Appendix

Table1 Detailed site list of 29 EGFR gene mutations detected by ARMS (Amoy Diagnostics, Xiamen, China)

Name	Mutation	Exon	Base change	Cosmic ID
Ex18-mutant-1	G719A	18	2156G>C	6239
Ex18-mutant-2	G719S	18	2155G>A	6252
Ex18-mutant-3	G719C	18	2155G>T	6253
Ex19-mutant-1	E746_A750del (1)	19	2235_2249dell5	6223
Ex19-mutant-2	E746_A750del (2)	19	2236_2250del15	6225
Ex19-mutant-3	L747_P753>S	19	2240_2257del18	12370
Ex19-mutant-4	E746_T751>1	19	2235_2252>AAT (complex)	13551
Ex19-mutant-5	E746_T751del	19	2236_2253del18	12728
Ex19-mutant-6	E746_T751>A	19	2237_2251del15	12678
Ex19-mutant-7	E746_S752>A	19	2237_2254del18	12367
Ex19-mutant-8	E746_S752>V	19	2237_2250>T (complex)	12384
Ex19-mutant-9	E746_S752>D	19	2238_2255del18	6220
Ex19-mutant-10	L747_A750>P	19	2238_2248>GC (complex)	12422
Ex19-mutant-11	L747_T751>Q	19	2238_2252>GCA (complex)	12419
Ex19-mutant-12	L747_E749del	19	2239_2247del9	6218
Ex19-mutant-13	L747_T751del	19	2239_2253del15	6254
Ex19-mutant-14	L747_S752del	19	2239_2256del18	6255
Ex19-mutant-15	L747_A750>P	19	2239_2248TTAAGAGAAG>C(complex)	12382
Ex19-mutant-16	L747_P753>Q	19	2239_2258>CA (complex)	12387
Ex19-mutant-17	L747_T751>S	19	2240_2251del12	6210
Ex19-mutant-18	L747_T751del	19	2240_2254de115	12369
Ex19-mutant-19	L747_T751>P	19	2239_2251>C(complex)	12383
Ex20-mutant-1	T790M	20	2369C>T	6240
Ex20-mutant-2	S7681	20	2303G>T	6241
Ex20-mutant-3	H773_V774insH	20	2319_2320insCAC	12377
Ex20-mutant-4	D770_N771insG	20	2310_2311insGGT	12378
Ex20-mutant-5	V769_D770insASV	20	2307_2308insgecagcgtg	12376
Ex21-mutant-1	L858R	21	2573T>G	6224
Ex21-mutant-2	L861Q	21	2582T>A	6213

Notes: The ADx EGFR 29 Mutation Kit (Amoy Diagnostics, Xiamen, China) , using AMRS-PCR to detect previously predefined point mutations, covers 29 point mutations of EGFR including exon 18 G719X (G719A, G719, G719C), exon 19 deletions, exon 20 103 insertions (three types of insertions), exon 20 T790M and S768I, and exon 21 L858R and 104 L861Q mutation et al.

Appendix

Table2 Original data

Admission number	Age (years)	Sex	Smoking history	ECOG score	TNM stage	Tissue biopsy site	Sample type	EGFR-TKIs	Treatment response	Initial EGFR mutation	PFS	Post-progression EGFR gene status
142459	43	Male	Never	1	IV	Primary	Tumor tissue	Gefitinib	SD	G719X-19Del	2.27	T790M
144689	54	Male	Never	1	IV	Primary	Tumor tissue	Icotinib	SD	L858R	2.7	T790M
152340	51	Female	Never	2	IV	Primary	Tumor tissue	Gefitinib	SD	L858R	3.12	L858R
140272	70	Female	Ever	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R	3.78	Mutation clearance
177274	58	Male	Ever	1	IV	Primary	Tumor tissue	Icotinib	SD	L858R	5	Mutation clearance
165010	64	Female	Never	1	IV	Primary	Tumor tissue	Gefitinib	SD	19Del	5.62	T790M
177335	54	Male	Never	1	IV	Primary	Tumor tissue	Icotinib	PD	19Del	1.61	19Del
163041	54	Female	Never	1	IV	Secondary	Tumor tissue	Gefitinib	PR	L858R	11.97	L858R-T790M
128591	61	Male	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R	49.15	Mutation clearance
157781	55	Male	Never	0	IV	Primary	Tumor tissue	Gefitinib	SD	L858R	5.72	L858R
90398	63	Male	Ever	1	IV	Primary	Tumor tissue	Gefitinib	PR	19Del	7.13	T790M
139096	64	Male	Ever	0	IV	Primary	Tumor tissue	Icotinib	SD	L858R	5.95	Mutation clearance
175684	54	Male	Ever	1	IV	Primary	Tumor tissue	Icotinib	SD	19Del	6.15	T790M
144505	49	Male	Ever	1	IV	Primary	Tumor tissue	Icotinib	SD	L858R	7.13	Mutation clearance
137041	74	Female	Ever	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	15.45	T790M
171104	61	Male	Ever	1	IV	Primary	Tumor tissue	Icotinib	SD	19Del	7.17	Mutation clearance
141387	62	Male	Never	0	IV	Primary	Tumor tissue	Afatinib	PR	L858R	5.03	Mutation clearance
137044	78	Female	Ever	1	IV	Primary	Tumor tissue	Gefitinib	PR	19Del	13.81	19Del-T790M
177151	53	Male	Ever	1	IV	Primary	Tumor tissue	Icotinib	SD	L858R	7.46	Mutation clearance
169597	49	Female	Never	1	IV	Secondary	Tumor tissue	Icotinib	SD	L858R	8.09	Mutation clearance
54024	56	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PD	19Del	1.08	Mutation clearance
171954	51	Male	Never	1	IV	Secondary	Tumor tissue	Icotinib	SD	19Del	8.61	T790M
175207	46	Female	Never	0	IV	Primary	Tumor tissue	Icotinib	PR	L858R	8.94	L858R
157395	51	Female	Never	1	IV	Secondary	Pleural effusion	Gefitinib	PR	L858R	12.56	T790M
124657	47	Female	Never	2	IV	Primary	Tumor tissue	Icotinib	PR	19Del	21.37	T790M
166097	58	Female	Never	1	IV	Primary	Tumor tissue	Gefitinib	PR	L858R	13.18	Mutation clearance
166920	46	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	SD	19Del	9.07	T790M
133779	75	Female	Never	1	IV	Primary	Tumor tissue	Gefitinib	SD	L858R	9.11	T790M
169173	50	Female	Never	0	IV	Primary	Tumor tissue	Icotinib	SD	19Del	9.5	T790M
168404	58	Male	Ever	1	IV	Primary	Tumor tissue	Afatinib	PR	19Del	5.29	19Del
142928	68	Male	Never	1	IV	Primary	Tumor tissue	Gefitinib	PD	19Del	1.05	Mutation clearance
162218	70	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	10.78	19Del-T790M
137417	52	Male	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	10.55	T790M
151269	77	Male	Ever	1	IV	Primary	Tumor tissue	Gefitinib	SD	L858R	9.5	L858R
140452	56	Male	Never	0	IV	Primary	Tumor tissue	Icotinib	PR	L858R	33.44	Mutation clearance
173888	51	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	9.67	T790M
176234	55	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	10.65	Mutation clearance

Appendix

Admission number	Age (years)	Sex	Smoking history	ECOG score	TNM stage	Tissue biopsy site	Sample type	EGFR-TKIs	Treatment response	Initial EGFR mutation	PFS	Post-progression EGFR gene status
176686	61	Male	Ever	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	10.26	T790M
142897	71	Male	Never	0	IV	Secondary	Pleural effusion	Gefitinib	PR	19Del	17.98	Mutation clearance
140385	58	Female	Never	1	IV	Secondary	Tumor tissue	Icotinib	PR	L858R	7.96	T790M
139953	59	Male	Never	0	IV	Primary	Tumor tissue	Icotinib	PR	L858R	10.55	Mutation clearance
152799	45	Male	Ever	0	IV	Secondary	Pleural effusion	Gefitinib	PR	19Del	24.89	Mutation clearance
150253	51	Male	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	10.59	T790M
171667	61	Female	Never	1	IV	Secondary	Pleural effusion	Icotinib	PR	19Del	10.68	Mutation clearance
158075	41	Male	Ever	2	IV	Secondary	Tumor tissue	Gefitinib	PR	19Del	10.82	T790M
159573	45	Male	Ever	1	IV	Primary	Tumor tissue	Gefitinib	PR	19Del	10.32	Mutation clearance
154478	55	Male	Never	1	IV	Secondary	Tumor tissue	Gefitinib	PR	19Del	9.7	19Del
173353	67	Female	Never	0	IV	Secondary	Pleural effusion	Icotinib	PR	L858R-L861Q	12.26	Mutation clearance
170881	50	Female	Never	0	IV	Primary	Tumor tissue	Gefitinib	SD	L858R	11.01	L858R
166433	60	Female	Never	1	IV	Secondary	Tumor tissue	Icotinib	PR	19Del	4.57	T790M
142996	60	Male	Ever	1	IV	Primary	Tumor tissue	Gefitinib	PR	19Del	11.24	Mutation clearance
166064	49	Male	Ever	0	IV	Secondary	Pleural effusion	Gefitinib	PR	19Del	11.64	T790M
170797	52	Female	Never	1	IV	Primary	Tumor tissue	Gefitinib	PR	L858R	7.96	L858R
146878	63	Male	Never	0	IV	Primary	Tumor tissue	Gefitinib	SD	L858R	11.8	T790M
169443	62	Male	Ever	1	IV	Secondary	Tumor tissue	Gefitinib	PR	19Del	13.61	19Del
166401	65	Male	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R	13.58	T790M
163465	47	Female	Never	1	IV	Secondary	Pleural effusion	Gefitinib	PR	19Del	12.85	Mutation clearance
162401	55	Male	Ever	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	17.59	Mutation clearance
159183	54	Male	Ever	1	IV	Primary	Tumor tissue	Gefitinib	PR	19Del	21.57	Mutation clearance
124733	61	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R	12	Mutation clearance
151504	49	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	10.62	Mutation clearance
144142	56	Female	Never	1	IV	Primary	Tumor tissue	Gefitinib	PR	19Del	13.08	Mutation clearance
163328	54	Female	Never	0	IV	Primary	Tumor tissue	Icotinib	PR	19Del	14.14	T790M
142970	65	Female	Never	2	IV	Secondary	Tumor tissue	Icotinib	PR	19Del	3.32	19Del
154828	36	Male	Ever	1	IV	Primary	Tumor tissue	Gefitinib	PD	19Del	0.79	T790M
163578	33	Male	Ever	2	IV	Primary	Tumor tissue	Gefitinib	PR	19Del	15.65	19Del
144876	62	Female	Never	1	IV	Secondary	Pleural effusion	Gefitinib	SD	19Del	15.98	19Del-T790M
139043	48	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R	20.94	Mutation clearance
155530	51	Female	Never	1	IV	Secondary	Pleural effusion	Gefitinib	PR	19Del	22.26	T790M
150205	53	Male	Ever	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	24.33	Mutation clearance
155295	62	Male	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R	22.98	Mutation clearance
141243	58	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del-L858R compound mutation	13.08	Mutation clearance
151527	81	Female	Never	0	IV	Primary	Tumor tissue	Icotinib	PR	L858R	23.61	Mutation clearance
147681	60	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R	6.08	T790M
138154	50	Female	Never	0	IV	Primary	Tumor tissue	Icotinib	PR	19Del	10.72	T790M
152794	72	Male	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R-L861Q	9.07	L858R-L861Q
80060	69	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R	23.61	L858R-T790M

Appendix

Admission number	Age (years)	Sex	Smoking history	ECOG score	TNM stage	Tissue biopsy site	Sample type	EGFR-TKIs	Treatment response	Initial EGFR mutation	PFS	Post-progression EGFR gene status
148597	69	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	27.55	Mutation clearance
139257	68	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R	28.04	T790M
155777	67	Male	Ever	1	IV	Primary	Tumor tissue	Gefitinib	PR	19Del	29.56	T790M
160477	53	Female	Never	2	IV	Primary	Tumor tissue	Gefitinib	PR	19Del	23.7	19Del
166806	53	Female	Never	1	IV	Secondary	Tumor tissue	Gefitinib	PD	19Del	1.64	T790M
165818	46	Male	Ever	0	IV	Primary	Tumor tissue	Afatinib	PR	19Del-L858R compound mutation	19.53	Mutation clearance
145418	60	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	31.4	T790M
137361	44	Male	Ever	1	IV	Primary	Tumor tissue	Icotinib	PR	19Del	32.09	T790M
146287	64	Female	Never	1	IV	Primary	Tumor tissue	Icotinib	PR	L858R	32.35	Mutation clearance
165879	48	Female	Never	0	IV	Secondary	Pleural effusion	Afatinib	SD	19Del	4.73	L858R
151138	45	Female	Never	1	IV	Primary	Tumor tissue	Afatinib	SD	EGFR G719X mutation	5.62	G719X-L861Q

Notes: It can be calculated that the inconsistency rate of EGFR mutations in the same sample type (72.22%) and in the different sample types (92.31%) from original data.