

Supplemental Table S1: Demographics table of samples analyzed in this study

Sample ID	Origin	Age	Sex	HIV status
B1	Bangladesh	4 months	Male	Negative
B2	Bangladesh	20 months	Male	Negative
B3	Bangladesh	4 months	Male	Negative
B4	Bangladesh	3 months	Female	Negative
B5	Bangladesh	8 months	Male	Negative
M1	Mali	4 months	Female	Negative
M2	Mali	2 months	Male	Negative
M3	Mali	5 months	Male	Unknown
M4	Mali	4 months	Male	Unknown
M5	Mali	3 months	Male	Positive
M6	Mali	5 months	Male	Unknown
T1	Thailand	4 months	Male	Negative
T2	Thailand	3 months	Male	Negative
T3	Thailand	2 months	Female	Negative
T4	Thailand	3 months	Female	Negative
T5	Thailand	2 months	Female	Negative
T6	Thailand	2 months	Female	Negative
Z1	Zambia	2 months	Male	Negative
Z2	Zambia	3 months	Male	Positive
Z3	Zambia	3 months	Female	Negative
Z4	Zambia	2 months	Male	Negative
Z5	Zambia	2 months	Female	Negative
Z6	Zambia	3 months	Female	Positive
C1	Canada	37 years	Male	Unknown
C2	Canada	30 years	Female	Unknown
C3	Canada	49 years	Male	Unknown
C4	Canada	37 years	Male	Unknown
C5	Canada	46 years	Male	Unknown
C6	Canada	83 years	Female	Unknown
C7	Canada	54 years	Male	Unknown
C8	Canada	63 years	Female	Unknown
C9	Canada	79 years	Male	Unknown
C10	Canada	75 years	Male	Unknown
C11	Canada	52 years	Female	Unknown
U1	United States	32 years	Male	Positive
U2	United States	31 years	Male	Positive

	B1	B2	B3	B4	B5	M1	M2	M3	M4	M5	M6	T1	T2	T3	T4	T5	T6	Z1	Z2	Z3	Z4	Z5	Z6	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	U1	U2	
T551_01756	31787	319	31244	4465	16329	17239	23112	55	0	332823	41427	0	16758	16142	1234	38681	2902	81223	9909	28443	13688	32176	47647	0	11961	1	1	0	0	0	0	0	0	0	1	0	13630
T551_03199	14925	318	18972	6938	50463	45221	42314	40	4845	370929	44115	1	28949	39042	4463	34496	9085	73479	24537	60282	6063	106478	65966	0	15596	1	0	100	0	213	127	0	0	0	0	1	21081
T551_01755	11789	0	18657	4041	13319	18444	20889	0	1	20949	26592	1	13816	8452	4144	20031	4693	24150	13696	23374	11934	27696	32668	0	6424	0	0	47	163	231	0	0	0	0	0	11399	
T551_01830	11530	100	25905	0	31321	13840	27887	4167	178	319161	29970	0	5447	31472	3450	12683	11349	51194	14658	38364	18591	71015	49941	0	12034	1	0	140	0	2	67	0	0	1	0	13662	
T551_00896	10343	0	21829	8021	19270	19390	15621	0	0	127925	23206	0	5060	3941	249	16602	9292	18676	5750	28540	1492	34753	35698	0	7170	0	0	31	38	1	0	0	0	0	0	6821	
T551_02309	9479	0	7616	1605	9055	15385	15646	12	0	183011	19175	0	8828	3691	1068	26642	0	25501	26599	24112	1304	24402	30483	0	5499	2	0	79	422	0	0	0	0	0	0	8006	
T551_03038	9188	9011	23489	0	11103	17869	16725	19	0	194261	19106	0	14403	17334	2738	19405	16614	1923	14177	28704	4965	41130	30727	0	13486	0	0	41	1	106	245	0	0	0	0	12063	
T551_03158	9074	28	9988	1	4158	12606	10227	31	130	109170	12585	0	8177	7948	1146	5712	7646	11383	7411	15592	12537	30574	15070	0	8224	0	0	77	0	0	156	0	0	0	0	3820	
T551_02850	8736	219	12150	11239	4775	19728	14265	0	251	173131	18552	0	1697	10276	1997	10932	10340	28899	7934	19392	0	50415	32837	0	7792	0	0	86	31	0	135	0	1	0	1	9810	
T551_02533	1205	0	11219	0	0	34	67	0	0	219	0	0	0	2688	350	0	0	0	449	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
T551_00303	13	0	23	14177	13422	29125	19165	0	0	245	313	2	27	32767	7241	20901	8594	32767	4721	28110	7998	16308	32767	0	8619	0	1812	0	36	49	60	0	0	1	1	11796	
cox3	12615	818	166339	62666	135213	117319	194772	4992	12165	169478	192564	24579	93385	115519	90900	161918	58162	163826	135441	128871	119885	188959	106138	30	118674	5	4	1088	1348	913	1239	4	17	7	65	169129	
nad4L_nad5	109398	161	135051	34919	132839	132318	111127	7482	247	202826	186537	11820	53354	110750	36357	125134	48454	147384	88792	124935	37670	195743	151293	1	105429	0	2	59	128	211	1	1	4	2	12	186280	
atp6	130715	2092	130828	101372	141781	133551	104943	3965	2239	105901	117853	17322	84423	71085	15323	102395	43240	167940	160582	157239	85371	190853	153273	39	115946	1	0	1975	1914	1458	2420	11	4	12	34	134575	
nad1	110988	406	127148	52329	135555	134964	118818	6248	22500	115665	163899	19916	103487	97697	33395	151839	34334	124098	156777	180558	108078	135898	170342	15	1172051	0	1061	248	499	248	661	4	14	7	16	172051	
nad4	105060	7219	107261	52561	126096	116330	136531	7532	15393	151548	114494	16993	70160	78660	16154	132678	39400	126061	106044	133107	64515	195234	132092	2	112920	2	2	1353	1022	1350	1565	6	2	5	1	112534	
nad6	69172	4179	99883	67084	94039	93870	140791	1865	9461	190424	152486	11473	63620	30159	5320	118188	20296	164514	92450	121304	59600	156123	122658	59	69421	2	1246	12	329	100	518	227	3	0	4	108602	
atp9	70988	300	99570	26406	87079	99021	125425	4396	9359	114962	168611	4774	40453	90567	24224	113375	15828	155157	96649	140676	53286	121324	155251	3	83656	0	1717	171	242	610	271	6	8	4	2	185204	
cox1/atp8	86793	141	110662	5267	62014	81784	150430	3742	291	50906	39395	21305	39769	139158	55771	143044	68765	204762	103504	144488	94606	203633	204684	3	167498	2	0	185	57	93	224	5	6	5	1	204793	
% Targets Detected	100	76.1905	100	85.7143	95.2381	100	100	76.1905	66.6667	100	95.2381	47.619	95.2381	100	100	95.2381	90.4762	95.2381	100	100	90.4762	95.2381	95.2381	47.61905	95.2381	47.619	42.8571	85.7143	76.1905	76.1905	76.1905	47.61905	52.381	57.1429	61.9048	95.2381	
Total NGS reads PF	1097805	49651	1376319	539705	1244970	1288330	1706880	136621	158128	14836258	2639597	170750	833845	1220972	357957	1938779	408267	3149636	1164145	1965546	733735	2165462	2182122	4170	1135068	5238	37244	20784	11108	18687	20830	66969	70683	51202	51196	2421223	
Total Mapped Reads to P. jiroveci	927678	25311	1157834	453091	1087831	1112596	1286745	44545	77069	3122534	1370880	124186	651813	907348	305524	1254654	405994	1602957	1070380	1428144	701583	1822714	1569535	152	987371	17	5845	5692	6230	5585	7689	264	59	45	138	1385126	
Total Pneumocystis Genome Reads	118049	9995	181092	50487	173215	203421	205908	4324	5405	2020824	235041	4	103162	173753	28080	208085	80515	349195	129841	294966	78572	434947	373804	0	96675	5	1813	601	691	602	790	0	1	3	3	111968	
Total Pneumocystis Mitochondrial Reads	809629	15316	976742	402604	914616	909177	1082837	40222	71664	1101710	1135839	124182	548651	733595	277444	1048569	325479	1253762	940239	1131178	623011	1387767	1195731	152	890696	12	4032	5091	5539	4983	6899	264	58	42	135	1273158	
% reads mapped to P. jiroveci	84.5030	50.9778	84.1254	83.9516	87.3781	86.3597	75.5030	32.6055	48.7384	21.0466	51.9352	72.7297	78.1696	74.3136	85.3522	64.7136	86.6977	50.8902	91.9198	72.5571	95.6180	84.1721	71.9270	3.6451	86.9878	0.3246	15.6938	27.3865	56.0857	29.8871	36.9131	0.3942	0.0835	0.0879	0.2696	57.2077	
% mapped Mitochondrial Reads	87.2748	60.5112	84.3594	88.8572	84.0770	81.7166	84.0226	90.2932	92.9868	35.2826	82.8547	99.9968	84.1731	80.8505	90.8092	83.5744	80.1684	78.2156	87.8662	79.3172	88.8008	76.1374	76.1838	100.0000	90.2088	70.5882	68.9820	89.4413	88.9085	89.2211	89.7256	100.0000	98.3051	93.3333	97.8261	91.9164	
% mapped Whole Genome Reads	12.7252	39.4888	15.6406	11.1428	15.9230	18.2834	15.9774	9.7068	7.0132	64.7174	17.1453	0.0032	15.6269	19.1495	9.1908	16.4256	19.8316	21.7844	12.1336	20.6826	11.1992	23.8626	23.8162	0.0000	9.7912	29.4118	31.0180	10.5887	11.0915	10.7789	10.2744	0.0000	1.6949	6.6667	2.1739	8.0836	
Sample ID Legend																																					
Sample ID		Origin																																			
B1-B5		Bangladesh																																			
M1-M6		Mali																																			
T1-T6		Thailand																																			
Z1-Z6		Zambia																																			
C1-C11		Canada																																			
U1-U2		United States																																			

Supplemental Table S2. NGS read metrics of mapped reads to each fungal target. Values in red indicate mapped read values that exceeded the read threshold in the software.

Ref ID	Ref Pos	Gene Name	Transcript ID	Murina Ortholog	B1	B2	B3	B4	B5	M1	M2	M3	M4	M5	M6	T1	T2	T3	T4	T5	T6	Z1	Z2	Z3	Z4	Z5	Z6	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	U1	U2	Sample ID			
					4*	20*	4*	3*	8*	4*	2*	5*	4*	3*	5*	4*	3*	2*	3*	2*	2*	2*	3*	3*	2*	2*	3*	37	30	49	37	46	83	54	63	79	75	52	32	31	Age			
					M	M	M	F	M	F	M	M	M	M	M	M	M	M	M	M	F	F	F	F	M	M	F	M	F	M	F	M	F	M	M	F	M	F	M	M	F	M	M	Sex
NW_017264775.1	588078	T551_00303	XM_018372570.1	GTP binding	-	-	-	-	-	-	-	x	x	+	x	-	-	-	-	-	-	-	-	+	-	-	-	+	x	x	x	x	x	A>C	x	x	x	x	x	x	+	+	HIV Status	
NW_017264775.1	588101	T551_00303		GTP binding																																								
NW_017264775.1	588109	T551_00303		GTP binding																																								
NW_017264775.1	588138	T551_00303	XM_018372570.1	GTP binding																																								
NW_017264785.1	194152	T551_02533	XM_018374796.1	Meu10	C>T					C>T	C>T				C>T												C>T	C>T																
NW_017264785.1	194184	T551_02533	XM_018374796.1	Meu10	G>A					G>A	G>A				G>A												G>A	G>A																
NW_017264788.1	37245																				G>T																							
NW_017264788.1	37256																				A>T																							
NW_017264788.1	183203	T551_03038	XM_018375301.1	meiotically up-regulated gene 117 protein *C	G>A																																							
NW_017264789.1	101701	T551_03158	XM_018375421.1	DNAJ																												G>A												
NW_017264789.1	195132	T551_03199	XM_018375462.1	Arp9	A>G											A>G	A>G		A>G																									
NW_017264776.1	609401	T551_05004																																										
NW_017264776.1	610345	T551_05004																																										
NW_017264776.1	610355	T551_05004																																										
NW_017264776.1	610377	T551_05004																																										
NW_017264776.1	610382	T551_05004																																										
NW_017264776.1	610873	T551_05004																																										
NW_017264776.1	610917	T551_05004																																										
NW_017264776.1	610922	T551_05004																																										
NW_017264776.1	612454	T551_05005																															C>T											
NW_017264776.1	612497	T551_05005																															TG>CT											
NW_017264776.1	613009	T551_05005																																										
NW_017264776.1	613023	T551_05005																																										
NW_017264776.1	613025	T551_05005																																										
NW_017264776.1	614213	T551_05005																																										
NW_017264776.1	614236	T551_05005																																										
NW_017264776.1	614241	T551_05005																																										
NW_017264776.1	614245	T551_05005																																										
NW_017264776.1	614278	T551_05005																																										
NW_017264776.1	614321	T551_05005																																										
NW_017264776.1	614686	T551_05005																																										
NW_017264776.1	614722	T551_05005																																										
NW_017264776.1	614744	T551_05005																																										
NW_017264776.1	614781	T551_05005																																										
NW_017264776.1	614883	T551_05005																																										
NW_017264776.1	614884	T551_05005																																										
NW_017264776.1	614981	T551_05005																																										

Sample ID Legend	
Sample ID	Origin
B1-B5	Bangladesh
M1-M6	Mali
T1-T6	Thailand
Z1-Z6	Zambia
C1-C11	Canada
U1-U2	United States

Demographics Legend			
Age		Sex	
*		M	Male
	age in months	F	Female

HIV Status	
-	HIV positive
+	HIV negative
x	HIV unknown

SNP Legend	
>	directionality of the nucleotide change, going from reference sequence (nucleotide to right of symbol) to variant sequence (nucleotide to left of symbol)
ins	insertion of nucleotide

Supplemental Table S3. Full SNP table of *P. jirovecii* genomic SNPs

Ref ID	Ref Pos	Gene Name	B1	B2	B3	B4	B5	M1	M2	M3	M4	M5	M6	T1	T2	T3	T4	T5	T6	Z1	Z2	Z3	Z4	Z5	Z6	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	U1	U2	Sample ID		
			4'	20'	4'	3'	8'	4'	2'	5'	4'	3'	5'	4'	3'	2'	3'	2'	3'	2'	2'	2'	3'	3'	2'	2'	3'	37	30	49	37	46	83	54	63	79	75	52	32	31	Age
			M	M	M	F	M	F	M	M	M	M	M	M	M	M	M	F	F	F	F	M	M	F	M	F	F	M	F	M	M	M	F	M	F	M	M	F	M	M	Sex
			-	-	-	-	-	-	-	x	x	+	x	-	-	-	-	-	-	-	-	+	-	-	-	+	x	x	x	x	x	x	x	x	x	x	x	+	+	HIV Status	
NC 020331.1	17794	cox1													-> ins C	A																									
NC 020331.1	17826	cox1																																							
NC 020331.1	17847						C>A					C>A					C>A			C>A	C>A	C>A	C		C>A					A>G			A						C		
NC 020331.1	17850						C>T		C>T			C>T					C>T			C>T	C>T	C>T	C		C>T					C>A			C>T						C>T		
NC 020331.1	17858						-> ins T					-> ins T					-> ins T			-> ins Tx4					-> ins T					-> ins T			-> ins T								
NC 020331.1	17860													T > del 1			T > del 1			T > del 1			T		T > del 1					T > del 1			T > del 1								
NC 020331.1	17861																			TTT > del 3																					
NC 020331.1	17864						G>T					G>T					G>T			G>T				G>T																G	
NC 020331.1	17928	atp8					G>T					G>T					G>T			G>T			G		G>T					G>T			G>T							G>T	
NC 020331.1	18370	atp6											G>C																												
NC 020331.1	18373	atp6											A>T																												
NC 020331.1	19892	cox3											T>C																												
NC 020331.1	19895	cox3											A>C																												
NC 020331.1	19897	cox3											T>G																												
NC 020331.1	19899	cox3											G>T																												
NC 020331.1	19910	cox3											cox3																												
NC 020331.1	19949	cox3																							-> ins A																
NC 020331.1	20254	atp9																																							
NC 020331.1	20259	atp9					-> ins A	T				-> ins A																													
NC 020331.1	20361	atp9											T>C																												
NC 020331.1	20676	nad4L													-> ins G																										
NC 020331.1	20682	nad4L																																							
NC 020331.1	20688	nad4L												-> ins T																											
NC 020331.1	20783	nad4L																																							
NC 020331.1	23537	nad4																																							
NC 020331.1	23539	nad4																																							
NC 020331.1	29181	nad6													-> ins T	-> ins G																									
NC 020331.1	29185	nad6																																							
NC 020331.1	29190	nad6																																							
NC 020331.1	29320	nad6																																							
NC 020331.1	30066	nad1												-> ins A																											
NC 020331.1	30069	nad1																																							
NC 020331.1	30077	nad1																																							
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Sample ID Legend	
Sample ID	Origin
B1-B5	Bangladesh
M1-M6	Mali
T1-T6	Thailand
Z1-Z6	Zambia
C1-C11	Canada
U1-U2	United States

Demographics Legend			
Age		Sex	
*	age in months	M	Male
		F	Female

HIV Status	
-	HIV positive
+	HIV negative
x	HIV unknown

SNP Legend	
>	directionality of the nucleotide change, going from reference sequence (nucleotide to right of symbol) to variant sequence (nucleotide to left of symbol)
ins	insertion of nucleotide
del	deletion of nucleotide

Supplemental Table S4. Full SNP table of *P. jirovecii* mitochondrial SNPs