

**Supplementary Table S1.** Concordance in *EGFR* mutation detection between Therascreen, Idylla and NGS HotSpot Cancer panel assays among the 54 blood samples analyzed.

N	Sample	Therascreen T790M	Idylla T790M	NGS T790M	Therascreen Del EX19	Idylla Del EX 19	NGS Del EX 19	Therascreen L858R	Idylla L858R	NGS L858R
1	TRF				POS	POS	POS			
2	DSM				POS	POS	POS			
3	GAM				POS	POS	POS			
4	MSN-2				POS	POS	POS			
5	ARG	POS	POS	POS	POS	POS	POS			
6	VCV	POS	POS	POS	POS	POS	POS			
7	PLG	POS	POS	POS						
8	SRL	POS	POS	POS				POS	POS	POS
9	AAC							POS	POS	POS
10	LBG							POS	POS	POS
11	LSL-1							POS	POS	POS
12	LSL-2							POS	POS	POS
13	AMM									
14	APG									
15	GGA									
16	GSA									
17	MMT									
18	MSA									
19	MSN-1									
20	MOA-2									
21	PMA									
22	PMS									
23	PDA									
24	RML									
25	SLG									
26	CMM									
27	DTA-1									
28	DTA-2									
29	DLR									
30	BLB									
31	CSC									
32	CRG									
33	GRA									
34	MLM									
35	MMG									
36	MLA									
37	MRG									
38	NNA									
39	GGC							POS	POS	
40	PLG								POS	
41	VCF							POS	POS	
42	ASG-1				POS	POS				
43	ASG-2				POS					
44	DAM				POS					
45	DSA				POS		POS			
46	MSN-3				POS	POS				
47	NDA				POS					
48	PDG				POS	POS				
49	TRE				POS	POS				
50	BRA			POS	POS	POS	POS			
51	CHG	POS	POS		POS	POS	POS			
52	MOA-1	POS	POS		POS	POS	POS			
53	PMC	POS	POS		POS	POS	POS			
54	SCL	POS	POS		POS	POS	POS			

**Supplementary Table S2.** *EGFR* mutations detected by Therascreen EGFR Plasma RGQ PCR Kit

<b><i>EGFR</i> <i>Exon</i></b>	<b><i>COSMIC</i> <i>ID</i></b>	<b><i>Nucleotide Changes</i></b>	<b><i>Amino acidic Changes</i></b>
19	12422	c.2238_2248delinsGC	p.L747_A750>P
19	6218	c.2239_2247del9	p.L747_E749del
19	12383	c.2239_2251>C	p.L747_T751>P
19	6210	c.2240_2251del12	p.L747_T751>S
19	13551	c.2235_2252>AAT	p.E746_T751>I
19	6223	c.2235_2249del15	p.E746_A750del
19	6225	c.2236_2250del15	p.E746_A750del
19	12678	c.2237_2251del15	p.E746_T751>A
19	6254	c.2239_2253del15	p.L747_T751del
19	12369	c.2240_2254del15	p.L747_T751del
19	12387	c.2239_2258delinsCA	p.L747_P753>Q
19	12370	c.2240_2257del18	p.L747_P753>S
19	12728	c.2236_2253del18	p.E746_T751del
19	12367	c.2237_2254del18	p.E746_S752>A
19	12384	c.2237_2255delinsT	p.E746_S752>V
19	6220	c.2238_2255del18	p.E746_S752>D
19	6255	c.2239_2256del18	p.L747_S752del
19	12419	c.2238_2252>GCA	p.L747_T751>Q
19	12382	c.2239_2248TTAAGAGAAG>C	p.L747_A750>P
20	6240	c.2369C>T	p.T790M
21	6224	c.2573T>G	p.L858R

**Supplementary Table S3.** *EGFR* mutations detected by Idylla™ ctEGFR Mutation Assay

<b><i>EGFR</i> Exon</b>	<b><i>COSMIC</i> ID</b>	<b><i>Nucleotide Changes</i></b>	<b><i>Amino acidic Changes</i></b>
18	18441	c.2154_2155delinsTT	p.G719C
18	6252	c.2155G>A	p.G719S
18	6253	c.2155G>T	p.G719C
18	6239	c.2156G>C	p.G719A
19	No Cosmic	c.2239_2248delinsC	p.L747_A750>P
19	12370	c.2240_2248del	p.L747_A750delinsS
19	12422	c.2238_2248delinsGC	p.L747_A750>P
19	6218	c.2239_2247del9	p.L747_E749del
19	12383	c.2239_2251>C	p.L747_T751>P
19	6210	c.2240_2251del12	p.L747_T751>S
19	85798	c.2230_2249delinsGTCAA	p.I744_A750>VL
19	1190791	c.2234_2248del	p.K745_A750delinsT
19	13549	c.2235_2251delinsAG	p.E746_T751>A
19	No Cosmic	c.2236_2253delinsCAA	p.E746_T751>Q
19	No Cosmic	c.2236_2253delinsCTA	p.E746_T751>L
19	No Cosmic	c.2237_2253delinsTA	p.E746_T751>V
19	12386	c.2237_2252delinsT	p.E746_T751>V
19	13551	c.2235_2252>AAT	p.E746_T751>I
19	6223	c.2235_2249del15	p.E746_A750del
19	6225	c.2236_2250del15	p.E746_A750del
19	12678	c.2237_2251del15	p.E746_T751>A
19	6254	c.2239_2253del15	p.L747_T751del
19	12369	c.2240_2254del15	p.L747_T751del
19	18426	c.2237_2256delinsTC	p.E746_S752>V
19	No Cosmic	c.2235_2255delinsGGT	p.E746_S752>V
19	No Cosmic	c.2237_2256delinsTT	p.E746_S752>V
19	12387	c.2239_2258delinsCA	p.L747_P753>Q
19	12370	c.2240_2257del18	p.L747_P753>S
19	12728	c.2236_2253del18	p.E746_T751del
19	12367	c.2237_2254del18	p.E746_S752>A
19	12384	c.2237_2255delinsT	p.E746_S752>V
19	6220	c.2238_2255del18	p.E746_S752>D
19	6255	c.2239_2256del18	p.L747_S752del
19	255211	c.2238_2258del	p.L747_P753del
19	133189	c.2236_2256del21	p.E746_S752del
19	13556	c.2253_2276del24	p.S752_I759del
20	No Cosmic	c.2307_2308delinsGCCAGCGTG	p.D769_D770insASV
20	No Cosmic	c.2309_2310delinsCCAGCGTGGAT	p.D769_D770insASV
20	6241	c.2303G>T	p.S768I
20	12378	c.2310_2311insGGT	p.D770_N771insG
20	48922	c.2311_2312insGCGTGGACA	p.D770_N771insSVD
20	12377	c.2319_2320insCAC	p.H773_V774insH
20	6240	c.2369C>T	p.T790M
21	133630	c.2573_2574TG>GA	p.L858R
21	12429	c.2573_2574TG>GT	p.L858R
21	6213	c.2582T>A	p.L861Q
21	6224	c.2573T>G	p.L858R

**Supplementary Table S4. *EGFR* mutations identified by Ion AmpliSeq™ Cancer Hotspot Panel v2**

<b><i>EGFR</i> Exon</b>	<b><i>COSMIC</i> ID</b>	<b>Nucleotide Changes</b>	<b>Amino acidic Changes</b>
3	21683	c.323G>A	p.R108K
7	21686	c.865G>A	p.A289T
7	21685	c.866C>A	p.A289D
7	21687	c.866C>T	p.A289V
15	21689	c.1787C>T	p.P596L
15	21690	c.1793G>T	p.G598V
18	41905	c.2092G>A	p.A698T
18	28508	c.2104G>T	p.A702S
18	28511	c.2108T>C	p.L703P
18	12988	c.2125G>A	p.E709K
18	12428	c.2125_2127GAA>CAT	p.E709H
18	12371	c.2126A>T	p.E709V
18	13009	c.2126A>G	p.E709G
18	13427	c.2126A>C	p.E709A
18	41603	c.2134T>C	p.F712L
18	28601	c.2135T>C	p.F712S
18	18441	c.2154_2155GG>TT	p.G719C
18	6252	c.2155G>A	p.G719S
18	6253	c.2155G>T	p.G719C
18	18425	c.2156G>A	p.G719D
18	6239	c.2156G>C	p.G719A
18	12373	c.2159C>T	p.S720F
18	22992	c.2161G>A	p.G721S
18	28510	c.2162G>C	p.G721A
18	13979	c.2170G>A	p.G724S
19	13180	c.2188C>T	p.L730F
19	13432	c.2193G>A	p.W731*
19	53194	c.2197C>T	p.P733S
19	13181	c.2198C>T	p.P733L
19	18419	c.2200G>A	p.E734K
19	13182	c.2203G>A	p.G735S
19	27041	c.2213T>G	p.V738G
19	17570	c.2222C>T	p.P741L
19	13183	c.2225T>C	p.V742A
19	26509	c.2227G>A	p.A743T
19	26038	c.2233_2247del15	p.K745_E749del
19	14243	c.2234A>G	p.K745R
19	28517	c.2235_2246del12	p.E746_E749del
19	6223	c.2235_2249del15	p.E746_A750del
19	24869	c.2235_2252del18	p.E746_T751del
19	13184	c.2236G>A	p.E746K
19	6225	c.2236_2250del15	p.E746_A750del
19	12728	c.2236_2253del18	p.E746_T751del
19	133189	c.2236_2256del21	p.E746_S752del
19	12678	c.2237_2251del15	p.E746_T751>A
19	12386	c.2237_2252>T	p.E746_T751>V
19	12367	c.2237_2254del18	p.E746_S752>A
19	12384	c.2237_2255>T	p.E746_S752>V
19	23571	c.2238_2252del15	p.L747_T751del
19	6218	c.2239_2247del9	p.L747_E749del
19	12382	c.2239_2248TTAAGAGAAG>C	p.L747_A750>P
19	12383	c.2239_2251>C	p.L747_T751>P
19	6254	c.2239_2253del15	p.L747_T751del
19	6255	c.2239_2256del18	p.L747_S752del
19	133197	c.2239_2257>T	p.L747_P753>S
19	26704	c.2240T>C	p.L747S
19	6210	c.2240_2251del12	p.L747_T751>S
19	12369	c.2240_2254del15	p.L747_T751del
19	12370	c.2240_2257del18	p.L747_P753>S
19	18442	c.2241_2244AAGA>CCCG	p.L747_R748>FP
19	6219	c.2248G>C	p.A750P
19	13185	c.2252C>T	p.T751I

19	133207	c.2252_2275del24	p.T751_I759del
19	96856	c.2252_2276>A	p.T751_I759>N
19	13556	c.2253_2276del24	p.S752_I759del
19	29274	c.2254T>C	p.S752P
19	6256	c.2254_2277del24	p.S752_I759del
19	13186	c.2255C>A	p.S752Y
19	6268	c.2257C>T	p.P753S
19	85993	c.2260A>G	p.K754E
19	13188	c.2281G>A	p.D761N
19	21984	c.2281G>T	p.D761Y
19	27042	c.2282A>G	p.D761G
20	28603	c.2293G>A	p.V765M
20	26445	c.2300C>T	p.A767V
20	6241	c.2303G>T	p.S768I
20	6242	c.2305G>T	p.V769L
20	12376	c.2307_2308ins9	p.V769_D770insASV
20	14068	c.2308G>A	p.D770N
20	12427	c.2308_2309insGTT	p.D770>GY
20	12378	c.2310_2311insGGT	p.D770_N771insG
20	13003	c.2310_2311insAAC	p.D770_N771insN
20	13004	c.2310_2311insGGC	p.D770_N771insG
20	48922	c.2311_2312insGCGTGGACA	p.D770_N771insSVD
20	13428	c.2311_2312ins9	p.D770_N771insSVD
20	13005	c.2318A>T	p.H773L
20	13433	c.2318A>G	p.H773R
20	12377	c.2319_2320insCAC	p.H773_V774insH
20	12381	c.2319_2320ins9	p.H773_V774insNPH
20	13006	c.2320G>A	p.V774M
20	22954	c.2324G>A	p.C775Y
20	6226	c.2326C>T	p.R776C
20	22940	c.2327G>A	p.R776H
20	13007	c.2335_2336GG>TT	p.G779F
20	28513	c.2350T>C	p.S784P
20	13189	c.2351C>T	p.S784F
20	27110	c.2356G>A	p.V786M
20	6240	c.2369C>T	p.T790M
20	13190	c.2375T>C	p.L792P
20	12986	c.2429G>A	p.G810D
20	28610	c.2441T>C	p.L814P
20	13400	c.2457G>A	p.V819V
20	41663	c.2462T>C	p.I821T
21	12366	c.2572C>A	p.L858M
21	26129	c.2572C>T	p.L858L
21	13553	c.2572_2573CT>AG	p.L858R
21	6224	c.2573T>G	p.L858R
21	12429	c.2573_2574TG>GT	p.L858R
21	12675	c.2575G>A	p.A859T
21	12374	c.2582T>G	p.L861R
21	6213	c.2582T>A	p.L861Q
21	14070	c.2588G>A	p.G863D
21	13197	c.2590G>A	p.A864T
21	28607	c.2603A>G	p.E868G
21	53292	c.2608C>T	p.H870Y
21	33725	c.2609A>G	p.H870R
21	28605	c.2611G>A	p.A871T
21	13008	c.2612C>G	p.A871G
21	13199	c.2618G>A	p.G873E
21	26438	c.2620G>A	p.G874S