

S3 Table. NGS sequencing metrics

Patient ID	Sample type	Time point	Date collected	Total read	Aligned (%)	Dup rate (%)	Uniqe read	GC Percent	Mean target coverage	On target rate (%)	Q30 (%)	Mean insert size (bp)
P001	WBC	N001	20170615	25,422,552	98.36	17.33	20,673,804	48.1	5,235.11	24.99	88.04	293.76
P001	cfDNA	S001	20170406	59,002,922	83.46	29.85	34,543,300	49.92	7895.1	19.01	79.58	163.23
P001	cfDNA	S002	20170921	44,005,854	81.87	24.68	27,135,170	49.24	6,313.29	20.6	87.78	169.78
P001	cfDNA	S003	20190722	74,125,708	85.24	4.88	60,105,184	40.92	1,661.18	3.11	72.44	165.6
P016	WBC	N001	20170412	32,831,632	98.17	21.38	25,341,292	47.67	6,168.32	22.8	76.76	298.6
P016	cfDNA	S001	20190904	69,674,084	85.75	4.87	56,836,360	42.1	1,723.69	3.45	72.2	162.13
P016	cfDNA	S002	20200129	73,282,742	87.55	4.89	61,022,884	41.69	1,791.58	3.32	69.05	163.9
P017	WBC	N001	20170417	34,464,910	98.19	16.7	28,190,542	48.26	7,204.53	25.38	76.27	299.46
P017	cfDNA	S001	20170417	37,128,014	82.9	27.69	22,256,030	49.62	5,179.87	19.9	87.4	166.85
P017	cfDNA	S002	20180518	69,067,692	85.59	4.9	56,219,380	41.19	1,611.82	3.21	76.29	169.24
P018	WBC	N001	20170510	26,123,080	98.22	16.77	21,355,154	48.14	5,418.18	25.18	89.44	294.01
P018	cfDNA	S001	20170510	46,416,762	87.68	22.76	31,435,366	50.23	7,150.29	20.99	87.74	160.12
P018	cfDNA	S002	20171108	39,437,864	82.69	22.59	25,246,410	49.43	6,037.11	21.73	87.35	171.33
P019	WBC	N001	20170524	26,091,874	98.3	16.95	21,300,726	47.99	5,340.98	24.84	88.77	294.47
P019	cfDNA	S001	20170524	38,411,646	86.74	24.23	25,244,330	49.41	5,648.45	20.2	87.54	161.61
P019	cfDNA	S002	20170928	39,808,978	83.01	21.31	26,003,092	48.74	5,993.2	21.33	88.04	170.34
P020	WBC	N001	20170713	28,001,720	98.09	19.19	22,195,734	48.13	5,515.52	23.92	73.48	298.01
P020	cfDNA	S001	20170713	73,283,162	88.82	4.9	61,900,208	41.85	1,815.8	3.34	71.65	160.66
P020	cfDNA	S002	20171127	68,230,170	83.15	4.84	53,984,212	41.37	1,586.97	3.31	72.35	167.71

P021	WBC	N001	20170810	32,291,646	98.04	19.33	25,541,074	48.06	6,377.42	23.99	75.04	300.57
P021	cfDNA	S001	20170810	83,248,618	85.08	9.24	64,280,182	42.6	3,735.21	6.19	80.31	168.93
P021	cfDNA	S002	20180511	92,677,914	85.48	9.7	71,535,816	42.71	4,009.1	5.98	77.8	166.08
P002	WBC	N001	20170818	30,893,274	98.09	17.29	25,065,668	47.92	6,269.12	24.61	74.77	306.77
P002	cfDNA	S001	20170818	91,485,534	86.63	9.51	71,719,618	42.64	3,970.19	5.89	85.42	166.73
P002	cfDNA	S002	20180102	97,243,064	85.77	9.57	75,418,936	42.65	4,135.23	5.85	83.83	166.7
P002	cfDNA	S003	20180330	76,932,500	84.2	9.4	58,691,082	42.37	3,213.64	5.91	82.93	167.49
P022	WBC	N001	20170822	34,282,482	98	18.46	27,394,368	47.49	6,727.95	23.88	75.78	297.32
P022	cfDNA	S001	20170822	102,546,704	88.68	9.37	82,413,056	42.59	4,431.44	5.86	80.14	160.02
P022	cfDNA	S002	20180103	75,625,288	82.27	9.47	56,324,774	42.01	3,133.19	5.94	80.21	172.63
P023	WBC	N001	20170929	36,961,502	98.15	18.75	29,474,544	47.9	7,265.72	23.88	76.78	298.45
P023	cfDNA	S001	20170929	70,195,954	83.55	7.11	54,479,416	42.51	2,646.71	5.38	74.88	163.92
P023	cfDNA	S002	20180228	76,565,960	86.19	6.97	61,392,616	42.22	2,990.5	5.37	79.19	164.99
P003	WBC	N001	20171020	31,136,538	98.25	17.63	25,196,858	47.9	6,143.12	24.03	75.85	288.58
P003	cfDNA	S001	20171020	77,941,180	88.98	7.32	64,279,716	42.62	3,132.32	5.36	74.15	165.75
P003	cfDNA	S002	20190215	72,536,626	84.98	7.18	57,214,384	42.15	2,809.43	5.38	77.65	170.83
P003	cfDNA	S003	20191004	59,253,210	83.86	7.42	46,004,320	42.7	2,252.97	5.38	72.03	164.73
P024	WBC	N001	20171023	32,050,726	98.19	18.74	25,573,426	48.23	6,347.34	24.07	76.35	296.15
P024	cfDNA	S001	20171023	74,755,708	88.56	7.31	61,369,956	42.75	2,905.38	5.35	80.72	158.23
P024	cfDNA	S002	20180323	32,346,204	83.26	8.43	24,661,792	44.27	2,464.13	10.98	84.47	172.57
P025	WBC	N001	20171206	32,492,322	98.18	18.18	26,101,020	47.98	6,450.04	24.14	77.39	296.92
P025	cfDNA	S001	20171206	36,580,772	81.49	8.01	27,424,964	44.45	2,719.1	10.89	83.18	167.39
P025	cfDNA	S002	20180822	39,216,660	82.67	8.42	29,690,824	44.68	2,973.49	10.85	87.71	169.12

P026	WBC	N001	20171211	31,391,028	98.19	17.87	25,314,142	48.19	6,252.13	24.22	77.08	295.85
P026	cfDNA	S001	20171211	50,227,794	85.35	8.56	39,197,756	45.14	3,829.23	10.63	82.89	161.56
P026	cfDNA	S002	20180427	40,223,448	85.49	7.69	31,742,416	44.63	3,087.59	10.65	90.33	163.44
P027	WBC	N001	20171212	33,546,098	98.07	17.11	27,270,892	48.2	6,741.63	24.43	75.39	299.55
P027	cfDNA	S001	20171212	33,553,028	83.64	8.01	25,818,048	44.7	2,683.36	11.39	89.75	170.49
P027	cfDNA	S002	20180413	59,502,482	85.24	13.32	43,963,130	44.61	4,888.99	11.47	86.19	171.26
P028	WBC	N001	20171219	30,701,884	98.06	17.13	24,950,534	48.13	6,207.59	24.56	76.16	300.07
P028	cfDNA	S001	20171219	51,885,270	84.96	13.84	37,979,668	44.9	4,166.55	11.28	83.18	165.11
P028	cfDNA	S002	20180426	65,170,400	85.83	13.33	48,485,082	45.02	5,359.32	11.29	85.55	166.13
P029	WBC	N001	20171219	30,681,880	98.05	18.02	24,660,384	47.92	6,020.79	23.89	75.68	298.13
P029	cfDNA	S001	20171219	59,849,154	86.3	12.86	45,007,146	44.16	4,730.46	11.18	86.95	162.8
P029	cfDNA	S002	20180426	45,925,776	83.87	13.68	33,249,530	44.7	3,752.46	11.6	80.88	169.13
P030	WBC	N001	20180112	26,133,250	98.2	15.33	21,727,606	48.17	5,451.11	25.35	89.07	292.08
P030	cfDNA	S001	20180112	62,532,108	86.33	14.6	46,103,006	45.14	5,036.06	11.12	80.75	163.15
P030	cfDNA	S002	20180723	52,372,190	87.46	15.98	38,486,536	46.34	5,656.59	14.52	88.02	168.15
P004	WBC	N001	20180122	34,734,128	98.16	15.11	28,941,256	48.18	6,829.61	24.09	77.34	281.8
P004	cfDNA	S001	20180122	54,548,434	95.89	14.68	44,629,678	46.57	7,640.18	17.32	87.55	198.81
P004	cfDNA	S002	20180518	61,532,568	83.4	17.24	42,471,032	46.41	6,218.07	14.3	87.68	167.74
P031	WBC	N001	20180125	37,482,254	98.08	16.27	30,782,770	48.1	7,199.43	23.52	75.31	283.27
P031	cfDNA	S001	20180125	50,743,302	88.66	16.37	37,623,670	46.14	5,986.82	15.73	90.24	176.1
P031	cfDNA	S002	20180607	49,648,042	83.67	15.55	35,082,084	46.42	5,532.94	15.7	90.32	169.03
P032	WBC	N001	20180223	30,852,172	97.93	15.92	25,403,488	47.84	5,924.28	23.45	74.65	292.98
P032	cfDNA	S001	20180223	44,868,416	84.35	16.32	31,669,070	46.55	4,696.34	14.77	88.12	165.34

P032	cfDNA	S002	20180905	51,095,876	85.58	15.24	37,064,306	46.69	6,109.47	16.49	90.42	171.5
P033	WBC	N001	20180316	38,218,272	97.96	15.76	31,538,674	47.7	7,359.34	23.46	76.38	300.26
P033	cfDNA	S001	20180316	39,956,086	85.15	18.21	27,827,298	47.01	4,559.38	15.93	91.9	167.34
P033	cfDNA	S002	20180817	50,697,632	87.07	17.91	36,238,918	47.05	6,358.54	16.94	91.83	173.33
P034	WBC	N001	20180302	35,596,640	98	16.19	29,238,084	48.01	6,865.94	23.51	75.89	296.25
P034	cfDNA	S001	20180302	66,388,488	90.27	19.03	48,524,008	46.97	7,490.83	14.91	91.85	160.08
P034	cfDNA	S002	20181010	50,057,540	83.03	19.15	33,602,334	46.65	5,465.74	15.5	91.97	169.56
P035	WBC	N001	20180319	27,889,552	98.14	15.68	23,079,624	48.19	5,751.67	25.15	89	286.15
P035	cfDNA	S001	20180319	39,994,608	84.85	19.06	27,468,134	46.57	4,570.95	15.89	92.32	172.31
P035	cfDNA	S002	20180813	33,735,126	84.99	18.98	23,230,014	46.72	4,039.47	16.63	86.27	171.39
P006	WBC	N001	20180309	28,575,628	98.1	16.77	23,331,588	48.33	5,821.43	24.8	88.35	290.17
P006	cfDNA	S001	20180309	34,738,118	93.37	25.33	24,220,322	47.93	4,116	15.01	87.02	165.76
P006	cfDNA	S002	20181017	36,635,190	86.98	20.07	25,469,808	46.87	4,288.74	15.96	88.62	166.82
P007	WBC	N001	20180313	30,155,264	98.05	15.13	25,091,102	48.15	6,301.43	25.57	88.97	282.24
P007	cfDNA	S001	20180313	55,434,648	91.09	17.2	41,810,732	47.26	7,448.29	17.86	87.14	168.25
P007	cfDNA	S002	20180829	64,255,454	86.47	18.05	45,529,924	48.52	8,298.35	17.74	86.69	164.07
P008	WBC	N001	20180419	31,867,150	98.09	16.1	26,225,358	48.17	6,481.7	24.87	89.59	282.3
P008	cfDNA	S001	20180419	50,289,740	83.54	20.25	33,501,230	46.61	5,715.66	16	88.46	170.48
P008	cfDNA	S002	20181029	48,698,496	92.39	17.96	36,909,504	47.48	7,337.25	19.17	88.29	181.19
P008	cfDNA	S003	20181114	50,124,002	81.86	18.12	33,595,116	47.57	6,125.99	17.6	88.49	169.62
P009	WBC	N001	20180322	28,040,032	98.13	15.7	23,195,968	48.18	5,774.16	25.14	89.73	286.37
P009	cfDNA	S001	20180322	44,269,284	83.6	19.44	29,812,582	47.79	5,561.51	17.66	88.37	170.62
P009	cfDNA	S002	20181113	49,652,196	83.51	19.59	33,341,630	47.92	6,198.15	17.55	88.45	169.34

P036	WBC	N001	20180328	27,817,292	98.1	15.49	23,063,528	48.11	5,790.32	25.29	88.92	296.79
P036	cfDNA	S001	20180328	35,918,328	84.13	20.4	24,055,042	47.3	4,476.85	17.5	88.6	169.64
P036	cfDNA	S002	20181206	46,177,062	83.48	18.79	31,305,560	47.64	5,866.73	17.93	88.54	169.74
P037	WBC	N001	20180419	30,167,750	98.09	15.06	25,133,896	47.9	6,191.73	25.03	88.43	290.09
P037	cfDNA	S001	20180419	53,861,660	86.22	20.79	36,784,786	47.14	5,988.89	15.25	76.82	166.14
P037	cfDNA	S002	20181121	67,264,736	83.07	19.88	44,769,356	47.01	7,255.14	15.3	76.83	167.83
P038	WBC	N001	20180417	30,927,230	98.07	16.75	25,250,286	48.26	6,283.61	24.8	89.53	284.09
P038	cfDNA	S001	20180417	32,324,668	84.47	27.45	19,808,972	48.04	3,310.52	14.29	74.86	169.57
P038	cfDNA	S002	20181024	60,917,134	83.66	18.35	41,610,196	46.61	7,280.03	16.75	73.65	172.21
P039	WBC	N001	20180418	30,191,942	98.11	16.25	24,807,858	48.16	6,116.7	24.67	88.91	292.64
P039	cfDNA	S001	20180418	49,274,488	83.73	20.28	32,893,820	46.62	5,387.85	15.37	79.59	170.04
P039	cfDNA	S002	20181022	63,176,554	84.21	20.53	42,276,602	46.44	7,060.26	15.59	75.45	173.02
P040	WBC	N001	20180621	31,960,662	98.14	16.75	26,112,660	47.96	6,436.39	24.51	88.96	292.87
P040	cfDNA	S001	20180621	39,515,790	83.82	32.66	22,305,490	49.6	5,359.6	19.1	90.86	169.05
P040	cfDNA	S002	20181129	57,904,058	90.48	26.83	38,335,730	49.18	9,757.94	21.89	91.49	177.57
P041	WBC	N001	20180629	29,007,636	98.04	14.97	24,182,870	47.7	5,976.16	25.03	88.58	299.24
P041	cfDNA	S001	20180629	30,301,814	92.84	37.62	17,550,142	50.11	4,118.45	17.34	89.11	165.86
P041	cfDNA	S002	20181224	57,046,196	83.95	30.35	33,353,098	49.31	8,091.92	19.86	89.93	172.43
P010	WBC	N001	20180917	25,072,138	98.13	15.88	20,694,636	47.88	5,044.11	24.48	88.92	292.51
P010	cfDNA	S001	20180917	56,067,324	84.32	27.36	34,339,342	49.1	8,401.29	20.94	89.94	169.92
P010	cfDNA	S002	20190117	50,929,646	94.18	31.97	32,630,298	48.92	8,172.43	20.13	90.59	187.78
P010	cfDNA	S003	20191219	53,521,372	84.19	30.27	31,416,728	49.65	7,419.85	19.64	90.78	166.02
P011	WBC	N001	20181126	27,887,004	97.98	15.35	23,128,360	47.83	5,696.08	24.91	88.46	292.59

P011	cfDNA	S001	20181126	58,505,076	83.48	25.7	36,284,994	49.57	8,512.55	20.54	90.78	165.64
P011	cfDNA	S002	20190429	40,491,622	83.57	27.3	24,601,200	49.11	5,917.78	20.6	90.92	170.25
P011	cfDNA	S003	20191014	50,533,816	86.34	27.23	31,752,276	49.37	7,443.92	20.31	91.06	164.84
P012	WBC	N001	20190321	28,484,388	98.07	16.03	23,456,850	48.01	5,925.02	25.3	88.4	296.81
P012	cfDNA	S001	20190321	45,119,218	92.17	25.39	31,030,074	49.41	7,658.49	21.98	90.33	184.28
P012	cfDNA	S002	20191112	46,092,826	97.69	24.37	34,055,108	48.5	8,669.14	22.56	90.32	214.44
P012	cfDNA	S003	20191217	44,305,852	85.17	24.76	28,390,954	49.82	6,796.23	21.4	90.36	168.74
P013	WBC	N001	20190411	31,077,026	98.1	15.91	25,634,974	48.02	6,514.83	25.5	88.54	295.69
P013	cfDNA	S001	20190411	34,188,136	88.86	25.93	22,502,316	49.29	5,648.32	22.04	90.38	178.49
P013	cfDNA	S002	20191022	49,484,964	93.09	25.93	34,118,866	48.71	8,390.45	21.43	80.71	186.71
P013	cfDNA	S003	20200220	48,882,600	94.92	28.41	33,217,808	48.67	8,090.65	20.54	79.35	186.11
P014	WBC	N001	20191030	28,087,098	98.09	15.27	23,343,474	47.8	5,896.3	25.51	89.13	297.71
P014	cfDNA	S001	20191030	34,554,796	85.81	32.69	19,958,330	49.29	4,545.86	18.08	81.15	171.32
P014	cfDNA	S002	20200214	52,590,222	95.37	26.78	36,725,824	48.55	8,875.11	20.77	80.72	190.3
P015	WBC	N001	20200212	27,336,778	98.12	16.75	22,328,720	47.87	5,595.38	24.9	89.71	294.22
P015	cfDNA	S001	20200212	56,977,888	86.11	28.75	34,956,224	49.32	7,937.95	19.15	78.98	165.61
P015	cfDNA	S002	20200729	42,773,704	84.3	32.26	24,425,734	49.46	5,613.16	18.43	81.11	170.49

cfDNA, cell-free DNA; NGS, next-generation sequencing; WBC, white blood cell.