175	hypothetical protein	4	LBRM2903_290019800.1 LBRM2903_290019900.1 LPAL13_290017200.1 LPAL13_290017300.1
VIANNIA_7176	hypothetical protein	4	LbrM.30.0010 LBRM2903_300005100.1 LPAL13_300005100.1 LpmP.30.0010
VIANNIA_7177	multidrug resistance protein, copy 1-like protein	4	LbrM.31.1520 LBRM2903_310017900.1 LPAL13_310013600.1 LpmP.31.1210
VIANNIA_7178	beta-galactofuranosyltransferase-like protein	4	LbrM.33.0310 LBRM2903_330008000.1 LPAL13_330008000.1 LpmP.33.0350
VIANNIA_7179	hypothetical protein, conserved	4	LbrM.33.1340 LBRM2903_330018400.1 LPAL13_330017000.1 LpmP.33.1190
VIANNIA_7180	hypothetical protein	4	LbrM.33.3180 LBRM2903_330039700.1 LPAL13_330038000.1 LpmP.33.3020
VIANNIA_7181	hypothetical protein	4	LbrM.34.2010 LBRM2903_340027000.1 LPAL13_340025400.1 LpmP.34.1930
VIANNIA_7182	hypothetical protein	4	LBRM2903_350077300.1 LBRM2903_350077400.1 LPAL13_350072700.1 LPAL13_350072800.1
VIANNIA_7183	hypothetical protein, conserved	3	LBRM2903_040011800.1 LBRM2903_040012100.1 LPAL13_040012200.1
VIANNIA_7184	hypothetical protein	3	LBRM2903_080014100.1 LBRM2903_080014200.1 LPAL13_000034300.1
VIANNIA_7185	GP63, leishmanolysin (LbrM.10.1540.1)	3	LbrM.10.1540 LBRM2903_000009300.1 LBRM2903_000009400.1
VIANNIA_7186	hypothetical protein	3	LbrM.23.0550 LBRM2903_230011600.1 LPAL13_230011200.1
VIANNIA_7187	heat-shock protein hsp70, putative	3	LbrM.28.2970 LBRM2903_280037200.1 LPAL13_110015300.1
VIANNIA_7188	hypothetical protein, conserved	3	LbrM.31.2340 LBRM2903_310032500.1 LPAL13_310026000.1

VIANNIA_7189	d-xylulose reductase, putative	3	LbrM.33.0510 LBRM2903_330010300.1 LBRM2903_330010400.1
VIANNIA_7190	hypothetical protein, conserved	3	LbrM.34.3390 LBRM2903_340042700.1 LBRM2903_350032900.1
VIANNIA_7191	hypothetical protein	3	LBRM2903_350079000.1 LPAL13_350074300.1 LpmP.11.0520
VIANNIA_7192	hypothetical protein	3	LBRM2903_200075300.1 LPAL13_200066500.1 LpmP.12.1040
VIANNIA_7193	hypothetical protein	3	LBRM2903_130019300.1 LPAL13_130018500.1 LpmP.13.1380
VIANNIA_7194	hypothetical protein	3	LBRM2903_140010900.1 LPAL13_140010700.1 LpmP.14.0550
VIANNIA_7195	hypothetical protein	3	LBRM2903_200012200.1 LPAL13_200010500.1 LpmP.20.0630
VIANNIA_7196	hypothetical protein	3	LBRM2903_320034800.1 LPAL13_320032600.1 LpmP.32.2640
VIANNIA_7197	hypothetical protein	3	LBRM2903_330043500.1 LPAL13_330041700.1 LpmP.33.3330
VIANNIA_7326	hypothetical protein, conserved	3	LbrM.04.0590 LBRM2903_040011000.1 LPAL13_040011300.1
VIANNIA_7327	ubiquitin-fusion protein	3	LbrM.09.0640 LBRM2903_090015000.1 LPAL13_000026200.1
VIANNIA_7328	aminopeptidase, putative	3	LbrM.11.0400 LBRM2903_110008800.1 LpmP.11.0640
VIANNIA_7329	hypothetical protein, conserved	3	LbrM.21.2130 LBRM2903_080018200.1 LpmP.08.1070
VIANNIA_7330	hypothetical protein	3	LbrM.22.1380 LBRM2903_220020400.1 LpmP.22.1370
VIANNIA_7331	hypothetical protein	3	LBRM2903_240022000.1 LPAL13_240019900.1 LPAL13_240020000.1
VIANNIA_7332	hypothetical protein	3	LbrM.25.0570 LBRM2903_250014800.1 LPAL13_250013400.1
VIANNIA_7333	ABC transporter, putative	3	LbrM.27.1060 LBRM2903_270016500.1 LPAL13_270016800.1
VIANNIA_7334	hypothetical protein	3	LbrM.31.0200 LBRM2903_310006200.1 LpmP.29.1810
VIANNIA_7335	hypothetical protein, conserved	3	LbrM.31.1000 LBRM2903_310017300.1 LpmP.31.0810
VIANNIA_7336	hypothetical protein	3	LbrM.34.1660 LBRM2903_340022900.1 LpmP.34.1600

VIANNIA_7337	hypothetical protein, conserved	3	LBRM2903_340045900.1 LPAL13_340042700.1 LPAL13_340042800.1
VIANNIA_7338	BT1 family, putative	3	LBRM2903_340061500.1 LPAL13_320009700.1 LPAL13_340057800.1
VIANNIA_7339	phosphoglycan beta 1,3 galactosyltransferase-like protein	2	LbrM.02.0790 LBRM2903_020007500.1
VIANNIA_7340	BT1 family, putative	2	LBRM2903_040005200.1 LBRM2903_040005300.1
VIANNIA_7341	ATP synthase F1, alpha subunit, putative (fragment)	2	LbrM.05.0510 LBRM2903_050010300.1
VIANNIA_7342	hypothetical protein, conserved	2	LBRM2903_080013900.1 LPAL13_080010400.1
VIANNIA_7343	hypothetical protein, conserved	2	LBRM2903_110009300.1 LBRM2903_110009400.1
VIANNIA_7344	protein associated with differentiation 8, putative	2	LbrM.13.1550 LBRM2903_130021700.1
VIANNIA_7345	P-type H+ATPase, putative	2	LbrM.18.1730 LBRM2903_000009600.1
VIANNIA_7346	hypothetical protein, unknown function	2	LbrM.19.1900 LBRM2903_190026200.1
VIANNIA_7347	hypothetical protein, unknown function	2	LbrM.19.1920 LPAL13_040012000.1
VIANNIA_7348	amastin-like surface protein, putative	2	LbrM.20.0950 LBRM2903_200016500.1
VIANNIA_7349	pumilio protein 9, putative	2	LbrM.20.5610 LPAL13_200062600.1
VIANNIA_7350	orthologous HASP	2	LbrM.23.1110 LPAL13_230018700.1
VIANNIA_7351	hypothetical protein	2	LbrM.29.2910 LBRM2903_340005400.1
VIANNIA_7352	histone H4	2	LbrM.30.0450 LBRM2903_300009500.1
VIANNIA_7353	sodium stibogluconate resistance protein, putative	2	LbrM.31.1140 LBRM2903_310019100.1
VIANNIA_7354	adenosine deaminase-like protein	2	LbrM.33.0250 LBRM2903_310012500.1
VIANNIA_7355	hypothetical protein, conserved	2	LbrM.35.7400 LPAL13_000009700.1
VIANNIA_7356	E2 ubiquitin ligase-like protein	2	LPAL13_090014900.1 LpmP.09.1010
VIANNIA_7357	hypothetical protein	2	LPAL13_200015200.1 LpmP.20.1070
VIANNIA_7358	hypothetical protein	2	LPAL13_010010400.1 LPAL13_240012600.1
VIANNIA_7359	PIN domain containing protein, putative	2	LBRM2903_310032800.1 LPAL13_310026200.1
VIANNIA_7360	L-ribulokinase, putative	2	LBRM2903_350006400.1 LPAL13_350005200.1
VIANNIA_7456	hypothetical protein	2	LbrM.11.1100 LpmP.11.1290
VIANNIA_7457	surface antigen protein, putative	2	LbrM.12.0760 LpmP.12.0760
VIANNIA_7458	hypothetical protein, conserved	2	LBRM2903_140007800.1 LPAL13_140007700.1
VIANNIA_7459	hypothetical protein	2	LBRM2903_210024400.1 LPAL13_210022700.1
VIANNIA_7460	oxidoreductase-like protein	2	LBRM2903_230012500.1 LPAL13_230012100.1
VIANNIA_7461	adenine phosphoribosyltransferase	2	LbrM.26.0120 LBRM2903_260006200.1

VIANNIA_7462	hypothetical protein, conserved	2	LbrM.28.1800 LpmP.28.1740
VIANNIA_7463	FAD binding domain containing protein, putative	2	LBRM2903_290008500.1 LPAL13_290007900.1
VIANNIA_7464	S1/P1 Nuclease, putative	2	LBRM2903_310035200.1 LPAL13_310028200.1
VIANNIA_7465	hypothetical protein, conserved	2	LBRM2903_310041300.1 LPAL13_310034400.1
VIANNIA_7466	hypothetical protein	2	LbrM.35.6670 LpmP.35.6510

Table S2. Potentially promiscuous peptides predicted to act as MHC-I and MHC-II epitopes derived from proteins within *Viannia*-specific ortholog groups.

Peptide[1]	MHCII Coverage	MHCII Alleles	Overlapping 9-mers	MHCI Coverage	MHCI Alleles	Proteins
VIANNIA_0765 (phosphoglycan beta-1,3-galactosyltransferase)						
AMHAINASAAMLQRA DAMHAINASAAMLQR	4	DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02 DQA1*05:01/DQB1*03:01 DRB1*08:02	MHAINASAA HAINASAAM AINASAAML NASAAMLQR	7	A*68:01 B*15:01 B*39:01 C*03:03 C*04:01 C*07:02 C*15:02	LBRM2903_020007400.1 LPAL13_020007000.1 LbrM.02.0240 LpmP.02.0140
ATYATAIAATRDLVP DTATYATAIAATRDL TATYATAIAATRDLV	4	DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02 DQA1*05:01/DQB1*03:01 DRB1*08:02	ATYATAIAA YATAIAATR TAIAATRDL	4	A*31:01 A*68:01 C*03:03 C*15:02	
VIANNIA_0767 (hypothetical protein)						
NWMSSSIELEAVDVR WMSSSIELEAVDVRK	3	DPA1*03:01/DPB1*04:02 DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02	NWMSSSIEL MSSSIELEA SSSIELEAV ELEAVDVRK	6	A*24:02 A*68:01 B*39:01 C*04:01 C*07:02 C*15:02	LBRM2903_310033200.1 LPAL13_310026500.1 LbrM.31.2370 LpmP.31.1960
VIANNIA_7165 (hypothetical protein)						
EGIGWYGAISVVDVL GIGWYGAISVVDVLI IGWYGAISVVDVLIG	4	DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02 DQA1*05:01/DQB1*03:01 DRB1*08:02	IGWYGAISV YGAISVVDV GAISVVDVL	2	C*03:03 C*15:02	LBRM2903_110019600.1 LPAL13_110017700.1 LbrM.11.1130 LpmP.11.1320
VIANNIA_7170 (hypothetical protein)						
MGDSAVLLEEHTAVL	2	DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02	VLLEEHTAV LLEEHTAVL	6	A*02:01 B*39:01 C*03:03 C*04:01 C*07:02 C*15:02	LBRM2903_200069100.1 LPAL13_200060800.1 LbrM.20.5420 LpmP.20.5390

VIANNIA_7171 (hypothetical protein)						
ATMSEAALVFESTMA MSEAALVFESTMAEG FRTATMSEAALVFES RTATMSEAALVFEST SEAALVFESTMAEGM TMSEAALVFESTMAE	3	DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02 DQA1*05:01/DQB1*03:01	ATMSEAALV TMSEAALVF SEAALVFES AALVFESTM FRTATMSEA TATMSEAAL	9	A*02:01 A*24:02 B*15:01 B*39:01 B*40:02 C*03:03 C*04:01 C*07:02 C*15:02	LBRM2903_220021500.1 LPAL13_220018200.1 LbrM.22.1470 LpmP.22.1460
VIANNIA_7173 (glutathione peroxidase-like protein putative)						
APGASIAEIDVRIEE ARFAPGASIAEIDVR ASIAEIDVRIEELLH FAPGASIAEIDVRIE GASIAEIDVRIEELL PGASIAEIDVRIEEL PYARFAPGASIAEID RFAPGASIAEIDVRI YARFAPGASIAEIDV	3	DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02 DQA1*05:01/DQB1*03:01	SIAEIDVRI ARFAPGASI RFAPGASIA	5	A*02:01 B*39:01 C*04:01 C*07:02 C*15:02	LBRM2903_260012900.1 LPAL13_260012600.1 LbrM.26.0810 LpmP.26.0780
MLDATVATVEDEDLT SMLDATVATVEDEDL SVSMLDATVATVEDE VSMLDATVATVEDED VSVSMLDATVATVED	3	DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02 DQA1*05:01/DQB1*03:01	MLDATVATV SMLDATVAT VSMLDATVA SVSMLDATV	5	A*02:01 B*39:01 C*03:03 C*04:01 C*15:02	
VIANNIA_7176 (hypothetical protein)						
DLAAISVAQERILLQ LAAISVAQERILLQE VDLAAISVAQERILL PVDLAAISVAQERIL	5	DPA1*03:01/DPB1*04:02 DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02 DQA1*05:01/DQB1*03:01 DRB1*08:02	AAISVAQER ISVAQERIL SVAQERILL	4	A*31:01 A*68:01 C*03:03 C*15:02	LBRM2903_300005100.1 LPAL13_300005100.1 LbrM.30.0010 LpmP.30.0010
GLLWSYASVVFDSSL LLWSYASVVFDSSLV LWSYASVVFDSSLVF RGLLWSYASVVFDSS	5	DPA1*03:01/DPB1*04:02 DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02 DQA1*05:01/DQB1*03:01 DRB1*08:02	GLLWSYASV LLWSYASVV LWSYASVVF ASVVFDSSL SVVFDSSLV VVFDSSLVF	7	A*02:01 A*24:02 B*15:01 C*03:03 C*04:01 C*07:02 C*15:02	

VIANNIA_7180 (hypothetical protein)						
EDQVVAFPQEQPTCL	2	DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02	FPQEQPTCL	3	B*39:01 C*03:03 C*04:01	LBRM2903_330039700.1 LPAL13_330038000.1 LbrM.33.3180 LpmP.33.3020
VIANNIA_7181 (hypothetical protein)						
GVEEIALWLEVYQAV RGVEEIALWLEVYQA	3	DPA1*03:01/DPB1*04:02 DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02	EEIALWLEV ALWLEVYQA LWLEVYQAV	3	A*02:01 A*24:02 B*40:02	LbrM.34.2010 LBRM2903_340027000.1 LPAL13_340025400.1 LpmP.34.1930
LRGVEEIALWLEVYQ SLRGVEEIALWLEVY	3	DPA1*03:01/DPB1*04:02 DQA1*03:01/DQB1*03:02 DQA1*04:01/DQB1*04:02	LRGVEEIAL EEIALWLEV	2	B*39:01 B*40:02	

[1] Region of the sequence that is covered by overlapping 9-mers is colored in blue.

Table S3. Peptides from previously published studies applying reverse vaccinology strategy to pathogenic *Leishmania* species, used in the validation of our prediction methodology.

Predicted peptides	Viannia genomes	Viannia Topes	IEDB	IEDB matches	IEDB reported assays[1]
Singh et al., 2015 (*L. major*)					
SLWSLLAGV	N	N	N		
ALYTSIPVR	N	N	N		
GYPNINTYL	N	N	N		
YLLDGDQLI	N	N	N		
LYLLLPFLL	N	N	N		
GYIVVDKYF	N	N	N		
VLVGVVLGV	N	N	N		
TLFPIDVTV	N	N	N		
SFDDYTMVL	N	N	N		
VSAQTIDDY	N	N	N		
SPTPLLAAL	N	N	N		
LMAAMLVAV	N	N	N		
FLFSPTDTL	N	N	N		
HVARQLASY	N	N	N		
MLPDMTCSL	Y	Y	N		
LFLLVIYAF	N	N	N		
LFGAFLFAF	N	N	N		
AYFVVPLEM	Y	Y	N		
KHLLMAAML	N	N	N		
IHPERTVAL	Y	Y	N		
LPRLFLAFL	N	N	N		
TPRIPLDSL	N	N	N		
LVHAGIAGK	N	N	N		
AHAPQNAAL	N	N	N		
APNYYLTPL	N	N	N		
SVVDPMQNY	N	N	N		
AMKDPYTNY	N	N	N		
YLCDRTTAA	N	N	N		
LLPRLFLAF	N	N	N		
SQQETSSLY	N	N	N		
YQLTGTPVL	N	N	N		
VRAPFTIQL	Y	Y	N		
KRGAAAVLL	N	N	N		
SIMSLQIRY	Y	Y	N		
SLWSLLAGV	N	N	N		
Agallou et al., 2014 (*L. infantum*)					
FFAIVVTIL	Y	N	N		
HYDVSGKFA	Y	Y	N		
LYFGGVVTL	N	N	Y	LYFGGVVTLCFGLSLNHGVLVVGFNRQAKP	Agallou et al. 2014
AYVGKNGPV	N	N	N		
SALIAQTPL	N	N	N		
LYLNPNYYA	N	N	N		
NYVVTATID	N	N	N		
FFFAIVVTI	N	N	N		
QWALKNHSL	N	N	Y	GNIEGQWALKNHSLVSLSEQVLVSCDNIDD	Agallou et al. 2017 Agallou et al. 2014
RFNAFKQNM	Y	N	N		
GYIRLAMGS	N	N	N		
QVLVSCDNI	N	N	Y	GNIEGQWALKNHSLVSLSEQVLVSCDNIDD	Agallou et al. 2017 Agallou et al. 2014

QNMQTAYFL	N	N	N		
GNIEGQWAL	Y	Y	Y	GNIEGQWALKNHSLVSLSEQVLVSCDNIDD	Agallou et al. 2017 Agallou et al. 2014
MCGSCWAFATTGNIE	Y	N	N		
PHDEEEIAAYVGKNG	Y	N	N		
KDYKEHVHVDDSVRS	N	N	N		
GKNGPVAVAVDATTW	S	N	N		
GVDDFIASAHYGRFK	Y	N	N		
GSSWGEKGYIRLAMG	Y	N	N		
RNPFFFAIVVTILFV	S	N	N		
NPFFFAIVVTILFVV	Y	N	N		
VTILFVVCYGSALIA	S	N	N		
SLVSLSEQVLVSCDN	Y	N	Y	GNIEGQWALKNHSLVSLSEQVLVSCDNIDD	Agallou et al. 2017 Agallou et al. 2014
VSLSEQVLVSCDNID	Y	N	Y	GNIEGQWALKNHSLVSLSEQVLVSCDNIDD	Agallou et al. 2017 Agallou et al. 2014
VVTILFVVCYGSALI	Y	N	N		
GPVAVAVDATTWQLY	Y	N	N		
VTLCFGLSLNHGVLV	Y	N	Y	LYFGGVVTLCFGLSLNHGVLVVGFNRQAKP	Agallou et al. 2014
KQNMQTAYFLNAHNP	Y	N	N		
LYFGGVVTLCFGLSL	Y	N	Y	LYFGGVVTLCFGLSLNHGVLVVGFNRQAKP	Agallou et al. 2014
KPPYWIVKNSWGSSW	Y	N	N		
NQCLLKNYVVTATID	S	N	N		
SYPYTSAGGTRPPCH	Y	N	N		
KNSWGSSWGEKGYIR	Y	N	N		
KKAGAKKAV	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
SSDSAVAAL	N	N	Y	MSSDSAVAALSAAMTSPQKS	Agallou et al. 2014
MSSDSAVAALSAAMT	N	N	Y	MSSDSAVAALSAAMTSPQKS	Agallou et al. 2014
KTAAKKAAAKKAAAK	N	N	N		
KAAAKKAAAKKAGAK	N	N	N		
KAAAKKAGAKKAGAK	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
KAGAKKAGAKKAVRK	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
SSDSAVAALSAAMTS	N	N	Y	MSSDSAVAALSAAMTSPQKS	Agallou et al. 2014
KVATPKKPAKKAAKK	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
KKAAAKKAGAKKAGA	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
KKAGAKKAGAKKAVR	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
AAKKPAKKVAKKPAK	N	N	N		
SPQKSPRSSPKKTAA	S	N	N		
PRSSPKKTAAKKAAA	N	N	N		
KKTAAKKAAAKKAAA	N	N	N		
KKAAAKKAAAKKAGA	N	N	N		
AKKAGAKKAVRKVAT	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
KKAVRKVATPKKPAK	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
RKVATPKKPAKKAAK	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
TPKKPAKKAAKKAAK	N	N	N		
PAKKAAKKAAKKPAK	N	N	N		
AAKKAAKKPAKKVAK	N	N	N		
PAKKVAKKPAKKAAK	N	N	N		
VAKKPAKKAAKKPAK	N	N	N		
PAKKAAKKPAKKPAK	N	N	N		
AAKKPAKKAAKKAAK	N	N	N		
PAKKPAKKAAKKAAK	N	N	N		
PAKKAAKKAAKKAAA	N	N	N		
SAVAALSAAMTSPQK	N	N	Y	MSSDSAVAALSAAMTSPQKS	Agallou et al. 2014
AKKVAKKPAKKAAKK	N	N	N		
AKKAAKKAAKKAAAK	N	N	N		
AAKKAAAKKAAAKKA	Y	Y	N		
AKKAAAKKAAAKKAG	N	N	N		

PKKTAAKKAAAKKAA	N	N	N		
SPKKTAAKKAAAKKA	N	N	N		
SDSAVAALSAAMTSP	N	N	Y	MSSDSAVAALSAAMTSPQKS	Agallou et al. 2014
TAAKKAAAKKAAAKK	N	N	N		
AKKAAAKKAGAKKAG	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
AAKKAAAKKAGAKKA	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
DSAVAALSAAMTSPQ	N	N	Y	MSSDSAVAALSAAMTSPQKS	Agallou et al. 2014
AGAKKAVRKVATPKK	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
AAAKKAAAKKAGAKK	N	N	N		
GAKKAVRKVATPKKP	N	N	Y	AGAKKAGAKKAVRKVATPKK	Agallou et al. 2014
TYEEFSAKL	N	N	Y	ATTYEEFSA, EEFSAKLDR, EFSAKLDRL, MATTYEEFS, MATTYEEFSAKLDRLDEEFNRKMQEQNAKFFADKPDES, TTYEEFSAK, TYEEFSAKL, YEEFSAKLD, MATTYEEFAAKLDRLDEEFN, TYEEFSAKLDRLDEEFNRKM	Agallou et al. 2014 Basu et al.2007 Delgado et al. 2003 Jensen et al. 1998
HYEKFERMI	Y	Y	Y	AKFFADKPDESTLSPEMREHYEKFERMIKEHTEKFNKK, EHYEKFERM, EKFERMIKE, HYEKFERMI, KFERMIKEH, MREHYEKFE, REHYEKFER, YEKFERMIK, EHYDKFERMIKEHTEKFNKK	Basu et al. 2007 Delgado et al. 2003 Jensen et al. 1998
HFKQFAEL	N	N	N		
HSEHFKQKF	N	N	Y	EHFKQKFAE, EHSEHFKQK, HEHSEHFKQ, HFKQKFAEL, HSEHFKQKF, IKEHTEKFNKKMHEHSEHFKQKFAELLEQQKAAQYPSK, MHEHSEHFK, SEHFKQKFA, KFNKKMHEHSEHFKHKFAEL	Basu et al. 2007 Delgado et al. 2003 Jensen et al. 1998
EFSAKLDRL	N	N	Y	AKLDRLDEE, EEFSAKLDR, EFSAKLDRL, FSAKLDRLD, MATTYEEFSAKLDRLDEEFNRKMQEQNAKFFADKPDES, SAKLDRLDE, TYEEFSAKL, YEEFSAKLD, TYEEFSAKLDRLDEEFNRKM, MATTYEEFAAKLDRLDEEFN	Agallou et al. 2014 Basu et al. 2007 Delgado et al. 2003 Jensen et al. 1998
TYEEFSAKLDRLDEE	Y	N	Y	AKLDRLDEE, ATTYEEFSA, DRLDEEFNR, EEFSAKLDR, EFSAKLDRL, FSAKLDRLD, KLDRLDEEF, LDRLDEEFN, MATTYEEFS, MATTYEEFSAKLDRLDEEFNRKMQEQNAKFFADKPDES, SAKLDRLDE, TTYEEFSAK, TYEEFSAKL, YEEFSAKLD (donovani); TYEEFSAKLDRLDEEFNRKM, MATTYEEFAAKLDRLDEEFN	Agallou et al. 2014 Basu et al. 2007 Delgado et al. 2003 Jensen et al. 1998
QKFAELLEQQKAAQN	S	N	Y	AELLEQQKA, ELLEQQKAA, EQQKAAQYP, FAELLEQQK, FKQKFAELL, HFKQKFAEL, IKEHTEKFNKKMHEHSEHFKQKFAELLEQQKAAQYPSK, KFAELLEQQ, KQKFAELLE, LEQQKAAQY, LLEQQKAAQ, QKFAELLEQ, QQKAAQYPS, FKHKFAELLEQQKAAQYPSK, KFNKKMHEHSEHFKHKFAEL	Basu et al. 2007 Delgado et al. 2003 Jensen et al. 1998
KEHYEKFERMIKEHT	Y	Y	Y	AKFFADKPDESTLSPEMREHYEKFERMIKEHTEKFNKK, EHYEKFERM, EKFERMIKE, EMREHYEKF, ERMIKEHTE, FERMIKEHT, HYEKFERMI, IKEHTEKFN, KEHTEKFNK, KFERMIKEH, MIKEHTEKF, MREHYEKFE, PEMREHYEK, REHYEKFER, RMIKEHTEK, YEKFERMIK, EHYDKFERMIKEHTEKFNKK, FADKPDESTLSPEMKEHYDK	Basu et al.2007 Delgado et al. 2003 Jensen et al. 1998
KQKFAELLEQQKAAQ	Y	N	Y	AELLEQQKA, EHFKQKFAE, ELLEQQKAA, EQQKAAQYP, FAELLEQQK, FKQKFAELL, HFKQKFAEL, IKEHTEKFNKKMHEHSEHFKQKFAELLEQQKAAQYPSK, KFAELLEQQ, KQKFAELLE, LEQQKAAQY, LLEQQKAAQ, QKFAELLEQ, QQKAAQYPS, FKHKFAELLEQQKAAQYPSK, KFNKKMHEHSEHFKHKFAEL	Basu et al.2007 Delgado et al. 2003 Jensen et al. 1998
HYHTQIDEL	Y	Y	Y	VTEKDVELLHEIEAHYHTQIDELPVDFAAY	Agallou et al. 2014
RYGRKGVAI	Y	Y	N		
APQDQDSFL	Y	N	Y	KIAPQDQDSFLDDQPGVRPIPSFDDMPLHQ	Agallou et al. 2014

IPSFDDMPL	Y	Y	Y	FLDDQPGVRPIPSFDDM, KIAPQDQDSFLDDQPGVRPIPSFDDMPLHQ	Agallou et al. 2014 Koutsoni et al. 2017
LPKDIQVAL	Y	Y	Y	PKDIQVALFSATMPEEVL, DEMLSQGFADQIYEIFRFLPKDIQVALFSA	Agallou et al. 2014 Koutsoni et al. 2017
LPTNKENYL	Y	N	N		
LPVDFAAYL	Y	Y	Y	VTEKDVELLHEIEAHYHTQIDELPVDFAAY	Agallou et al. 2014
SFLDDQPGV	Y	N	Y	FLDDQPGVRPIPSFDDM; KIAPQDQDSFLDDQPGVRPIPSFDDMPLHQ	Agallou et al. 2014 Koutsoni et al. 2017
RFLPKDIQV	Y	Y	Y	PKDIQVALFSATMPEEVL DEMLSQGFADQIYEIFRFLPKDIQVALFSA	Agallou et al. 2014 Koutsoni et al. 2017
LSPTRELAL	Y	Y	Y	TRELALQTAEVISRIGE	Koutsoni et al. 2017
GFADQIYEI	Y	Y	Y	DEMLSQGFADQIYEIFRFLPKDIQVALFSA	Agallou et al. 2014
SRVLVTTDL	Y	Y	N		
RPIPSFDDM	Y	Y	Y	FLDDQPGVRPIPSFDDM, KIAPQDQDSFLDDQPGVRPIPSFDDMPLHQ	Agallou et al. 2014 Koutsoni et al. 2017
NSSKFCETF	Y	N	N		
VSIAQSVIF	Y	Y	N		
KFMRDPVRI	Y	Y	N		
IFRFLPKDI	Y	N	Y	DEMLSQGFADQIYEIFRFLPKDIQVALFSA	Agallou et al. 2014
IFANTRRKV	Y	Y	N		
TFRSGSSRV	Y	Y	N		
RGALRTESL	Y	Y	N		
LSPTRELALQTAEVI	Y	Y	Y	TRELALQTAEVISRIGE	Koutsoni et al. 2017
VLVTTDLVARGICVH	Y	N	N		
LPKDIQVALFSATMP	Y	N	Y	PKDIQVALFSATMPEEVL, DEMLSQGFADQIYEIFRFLPKDIQVALFSA	Agallou et al. 2014 Koutsoni et al. 2017
HTQIDELPVDFAAYL	Y	Y	Y	VTEKDVELLHEIEAHYHTQIDELPVDFAAY	Agallou et al. 2014
QDDLRKLQAGVIVAV	Y	N	N		
ALRTESLRVLVLDEA	Y	Y	N		
TESLRVLVLDEADEM	Y	Y	N		
RGGDIIAQAQSGTGK	Y	Y	Y	IQQRAIAPFTRGGDII	Koutsoni et al. 2017
DLRKLQAGVIVAVGT	Y	N	N		
RKLQAGVIVAVGTPG	Y	N	N		
MDLYETVSIAQSVIF	Y	Y	N		
FMRDPVRILVKRESL	Y	Y	N		
DLVARGIDVHHVNIV	Y	N	N		
RTESLRVLVLDEADE	Y	Y	N		
ETVSIAQSVIFANTR	Y	N	N		
TVSSMHAEMPKSDRE	Y	N	N		
RSGSSRVLVTTDLVA	Y	N	N		
AQSVIFANTRRKVDW	Y	Y	N		
LDDQPGVRPIPSFDD	Y	N	Y	FLDDQPGVRPIPSFDDM, KIAPQDQDSFLDDQPGVRPIPSFDDMPLHQ	Agallou et al. 2014 Koutsoni et al. 2017
QSGTGKTGAFSIGLL	Y	Y	N		
ALQTAEVISRIGEFL	Y	Y	Y	TRELALQTAEVISRIGE	Koutsoni et al. 2017
VLVLDEADEMLSQGF	Y	Y	Y	DEMLSQGFADQIYEIFRFLPKDIQVALFSA	Agallou et al. 2014
LDTLMDLYETVSIAQ	Y	Y	N		
VELLHEIEAHYHTQI	Y	N	Y	VTEKDVELLHEIEAHYHTQIDELPVDFAAY	Agallou et al. 2014
TGAFSIGLLQRLDFR	Y	Y	N		
SIGLLQRLDFRHNLI	Y	N	N		
VSDVIKRGALRTESL	Y	Y	N		
PTRELALQTAEVISR	Y	Y	Y	TRELALQTAEVISRIGE	Koutsoni et al. 2017
TRELALQTAEVISRI	Y	Y	Y	TRELALQTAEVISRIGE	Koutsoni et al. 2017
SPTRELALQTAEVIS	Y	Y	Y	TRELALQTAEVISRIGE	Koutsoni et al. 2017
DDLRKLQAGVIVAVG	Y	N	N		
VLSPTRELALQTAEV	Y	Y	Y	TRELALQTAEVISRIGE	Koutsoni et al. 2017
LVLSPTRELALQTAE	Y	y	Y	TRELALQTAEVISRIGE	Koutsoni et al. 2017
LRKLQAGVIVAVGTP	Y	N	N		
PSSIQQRAIAPFTRG	Y	Y	Y	IQQRAIAPFTRGGDII, KPSSIQQRAIAPFTRGG	Koutsoni et al. 2017

KPSSIQQRAIAPFTR	Y	Y	Y	IQQRAIAPFTRGGDII, KPSSIQQRAIAPFTRGG	Koutsoni et al. 2017
SSIQQRAIAPFTRGG	Y	Y	Y	IQQRAIAPFTRGGDII, KPSSIQQRAIAPFTRGG	Koutsoni et al. 2017
GLVLSPTRELALQTA	Y	N	Y	TRELALQTAEVISRIGE	Koutsoni et al. 2017
SNHTVSSMHAEMPKS	Y	N	N		
Naouar et al., 2014 (*L. major*)					
ALQEETHVL	N	N	Y	ALQEETHVL	Naouar et al. 2014
YMAQKAEEV	Y	Y	Y	YMAQKAEEV	Naouar et al. 2014
KLTVSSAAV	N	N	Y	KLTVSSAAV	Naouar et al. 2014
VLGSHVQTL	N	N	Y	VLGSHVQTL	Naouar et al. 2014
LLRQETARL	N	N	Y	LLRQETARL	Naouar et al. 2014
HLMGQLNEL	Y	Y	Y	HLMGQLNEL	Naouar et al. 2014
RLRDDLERL	N	N	Y	RLRDDLERL	Naouar et al. 2014
YLLDVSTLL	Y	Y	Y	YLLDVSTLL	Naouar et al. 2014
NLIDFNFKL	Y	Y	Y	NLIDFNFKL	Naouar et al. 2014
LLKDSFAFL	Y	Y	Y	LLKDSFAFL	Naouar et al. 2014
CLLDSFKEL	Y	Y	Y	CLLDSFKEL	Naouar et al. 2014
VLEENRTTL	Y	Y	Y	VLEENRTTL	Naouar et al. 2014
VLCALLFCV	N	N	Y	VLCALLFCV	Naouar et al. 2014
KLHPVYDKV	N	N	Y	KLHPVYDKV	Naouar et al. 2014
ALKGSLVAV	N	N	N		Naouar et al. 2014
EMASMITKV	N	N	Y	EMASMITKV	Naouar et al. 2014
DMLAGIATL	N	N	Y	DMLAGIATL	Naouar et al. 2014
LLSAQIARL	Y	Y	Y	LLSAQIARL	Naouar et al. 2014
LLFDELTAL	Y	Y	Y	LLFDELTAL	Naouar et al. 2014
RLMQCVQQL	N	N	Y	RLMQCVQQL	Naouar et al. 2014
SLVVVSASL	N	N	Y	SLVVVSASL	Naouar et al. 2014
SLCRSLVVV	N	N	Y	SLCRSLVVV	Naouar et al. 2014
HLVAPLASL	N	N	Y	HLVAPLASL	Naouar et al. 2014
ALNDALWAV	Y	Y	Y	ALNDALWAV	Naouar et al. 2014
RLLVDLAQL	Y	Y	Y	RLLVDLAQL	Naouar et al. 2014
IVVDAIMSV	N	N	Y	IVVDAIMSV	Naouar et al. 2014
VIAGTSNAV	N	N	Y	VIAGTSNAV	Naouar et al. 2014
AMREALRYL	Y	Y	Y	AMREALRYL	Naouar et al. 2014
GVFDAAISI	Y	Y	Y	GVFDAAISI	Naouar et al. 2014
QVGAFLEGL	N	N	Y	QVGAFLEGL	Naouar et al. 2014
GLDYSEELL	Y	N	Y	GLDYSEELL	Naouar et al. 2014
RVAASVAAV	N	N	Y	RVAASVAAV	Naouar et al. 2014
GTDDTVAAV	N	N	Y	GTDDTVAAV	Naouar et al. 2014
TIPSFIVRV	Y	Y	Y	TIPSFIVRV	Naouar et al. 2014
RLLEGSAIM	Y	Y	Y	RLLEGSAIM	Naouar et al. 2014
LIQQRHIAV	N	N	Y	LIQQRHIAV	Naouar et al. 2014
AVAKQIVTI	Y	Y	Y	AVAKQIVTI	Naouar et al. 2014
ILERRLQTI	N	N	Y	ILERRLQTI	Naouar et al. 2014
NMMAVVGLL	N	N	Y	NMMAVVGLL	Naouar et al. 2014
KLEDEVFAL	N	N	Y	KLEDEVFAL	Naouar et al. 2014
ELLGNLEEV	N	N	Y	ELLGNLEEV	Naouar et al. 2014
RMADEVQRL	N	N	Y	RMADEVQRL	Naouar et al. 2014
RLAVSLHEL	N	N	Y	RLAVSLHEL	Naouar et al. 2014
LLGPAYQSI	N	N	Y	LLGPAYQSI	Naouar et al. 2014
VIAEEPLYV	N	N	Y	VIAEEPLYV	Naouar et al. 2014
PLSAVISPV	Y	Y	Y	PLSAVISPV	Naouar et al. 2014
LLPAPLVSV	N	N	Y	LLPAPLVSV	Naouar et al. 2014
MLLWTAVAV	N	N	Y	MLLWTAVAV	Naouar et al. 2014
YLRTFPAAL	Y	Y	Y	YLRTFPAAL	Naouar et al. 2014
RLAGFLAGL	N	N	Y	RLAGFLAGL	Naouar et al. 2014
CLALIAWRV	N	N	Y	CLALIAWRV	Naouar et al. 2014
VVAGMLRWV	N	N	Y	VVAGMLRWV	Naouar et al. 2014

PLSPATRRL	N	N	Y	PLSPATRRL	Naouar et al. 2014
MVLNAMAWL	N	N	Y	MVLNAMAWL	Naouar et al. 2014
KIMEAITVV	N	N	Y	KIMEAITVV	Naouar et al. 2014
FLAYDKFLL	Y	Y	Y	FLAYDKFLL	Naouar et al. 2014
HIFDRVAGV	N	N	Y	HIFDRVAGV	Naouar et al. 2014
ALNQFTKVL	Y	N	Y	ALNQFTKVL	Naouar et al. 2014
AIVKDMARL	N	N	Y	AIVKDMARL	Naouar et al. 2014
GLQEVTRAI	N	N	Y	GLQEVTRAI	Naouar et al. 2014
VIANNVDPV	Y	Y	Y	VIANNVDPV	Naouar et al. 2014
TLKNLIRSV	N	N	Y	TLKNLIRSV	Naouar et al. 2014
TLLDALGML	N	N	Y	TLLDALGML	Naouar et al. 2014
ALLAFTLGV	Y	Y	Y	ALLAFTLGV	Naouar et al. 2014
TLGVKQMVV	N	N	Y	TLGVKQMVV	Naouar et al. 2014
KLVRELFRV	Y	Y	Y	KLVRELFRV	Naouar et al. 2014
TMLELLTQL	Y	Y	Y	TMLELLTQL	Naouar et al. 2014
ALRERRMKV	N	N	Y	ALRERRMKV	Naouar et al. 2014
LLHDRQHSI	Y	Y	Y	LLHDRQHSI	Naouar et al. 2014
GLEQQIQEI	Y	N	Y	GLEQQIQEI	Naouar et al. 2014
MLQTNSLAL	N	N	Y	MLQTNSLAL	Naouar et al. 2014
SLQFSAFLL	N	N	Y	SLQFSAFLL	Naouar et al. 2014
FMEVFGMLV	N	N	Y	FMEVFGMLV	Naouar et al. 2014
MLVQSCTSI	N	N	Y	MLVQSCTSI	Naouar et al. 2014
VVSVLTHSV	N	N	Y	VVSVLTHSV	Naouar et al. 2014
WIPPVVSVL	N	N	Y	WIPPVVSVL	Naouar et al. 2014
KIYQIGRSV	N	N	Y	KIYQIGRSV	Naouar et al. 2014
QLNKKIYQI	Y	N	Y	QLNKKIYQI	Naouar et al. 2014
Dikhit et al., 2017 (*L. donovani*)					
QSKFRPISASSMPDE	N	N	N		
IQSYRLLKDAVASPL	N	N	N		
LQSFVVTCSAAALTL	N	N	N		
QSFVVTCSAAALTLA	N	N	N		
ALLQSFVVTCSAAAL	S	N	N		
ILDVIFMTSRLVAKM	Y	N	N		
LRRLFSIRTNALARE	Y	N	N		
FDLFLFSNGAVVWWG	Y	Y	Y	FDLFLFSNGAVVWWG	Dikhit et al. 2017
TLGFQPLAVEPALDR	S	N	N		
NCFDLFLFSNGAVVW	Y	N	Y	FDLFLFSNGAVVWWG	Dikhit et al. 2017
RVRLRRLFSIRTNAL	Y	N	N		
LLALILLGGIGAVGY	N	N	N		
YPVYPFLASNAALLN	Y	N	Y	VYPFLASNAALLNLI, YPVYPFLASNAALLN	Dikhit et al. 2017
LPSFHAMSAFHSAAK	N	N	N		
NAALLNLIPSLLYRV	S	N	Y	VYPFLASNAALLNLI, YPVYPFLASNAALLN	Dikhit et al. 2017
VYPFLASNAALLNLI	Y	N	Y	VYPFLASNAALLNLI, YPVYPFLASNAALLN	Dikhit et al. 2017
RALLALILLGGIGAV	N	N	N		
AALLNLIPSLLYRVQ	Y	N	Y	VYPFLASNAALLNLI	Dikhit et al. 2017
LQVFTAICASFAHGA	Y	Y	N		
FPFFSGVAPIVASWF	Y	Y	N		
ERVFRYLQVFTAICA	Y	N	N		
KDDFPFFSGVAPIVA	Y	N	N		
DFPFFSGVAPIVASW	Y	N	N		
LESFFVLFKGASKRL	Y	Y	N		
FFVLFKGASKRLKWS	Y	Y	N		
FRYLQVFTAICASFA	Y	N	N		
SRGFSAELSAALVVS	Y	Y	N		
RGFSAELSAALVVSF	Y	Y	N		
LALLIMLYALIATQF	N	N	Y	IMLYALIATQFSDDA, LALLIMLYALIATQF, LIMLYALIATQFSDD	Dikhit et al. 2017

LIMLYALIATQFSDD	N	N	Y	IMLYALIATQFSDDA, LALLIMLYALIATQF, LIMLYALIATQFSDD	Dikhit et al. 2017
IMLYALIATQFSDDA	N	N	Y	IMLYALIATQFSDDA, LALLIMLYALIATQF, LIMLYALIATQFSDD	Dikhit et al. 2017
VSVLALLIMLYALIA	N	N	Y	IMLYALIATQFSDDA, LALLIMLYALIATQF, LIMLYALIATQFSDD	Dikhit et al. 2017
VLALLIMLYALIATQ	N	N	Y	IMLYALIATQFSDDA, LALLIMLYALIATQF, LIMLYALIATQFSDD	Dikhit et al. 2017
VSILRQLLSVTAHTH	Y	N	N		
KVAVSILRQLLSVTA	Y	N	N		
GISFSRAFAANIESA	Y	Y	N		
YQFYHRARSYVIFTT	Y	N	N		

[1] Reported assays:

Agallou et al. (2014): ^{3}H-thymidine proliferation, ELISA IL-10 release, ICS IFNγ release and IL-4 release / *Mus musculus* BALB/c

Agallou et al. (2017): cytometric bead array for IFNγ, TNFα, IL-2, IL-4,IL-10 release, ^{3}H-thymidine proliferation, ELISA IL-10 release, ICS IFNγ release, IL-4 release / *Mus musculus* BALB/c

Basu et al. (2007): ELISPOT IFNγ / *Homo sapiens*

Delgado et al. (2003): ^{3}H-thymidine proliferation, ELISA IFNγ release, ELISA IL-4 / *Homo sapiens*

Dikhit et al. (2017): ICS IFNγ release, ICS IL-10 release / *Homo sapiens*

Jensen et al. (1998): ^{3}H-thymidine proliferation / *Homo sapiens*

Koutsoni et al. (2017): ^{3}H-thymidine proliferation / *Mus musculus* BALB/c

Naouar et al. (2016): cellular MHC/direct/fluorescence qualitative binding / *Homo sapiens*

Table S4. Peptides with positive experimental results in IEDB, reported in studies exclusively conducted on *L. braziliensis* or *L. panamensis*.

Peptide	Species	Match in ViannaTopes	Allele coverage	Predicted alleles
AYIDGHVTI	*L. braziliensis*	AYIDGHVTI	3	HLA-A*24:02 HLA-C*04:01 HLA-C*07:02
AYLASCDFI	*L. braziliensis*	AYLASCDFI	3	HLA-A*24:02 HLA-C*04:01
IYVSYADLI	*L. braziliensis*	IYVSYADLI	2	HLA-A*24:02 HLA-C*04:01 HLA-C*07:02
KYQHSTEML	*L. braziliensis*	KYQHSTEML	3	HLA-A*24:02 HLA-C*04:01 HLA-C*07:02
SYMGYFQNI	*L. braziliensis*	SYMGYFQNI	3	HLA-A*24:02 HLA-C*04:01 HLA-C*07:02
TYQRVYATL	*L. braziliensis*	TYQRVYATL	3	HLA-A*24:02 HLA-C*04:01 HLA-C*07:02
VYLSFGFRL	*L. braziliensis*	VYLSFGFRL	3	HLA-A*24:02 HLA-C*04:01 HLA-C*07:02
WYLATHSLI	*L. braziliensis*	WYLATHSLI	3	HLA-A*24:02 HLA-C*04:01 HLA-C*07:02
DEEFNKKMQEQNAKFFADKP	*L. panamensis*	MQEQNAKFF	1	HLA-C*04:01
EHYDKFERMIKEHTEKFNKK	*L. panamensis*	DKFERMIKEHTEKFN	1	HLA-DRB1*08:02
FADKPDESTLSPEMKEHYDK	*L. panamensis*	DKPDESTLSPEMKEH	1	HLA-DQA1*04:01/DQB1*04:02
FKHKFAELLEQQKAAQYPSK	*L. panamensis*	HKFAELLEQQKAAQY	1	HLA-DRB1*08:02
KFNKKMHEHSEHFKHKFAEL	*L. panamensis*	MHEHSEHFKHKFAEL	1	HLA-DPA1*03:01/DPB1*04:02
MATTYEEFAAKLDRLDEEFN	*L. panamensis*	TYEEFAAKLDRLDEE	2	HLA-DQA1*03:01/DQB1*03:02 HLA-DQA1*04:01/DQB1*04:02