

**Supplementary Table S9.** Result of NGS tests done in disease progression after TKI treatment using newly acquired specimens

Case	Sex	Age (yr)	Pre-TKI test PANAMutyper	TKI treatment	Best response (TTD, mo)	Post-TKI test PANAMutyper	Post-TKI test NGS; <i>EGFR</i> gene	Post-TKI test NGS; other genes
N08	M	67	Exon19del	Erlotinib <sup>a</sup>	PR (22) <sup>a</sup>	not identified	S768_V769>IL A1048V	
N15	F	58	G719X	Erlotinib <sup>a</sup> Afatinib	SD (6) <sup>a</sup> N/A (ND, 4)	G719X	G719A E709K	<i>TP53</i> R249T
N16	F	36	Exon19del	Gefitinib <sup>a</sup> Erlotinib	SD (12.5) <sup>a</sup> SD (9)	Exon19del	Exon19del G724S	<i>TP53</i> T231del
N18	F	50	Exon19del	Erlotinib <sup>a</sup> Erlotinib	PD (1) <sup>a</sup> PD (1)	Exon19del	not detected	
P01	F	49	Exon19del	Erlotinib <sup>a</sup> Gefitinib	PR (17) <sup>a</sup> SD (5)	Exon19del	Exon19del <i>EGFR</i> amplification (CN: 12)	<i>TP53</i> R282W
P02	F	42	Exon19del	Gefitinib <sup>a</sup> Lasertinib	SD (37) <sup>a</sup> SD (11)	Exon19del T790M	Exon19del T790M	<i>TP53</i> R175H
P03	F	72	L858R	Gefitinib	PR (31)	L858R	L858R	<i>TP53</i> C238F
P04	F	49	L858R	Osimertinib Gefitinib <sup>a</sup> Erlotinib <sup>a</sup>	N/A (ND, 1) SD (20) <sup>a</sup> SD (7) <sup>a</sup>	T790M L858R	T790M L858R	<i>MET</i> amplification (CN: 6) <i>PIK3CA</i> amplification (CN: 14) <i>TP53</i> S215G
P05	F	73	L858R	Afatinib <sup>a</sup>	PD (2.5) <sup>a</sup>	L858R	L858R	<i>MYC</i> amplification (CN: 21) <i>SMAD4</i> S154* <i>TP53</i> c.375+5G>T
P06	F	56	L858R	Gefitinib <sup>a</sup>	PD (1) <sup>a</sup>	Not done	L858R	<i>TP53</i> P152fs

NGS, next-generation sequencing; TKI, tyrosine kinase inhibitor; TTD, time to treatment discontinuation; EGFR, epidermal growth factor receptor; M, male; PR, partial response; F, female; SD, stable disease; N/A, not available; ND, not detected; PD, progressive disease; CN, copy number.

<sup>a</sup>Treatment done before NGS test.