

S1 Table. Targeted gene list of BraintumorSCAN panel

			SNV	Gene	Chr	Position	No. of regions	Size (bp)
<i>ABL1</i>	9	133,589,243-133,761,095	SNV	InDel	CNV		12	4,949
<i>ABL2</i>	1	179,076,828-179,198,844	SNV	InDel	CNV		14	4,802
<i>ACVRI</i>	2	158,594,018-158,732,399	SNV	InDel	CNV		18	3,698
<i>AKT1</i>	14	105,235,898-105,262,113	SNV	InDel	CNV		17	4,674
<i>AKT2</i>	19	40,739,754-40,791,468	SNV	InDel	CNV		29	5,862
<i>AKT3</i>	1	243,663,020-244,014,406	SNV	InDel	CNV		17	2,607
<i>ALK</i>	2	29,416,065-30,144,502	SNV	InDel	CNV		31	7,620
<i>APC</i>	5	112,043,170-112,198,258	SNV	InDel	CNV		22	11,391
<i>ARID1A</i>	1	27,022,497-27,107,693	SNV	InDel	CNV		21	9,315
<i>ARID1B</i>	6	157,099,038-157,529,050	SNV	InDel	CNV		23	12,772
<i>ARID2</i>	12	46,123,423-46,301,848	SNV	InDel	CNV		24	13,259
<i>ATM</i>	11	108,093,186-108,236,786	SNV	InDel	CNV		63	21,810
<i>ATRX</i>	X	76,763,804-77,041,780	SNV	InDel	CNV		36	9,611
<i>B9D2</i>	19	41,860,580-41,870,103	SNV	InDel	CNV		5	1,093
<i>BAX</i>	19	49,458,047-49,465,080	SNV	InDel	CNV		4	2,584
<i>BCAM</i>	19	45,312,291-45,324,698	SNV	InDel	CNV		13	5,400
<i>BCL2</i>	18	60,795,833-60,987,386	SNV	InDel	CNV		2	2,315
<i>BCOR</i>	X	39,909,144-40,036,607	SNV	InDel	CNV		19	7,204
<i>BIRC5</i>	17	76,210,242-76,219,962	SNV	InDel	CNV		5	1,966
<i>BLNK</i>	10	97,951,704-98,031,369	SNV	InDel	CNV		19	2,596
<i>BMX</i>	X	15,482,344-15,574,295	SNV	InDel	CNV		21	3,532
<i>BRAF</i>	7	140,426,269-140,624,589	SNV	InDel	CNV	Fusion	21	3,490
<i>BRCA1</i>	17	41,197,670-41,277,525	SNV	InDel	CNV		26	7,454
<i>BRCA2</i>	13	32,889,586-32,972,932	SNV	InDel	CNV		29	12,219
<i>BSND</i>	1	55,464,581-55,474,326	SNV	InDel	CNV		4	1,417
<i>C19ORF33</i>	19	38,794,776-38,795,671	SNV	InDel	CNV		3	764
<i>CABP5</i>	19	48,533,789-48,547,336	SNV	InDel	CNV		6	954
<i>CADM1</i>	11	115,047,169-115,375,700	SNV	InDel	CNV		17	2,907
<i>CARD11</i>	7	2,946,247-3,083,604	SNV	InDel	CNV		26	5,230
<i>CBL</i>	11	119,076,727-119,170,516	SNV	InDel	CNV		16	3,897
<i>CCND1</i>	11	69,455,830-69,466,200	SNV	InDel	CNV		5	1,916
<i>CCND2</i>	12	4,382,877-4,409,200	SNV	InDel	CNV		7	2,184
<i>CCND3</i>	6	41,903,564-42,018,120	SNV	InDel	CNV		8	3,580
<i>CCNE2</i>	8	95,893,835-95,908,931	SNV	InDel	CNV		14	2,481
<i>CD44</i>	11	35,160,392-35,251,018	SNV	InDel	CNV		21	6,819
<i>CD79B</i>	17	62,006,561-62,009,739	SNV	InDel	CNV		6	1,086
<i>CDH1</i>	16	68,771,103-68,867,512	SNV	InDel	CNV		19	5,140

<i>CDH8</i>	16	61,681,656-62,070,964	SNV	InDel	CNV		16	4,644
<i>CDK4</i>	12	58,142,283-58,149,821	SNV	InDel	CNV		10	2,323
<i>CDK6</i>	7	92,244,429-92,465,966	SNV	InDel	CNV		9	1,993
<i>CDKN1B</i>	12	12,867,967-12,874,166	SNV	InDel	CNV		5	1,897
<i>CDKN2A</i>	9	21,968,183-21,995,325	SNV	InDel	CNV		8	2,849
<i>CDKN2B</i>	9	22,005,961-22,009,387	SNV	InDel	CNV		2	1,008
<i>CDKN2C</i>	1	51,426,392-51,439,967	SNV	InDel	CNV		3	3,149
<i>CHEK1</i>	11	125,495,006-125,546,175	SNV	InDel	CNV		14	7,266
<i>CHEK2</i>	22	29,083,860-29,138,435	SNV	InDel	CNV		21	3,955
<i>CIC</i>	19	42,772,664-42,799,368	SNV	InDel	CNV	Fusion	24	10,088
<i>CSF1R</i>	5	149,433,607-149,492,960	SNV	InDel	CNV		23	4,478
<i>CSK</i>	15	75,074,373-75,094,963	SNV	InDel	CNV		9	4,455
<i>CTDNEP1</i>	17	7,147,245-7,155,835	SNV	InDel	CNV		11	2,033
<i>CTNNB1</i>	3	41,236,303-41,301,612	SNV	InDel	CNV		22	6,615
<i>CTU1</i>	19	51,601,833-51,611,672	SNV	InDel	CNV		3	1,262
<i>CXCR4</i>	2	136,872,414-136,875,760	SNV	InDel	CNV		2	1,291
<i>DDR1</i>	6	30,844,173-30,867,884	SNV	InDel	CNV		25	9,584
<i>DDR2</i>	1	162,601,138-162,750,061	SNV	InDel	CNV		21	4,417
<i>DDX3X</i>	X	41,192,536-41,223,750	SNV	InDel	CNV		21	5,595
<i>DICER1</i>	14	95,556,810-95,624,372	SNV	InDel	CNV		33	8,322
<i>EED</i>	11	85,955,401-85,989,806	SNV	InDel	CNV		11	7,249
<i>EGFR</i>	7	55,086,689-55,273,335	SNV	InDel	CNV		34	7,229
<i>EPHA3</i>	3	89,156,649-89,528,677	SNV	InDel	CNV		17	4,053
<i>ERBB2</i>	17	37,844,142-37,886,704	SNV	InDel	CNV		31	11,869
<i>ERBB3</i>	12	56,473,616-56,495,864	SNV	InDel	CNV		25	8,147
<i>ERBB4</i>	2	212,248,315-213,403,590	SNV	InDel	CNV		30	5,872
<i>ERCC2</i>	19	45,854,862-45,874,201	SNV	InDel	CNV		23	4,167
<i>ERVV-2</i>	19	53,547,966-53,554,405	SNV	InDel	CNV		2	2,582
<i>EWSR1</i>	22	29,663,973-29,696,540	SNV	InDel	CNV	Fusion	15	11,078
<i>EZH2</i>	7	148,504,713-148,581,466	SNV	InDel	CNV		23	4,216
<i>EZR</i>	6	159,187,921-159,240,481	SNV	InDel	CNV		14	2,784
<i>FAM167B</i>	1	32,712,793-32,714,227	SNV	InDel	CNV		2	797
<i>FGFR1</i>	8	38,271,121-38,326,377	SNV	InDel	CNV	Fusion	26	6,022
<i>FGFR2</i>	10	123,239,070-123,357,997	SNV	InDel	CNV		28	6,105
<i>FGFR3</i>	4	1,795,009-1,809,040	SNV	InDel	CNV	Fusion	18	4,150
<i>FGFR4</i>	5	176,513,848-176,524,790	SNV	InDel	CNV		19	5,413
<i>FGR</i>	1	27,939,400-27,961,813	SNV	InDel	CNV		15	3,093
<i>FIZ1</i>	19	56,103,791-56,113,361	SNV	InDel	CNV		3	5,861
<i>FLT1</i>	13	28,877,279-29,069,290	SNV	InDel	CNV		35	6,621
<i>FLT3</i>	13	28,578,164-28,674,754	SNV	InDel	CNV		25	4,336

<i>FLT4</i>	5	180,030,167-180,076,649	SNV	InDel	CNV	32	5,806
<i>FUBP1</i>	1	78,413,174-78,444,914	SNV	InDel	CNV	23	3,430
<i>GFI1</i>	1	92,941,561-92,952,458	SNV	InDel	CNV	9	2,247
<i>GFI1B</i>	9	135,820,907-135,866,462	SNV	InDel	CNV	11	2,371
<i>GLI2</i>	2	121,493,174-121,748,276	SNV	InDel	CNV	16	6,163
<i>GLTSCR1</i>	19	48,111,428-48,206,558	SNV	InDel	CNV	16	7,947
<i>GNAI1</i>	19	3,094,383-3,121,477	SNV	InDel	CNV	7	4,042
<i>GNAQ</i>	9	80,336,214-80,646,399	SNV	InDel	CNV	9	1,952
<i>GPBP1L1</i>	1	46,093,903-46,152,327	SNV	InDel	CNV	13	3,436
<i>GPR88</i>	1	101,003,668-101,007,608	SNV	InDel	CNV	2	3,600
<i>GSK3B</i>	3	119,545,610-119,813,289	SNV	InDel	CNV	12	2,885
<i>H3F3A</i>	1	226,249,527-226,259,205	SNV	InDel	CNV	5	1,504
<i>H3F3B</i>	17	73,774,647-73,781,592	SNV	InDel	CNV	4	1,318
<i>HDAC2</i>	6	114,262,197-114,332,497	SNV	InDel	CNV	19	3,779
<i>HDAC9</i>	7	18,126,547-19,036,947	SNV	InDel	CNV	43	11,491
<i>HGF</i>	7	81,331,872-81,399,779	SNV	InDel	CNV	21	3,829
<i>HIST1H3B</i>	6	26,031,853-26,032,313	SNV	InDel	CNV	1	461
<i>HIST1H3C</i>	6	26,045,614-26,046,074	SNV	InDel	CNV	1	461
<i>HNF1A</i>	12	121,416,321-121,439,020	SNV	InDel	CNV	8	3,213
<i>HPCAL4</i>	1	40,148,183-40,157,407	SNV	InDel	CNV	5	1,345
<i>ID2</i>	2	8,818,950-8,824,186	SNV	InDel	CNV	5	1,932
<i>IDH1</i>	2	209,101,778-209,130,823	SNV	InDel	CNV	12	3,169
<i>IDH2</i>	15	90,627,473-90,645,811	SNV	InDel	CNV	12	2,243
<i>INPP5D</i>	2	233,924,652-234,115,428	SNV	InDel	CNV	34	7,552
<i>ITGB4</i>	17	73,717,383-73,753,811	SNV	InDel	CNV	43	8,634
<i>JAK1</i>	1	65,300,220-65,432,212	SNV	InDel	CNV	25	4,964
<i>KDM4D</i>	11	94,706,820-94,732,707	SNV	InDel	CNV	3	3,128
<i>KDM5A</i>	12	394,597-498,646	SNV	InDel	CNV	31	7,357
<i>KDM5B</i>	1	202,698,139-202,778,623	SNV	InDel	CNV	30	7,847
<i>KDM5C</i>	X	53,221,901-53,254,629	SNV	InDel	CNV	29	6,907
<i>KDM6A</i>	X	44,732,396-44,971,882	SNV	InDel	CNV	30	8,653
<i>KDM6B</i>	17	7,743,197-7,756,864	SNV	InDel	CNV	24	7,183
<i>KDR</i>	4	55,946,083-55,991,787	SNV	InDel	CNV	30	5,873
<i>KEL</i>	7	142,638,314-142,659,793	SNV	InDel	CNV	20	3,708
<i>KIT</i>	4	55,524,060-55,604,748	SNV	InDel	CNV	21	4,455
<i>KLF4</i>	9	110,248,007-110,252,788	SNV	InDel	CNV	5	2,768
<i>KLHL21</i>	1	6,653,400-6,674,692	SNV	InDel	CNV	7	2,676
<i>KMT2B</i>	19	36,208,896-36,229,804	SNV	InDel	CNV	35	12,030
<i>KMT2C</i>	7	151,833,892-152,133,115	SNV	InDel	CNV	61	20,730
<i>KMT2D</i>	12	49,415,538-49,453,582	SNV	InDel	CNV	56	19,661

<i>KRAS</i>	12	25,362,704-25,403,895	SNV	InDel	CNV		7	1,255
<i>LPHN2</i>	1	81,771,820-82,458,145	SNV	InDel	CNV		37	9,576
<i>LRIG2</i>	1	113,615,767-113,669,847	SNV	InDel	CNV		19	8,385
<i>LRP1B</i>	2	140,990,730-142,889,295	SNV	InDel	CNV		92	19,486
<i>LZTR1</i>	22	21,333,726-21,353,346	SNV	InDel	CNV		20	8,482
<i>MALT1</i>	18	56,338,593-56,415,288	SNV	InDel	CNV		17	5,254
<i>MAP2K1</i>	15	66,679,130-66,782,978	SNV	InDel	CNV		12	2,662
<i>MAX</i>	14	65,472,897-65,569,438	SNV	InDel	CNV		9	1,791
<i>MDM2</i>	12	69,201,927-69,238,000	SNV	InDel	CNV		17	4,046
<i>MDM4</i>	1	204,485,482-204,527,834	SNV	InDel	CNV		14	7,708
<i>MEG3</i>	14	101,297,758-101,327,360	SNV	InDel	CNV		1	29,603
<i>MET</i>	7	116,312,223-116,436,203	SNV	InDel	CNV		25	6,362
<i>MLH1</i>	3	37,034,798-37,107,135	SNV	InDel	CNV		24	4,413
<i>MRTO4</i>	1	19,578,008-19,585,349	SNV	InDel	CNV		8	1,924
<i>MSH2</i>	2	47,630,083-47,789,475	SNV	InDel	CNV		19	4,423
<i>MSH3</i>	5	79,950,442-80,171,706	SNV	InDel	CNV		26	5,411
<i>MSH5</i>	6	31,707,700-31,730,478	SNV	InDel	CNV		24	6,926
<i>MSH6</i>	2	47,922,644-48,034,024	SNV	InDel	CNV		18	8,464
<i>MTOR</i>	1	11,167,517-11,322,633	SNV	InDel	CNV		58	11,647
<i>MYB</i>	6	135,502,428-135,540,334	SNV	InDel	CNV		22	5,685
<i>MYBL1</i>	8	67,476,907-67,525,554	SNV	InDel	CNV		16	3,515
<i>MYC</i>	8	128,747,655-128,753,229	SNV	InDel	CNV		3	2,675
<i>MYCL</i>	1	40,363,019-40,367,953	SNV	InDel	CNV		3	2,067
<i>MYCN</i>	2	16,080,535-16,086,244	SNV	InDel	CNV		3	2,278
<i>MYD88</i>	3	38,179,944-38,184,538	SNV	InDel	CNV		4	4,189
<i>MZF1</i>	19	59,073,414-59,084,967	SNV	InDel	CNV		7	3,350
<i>NDRG2</i>	14	21,485,013-21,539,056	SNV	InDel	CNV		22	5,713
<i>NF1</i>	17	29,421,920-29,709,159	SNV	InDel	CNV		62	24,596
<i>NF2</i>	22	29,999,520-30,090,816	SNV	InDel	CNV		17	3,117
<i>NFKBIA</i>	14	35,871,194-35,873,985	SNV	InDel	CNV		6	1,706
<i>NOTCH1</i>	9	139,390,498-139,440,339	SNV	InDel	CNV		34	9,444
<i>NOTCH2</i>	1	120,457,904-120,612,342	SNV	InDel	CNV		37	10,092
<i>NOTCH3</i>	19	15,271,448-15,311,817	SNV	InDel	CNV		33	8,797
<i>NOTCH4</i>	6	32,163,189-32,191,869	SNV	InDel	CNV		30	7,651
<i>NRAS</i>	1	115,251,131-115,259,540	SNV	InDel	CNV		5	1,074
<i>NTRK1</i>	1	156,785,407-156,851,667	SNV	InDel	CNV		20	5,356
<i>NTRK2</i>	9	87,283,348-87,636,377	SNV	InDel	CNV		24	4,900
<i>NTRK3</i>	15	88,420,141-88,800,003	SNV	InDel	CNV	Fusion	28	5,014
<i>OTX2</i>	14	57,268,428-57,277,222	SNV	InDel	CNV		5	1,692
<i>PARP2</i>	14	20,811,716-20,825,981	SNV	InDel	CNV		15	4,625

<i>PDGFA</i>	7	538,176-559,958	SNV	InDel	CNV		9	2,376
<i>PDGFRA</i>	4	55,095,239-5,516,464	SNV	InDel	CNV		30	6,913
<i>PDGFRB</i>	5	149,495,301-149,535,448	SNV	InDel	CNV		24	5,063
<i>PIK3C2A</i>	11	17,111,260-17,229,555	SNV	InDel	CNV		34	6,993
<i>PIK3C2B</i>	1	204,393,955-204,463,877	SNV	InDel	CNV		36	8,207
<i>PIK3C2G</i>	12	18,400,523-18,800,987	SNV	InDel	CNV		36	7,139
<i>PIK3CA</i>	3	178,865,877-178,952,177	SNV	InDel	CNV		23	4,832
<i>PIK3CB</i>	3	138,374,206-138,553,805	SNV	InDel	CNV		25	5,681
<i>PIK3CD</i>	1	9,711,765-9,789,002	SNV	InDel	CNV		29	6,899
<i>PIK3CG</i>	7	106,505,698-106,545,857	SNV	InDel	CNV		13	4,822
<i>PIK3R1</i>	5	67,511,523-67,594,458	SNV	InDel	CNV		18	8,562
<i>PIK3R2</i>	19	18,263,903-18,281,368	SNV	InDel	CNV		16	5,496
<i>PMS1</i>	2	190,648,786-190,742,380	SNV	InDel	CNV		17	5,206
<i>PMS2</i>	7	6,013,005-6,048,781	SNV	InDel	CNV		15	3,445
<i>POLD1</i>	19	50,887,436-50,921,300	SNV	InDel	CNV		27	6,208
<i>POLE</i>	12	133,201,258-133,264,135	SNV	InDel	CNV		47	12,784
<i>POT1</i>	7	124,462,557-124,570,062	SNV	InDel	CNV		22	4,277
<i>PPM1D</i>	17	58,677,519-58,740,938	SNV	InDel	CNV		8	2,638
<i>PRDM2</i>	1	14,026,668-14,149,704	SNV	InDel	CNV		15	8,226
<i>PRKARIA</i>	17	66,409,739-66,547,290	SNV	InDel	CNV		16	4,344
<i>PRKCA</i>	17	64,298,729-64,800,180	SNV	InDel	CNV		20	3,796
<i>PRKCD</i>	3	53,190,000-53,226,307	SNV	InDel	CNV		23	4,095
<i>PTCH1</i>	9	98,209,169-98,279,364	SNV	InDel	CNV		27	7,372
<i>PTCH2</i>	1	45,286,336-45,308,760	SNV	InDel	CNV		24	5,022
<i>PTEN</i>	10	89,622,845-89,725,254	SNV	InDel	CNV		11	4,299
<i>PTPN11</i>	12	112,856,130-112,942,593	SNV	InDel	CNV		17	3,275
<i>PTPRD</i>	9	8,317,849-10,612,748	SNV	InDel	CNV		53	9,568
<i>QKI</i>	6	163,835,007-163,992,509	SNV	InDel	CNV	Fusion	15	4,864
<i>RAF1</i>	3	12,625,988-12,705,750	SNV	InDel	CNV		18	3,347
<i>RBI</i>	13	48,877,858-49,054,808	SNV	InDel	CNV		28	6,234
<i>RELA</i>	11	65,421,824-65,430,590	SNV	InDel	CNV		10	3,172
<i>RET</i>	10	43,572,450-43,623,742	SNV	InDel	CNV		20	4,829
<i>ROS1</i>	6	117,609,630-117,747,043	SNV	InDel	CNV		45	9,527
<i>RPS6KB1</i>	17	57,970,382-58,027,806	SNV	InDel	CNV		21	6,198
<i>SAMD11</i>	1	860,235-879,558	SNV	InDel	CNV		14	3,483
<i>SAMD5</i>	6	147,829,803-148,058,609	SNV	InDel	CNV	Fusion	3	1,041
<i>SDHA</i>	5	218,313-256,822	SNV	InDel	CNV		16	9,350
<i>SDHAF2</i>	11	61,197,489-61,213,568	SNV	InDel	CNV		6	1,206
<i>SDHB</i>	1	17,345,351-17,380,690	SNV	InDel	CNV		8	1,394
<i>SDHC</i>	1	161,284,022-161,334,560	SNV	InDel	CNV		8	3,965

<i>SDHD</i>	11	111,957,472-112,064,553	SNV	InDel	CNV		13	3,110
<i>SETD2</i>	3	47,058,558-47,205,492	SNV	InDel	CNV		24	9,142
<i>SHH</i>	7	155,592,709-155,604,992	SNV	InDel	CNV		7	2,446
<i>SIGLEC11</i>	19	50,453,202-50,464,454	SNV	InDel	CNV		11	2,738
<i>SLC30A2</i>	1	26,365,626-26,372,654	SNV	InDel	CNV		8	1,761
<i>SMARCA4</i>	19	11,071,573-11,175,902	SNV	InDel	CNV		43	12,904
<i>SMARCB1</i>	22	24,129,125-24,176,392	SNV	InDel	CNV		9	2,595
<i>SMARCE1</i>	17	38,785,012-38,804,785	SNV	InDel	CNV		15	3,187
<i>SMO</i>	7	128,828,688-128,852,317	SNV	InDel	CNV		12	3,704
<i>SNCAIP</i>	5	121,647,024-121,799,939	SNV	InDel	CNV		20	8,329
<i>SOX2</i>	3	181,429,687-181,432,249	SNV	InDel	CNV		1	2,563
<i>SPTA1</i>	1	158,581,029-158,656,531	SNV	InDel	CNV		52	10,059
<i>STAT1</i>	2	191,835,404-191,885,711	SNV	InDel	CNV		29	4,798
<i>STAT3</i>	17	40,467,738-40,540,611	SNV	InDel	CNV		25	4,024
<i>STAT5A</i>	17	40,439,540-40,462,712	SNV	InDel	CNV		20	5,311
<i>STAT6</i>	12	57,490,330-57,525,947	SNV	InDel	CNV	Fusion	26	5,162
<i>SUFU</i>	10	104,263,694-104,389,937	SNV	InDel	CNV		14	2,738
<i>SUZ12</i>	17	30,264,012-30,326,420	SNV	InDel	CNV		17	6,871
<i>T</i>	6	166,571,778-166,582,213	SNV	InDel	CNV		9	2,420
<i>TCF12</i>	15	57,210,796-57,579,168	SNV	InDel	CNV		32	7,786
<i>TEK</i>	9	27,109,114-27,229,255	SNV	InDel	CNV		23	4,975
<i>TENM3</i>	4	183,065,115-18,372,1529	SNV	InDel	CNV		32	10,932
<i>TERT</i> (Promoter)	5	1,294,900-1,296,162	SNV	InDel	CNV		1	1,263
<i>TMEM127</i>	2	96,919,521-96,931,776	SNV	InDel	CNV		5	1,344
<i>TOP2A</i>	17	38,545,746-38,574,227	SNV	InDel	CNV		36	6,677
<i>TP53</i>	17	7,565,232-7,590,893	SNV	InDel	CNV		14	2,804
<i>TRAF7</i>	16	2,205,674-2,226,600	SNV	InDel	CNV		22	4,034
<i>TSC1</i>	9	135,771,597-135,820,045	SNV	InDel	CNV		23	4,954
<i>TSC2</i>	16	2,097,441-2,138,737	SNV	InDel	CNV		44	13,312
<i>VHL</i>	3	10,182,667-10,191,854	SNV	InDel	CNV		4	2,338
<i>WWTR1</i>	3	149,238,567-149,421,085	SNV	InDel	CNV		13	3,292
<i>YAP1</i>	11	101,981,167-102,101,258	SNV	InDel	CNV		11	3,999
<i>ZMYM3</i>	X	70,460,741-70,475,072	SNV	InDel	CNV		26	6,346
<i>ZNF599</i>	19	35,249,914-35,264,159	SNV	InDel	CNV		5	2,460
<i>ZNF865</i>	19	56,116,746-5,6129,932	SNV	InDel	CNV		2	5,377

Chr, chromosome; CNV, copy number variant; InDel, insertion and deletion; NV, single nucleotide variant.