

**Supplementary Table 1.** This table shows the sum of positions called by VarScan Somatic, RVD2, muTect and Strelka in 44kbp PAXIP1 gene from chr7:154738059 to chr7:154782774. The first column is the position index corresponding to Fig 6 in the paper. The second column is the actual position in PAXIP1 gene with respect to index. The Third column is the reference base. The forth and fifth columns are the depth matrix for Normal and Case sample respectively. The last four columns are the mutation detection status from the four algorithms. Blank cell indicates this position is not called by the algorithm in the header.

Index	Actual Position	REF	Control	Case	VarScan2 Somatic	RVD2	muTect	Strelka
Format			A:C:G:T	A:C:G:T				
1	chr7:154739981	T	0:0:0:50	0:0:2:58	Somatic			
2	chr7:154740723	T	0:0:0:60	0:0:2:69	Somatic			
3	chr7:154740848	A	37:0:0:0	56:2:0:0	Somatic			
4	chr7:154743899	C	0:0:0:45	0:0:0:71	Germline	Germline	Call	
5	chr7:154745094	G	0:0:47:0	2:0:68:0	Somatic			
6	chr7:154747295	T	0:0:0:41	0:0:2:81	Somatic			
7	chr7:154749452	T	0:0:3:29	0:0:2:37	Germline			
8	chr7:154749704	G	8:0:36:0	2:0:42:0	Germline	Germline/Somatic	Call	
9	chr7:154751731	A	53:0:0:0	73:2:0:0	Somatic			
10	chr7:154751818	T	0:0:0:57	0:1:4:75	Somatic			
11	chr7:154753635	T	0:38:0:0	0:63:0:1	Germline	Germline	Call	
12	chr7:154754218	G	0:0:49:0	0:0:65:2	Somatic			
13	chr7:154754371	T	0:19:0:31	0:61:0:0	LOH	LOH	Call	
14	chr7:154754860	T	0:0:0:49	0:0:2:61	Somatic			
15	chr7:154755810	T	0:0:0:49	0:2:0:58	Somatic			
16	chr7:154755836	A	57:0:0:0	64:3:0:0	Somatic			
17	chr7:154757232	A	40:0:0:0	54:2:0:0	Somatic			
18	chr7:154757503	T	0:0:0:50	0:0:2:69	Somatic			
19	chr7:154757988	A	57:0:0:0	69:3:0:0	Somatic			
20	chr7:154758813	G	14:0:28:0	54:0:0:0	LOH	LOH	Call	
21	chr7:154759833	T	0:0:0:48	0:0:2:62	Somatic			
22	chr7:154760439	A	37:0:0:0	0:38:0:0	Somatic	Somatic	Call	Somatic
23	chr7:154760538	G	0:0:62:0	0:0:42:2	Somatic			
24	chr7:154760592	T	0:0:0:47	0:0:2:38	Somatic			
25	chr7:154760658	T	0:0:0:52	0:0:2:47	Somatic			
26	chr7:154760790	A	55:0:0:0	66:2:0:0	Somatic			
27	chr7:154762296	T	0:0:0:51	0:0:2:74	Somatic			
28	chr7:154762409	T	0:0:0:32	0:0:2:51	Somatic			
29	chr7:154762415	A	27:2:0:0	47:3:0:0	Germline			
30	chr7:154762957	T	0:0:0:37	2:0:0:54	Somatic			
31	chr7:154763136	A	61:0:0:0	62:0:2:0	Somatic			
32	chr7:154763337	T	0:0:0:43	0:0:2:80	Somatic			
33	chr7:154766365	A	53:0:0:0	57:2:0:0	Somatic			
34	chr7:154766388	A	47:0:0:0	66:2:0:0	Somatic			
35	chr7:154766700	C	4:21:0:0	10:42:0:0		Germline	Call	
36	chr7:154766732	T	0:0:0:35	0:0:5:44	Somatic	Somatic	Call	
37	chr7:154766832	A	34:0:0:0	42:4:0:0	Somatic	Somatic		

Index	Actual Position	REF	Control	Case	VarScan2 Somatic	RVD2	muTect	Strelka
38	chr7:154766834	T	0:0:0:34	0:2:0:43	Somatic			
39	chr7:154766857	A	29:0:0:0	36:2:0:0	Somatic			
40	chr7:154767108	T	0:0:0:55	0:0:1:64	Somatic			
41	chr7:154767456	T	0:0:0:40	0:0:2:74	Somatic			
42	chr7:154767801	A	47:0:0:0	67:2:0:0	Somatic			
43	chr7:154768640	T	0:0:0:66	0:0:2:97	Somatic			
44	chr7:154769094	G	0:0:46:0	0:0:63:2	Somatic			
45	chr7:154771488	T	0:0:0:50	0:0:2:60	Somatic			
46	chr7:154772261	A	47:0:0:0	71:2:0:0	Somatic			
47	chr7:154775220	A	47:0:0:0	84:2:1:0	Somatic			
48	chr7:154775236	T	0:0:0:47	0:0:2:88	Somatic			
49	chr7:154775872	A	55:0:0:0	71:2:0:1	Somatic			
50	chr7:154777014	C	0:49:0:0	0:64:2:0	Somatic		Call	
51	chr7:154777118	A	46:0:0:0	31:4:0:0	Somatic	Somatic	Call	
52	chr7:154777687	G	0:0:45:0	0:0:50:2	Somatic			
53	chr7:154777955	T	0:0:0:52	0:0:2:47	Somatic			
54	chr7:154778892	A	55:0:0:0	44:2:0:0	Somatic			
55	chr7:154779690	A	45:0:0:0	52:2:0:0	Somatic			
56	chr7:154780960	C	0:0:0:42	0:0:0:56	Germline	Germline	Call	
57	chr7:154781700	A	55:3:0:0	82:2:0:0	Germline			
58	chr7:154781769	G	0:0:21:4	0:0:31:2	LOH	Germline		
59	chr7:154781944	T	0:0:0:55	0:0:2:47	Somatic			
60	chr7:154782120	A	47:0:0:0	42:2:0:0	Somatic			
61	chr7:154782770	A	58:0:0:0	91:2:0:0	Somatic			