Figure Legends

Figure 1. Nature of samples tested for *EGFR* mutations at participating sites. No data were available for Malaysia.

[†]Data from responses to question: "[Amongst NSCLC cases tested for *EGFR* mutations in your laboratory, what is the] number of surgical specimen samples tested? [‡]Data from responses to question: "[Amongst NSCLC cases tested for *EGFR* mutations in your laboratory, what is the] number of biopsy and/or cytology samples tested? [§]Data from responses to question: "How many samples tested for *EGFR* mutation during 2011 were cytology samples?" Proportions of biopsy and/or cytology samples and of surgical specimens were calculated using data from only those sites that provided answers to both questions on "NSCLC samples that were biopsy and/or cytology samples" and "NSCLC samples that were surgical specimens". The proportions of cytology samples were calculated using data from the sites that provided answers to all three questions, i.e. on "NSCLC samples that were biopsy and/or cytology samples", "NSCLC samples that were surgical specimens" and "NSCLC samples that were cytology samples."

Figure 2. Most commonly used *EGFR* mutation testing methods for tissue and cytology samples across Asia, determined as a percentage of participating sites. Cobas *EGFR* Mutation Test (Roche) was included in the survey as an option, but was not selected by any site as the most commonly used test. [†]Two sites (5.0%) had missing data or did not test cytology samples. [‡]Nature of methods not ascertained.

Figure 3. Information about *EGFR* mutation testing sites that participated in the survey. **(A)** Type of laboratory; **(B)** Accreditation; and **(C)** Participation in Quality Assurance (QA) schemes amongst participating laboratories.

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Supplementary Figure. The relationship between *EGFR* mutation positivity and **(A)** gender; **(B)** smoking status; and **(C)** proportion of ADC among tested patients, by country.

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Table 1. Proportion of NSCLC patients who were tested for *EGFR* mutations during 2011

Country (N diagnosed with NSCLC*)	Proportion tested for *EGFR* mutations % (95% CI†)	Proportion of males/females, smokers and non-smokers, and histological subtypes that were tested for *EGFR* mutations‡		
		Gender	Smoking status	Histology
		Males / Females (%)	Current + ex-smoker / Never smoker (%)	ADC / Other morphological subtypes / Only SCC (%)
Total (22,193)	31.8 (31.2–32.5)	26.9 / 40.2	47.0 / 57.4	50.4 / 12.5 / 12.5
China (12,086§)	18.3 (17.6–19.0)	15.2 / 25.3	N.D.	30.3 / 8.0 / 9.4
Hong Kong (795)	42.0 (38.6–45.5)	36.2 / 52.3	34.1 / 52.1	55.4 / 9.0 / 6.4
Japan (2,379)	64.8 (62.9–66.7)	63.6 / 67.0	68.8 / 68.3	69.2 / 55.0 / 50.3
Korea (3,794)	33.5 (32.0–35.0)	26.1 / 38.1	27.1 / 42.9	62.7 / 9.8 / 8.3
Taiwan (2,890)	54.3 (52.5–56.1)	47.1 / 64.3	37.0 / 56.8	69.3 / 15.5 / 8.5
Thailand (249§)	57.8 (51.6–63.8)	51.6 / 69.3	49.5 / 84.7	83.6 / 7.1 / 6.9

Numbers of patients tested and denominators for each subgroup are shown in Supplementary Tables S1.1, S1.2, and S1.3. Data on total NSCLC patients diagnosed were not available from Indonesia, Malaysia, the Philippines, Singapore, or Vietnam. 'ADC' includes ADC and other characteristics in ADC category. 'Other morphological subtypes' includes adenosquamous and histologies with other non-ADC characteristics. 'SCC' is a subset of 'other morphological subtypes'. NSCLC, non-small-cell lung cancer; *EGFR*, epidermal growth factor receptor; CI, confidence interval; ADC, adenocarcinoma; SCC, squamous cell carcinoma; N.D., No data.

*Total NSCLC patients diagnosed at participating sites during 2011. †Wilson score confidence interval. ‡Not all sites provided data for gender, smoking status and histology. §Not all sites provided data on number of NSCLC cases diagnosed.

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Table 2: *EGFR* mutation positivity at participating sites, overall and by demography and histology

Country (N cases tested for *EGFR* mutations)	*EGFR* mutation-positive cases % (95% CI*)	Frequency of *EGFR* mutation positivity in†:		
		Males / Females (%)	Current + ex-smoker / Never smoker (%)	ADC / Other morphological subtypes / Only SCC (%)
Total (10,687)	39.6 (38.7–40.5)	27.8 / 56.5	27.4 / 60.8	46.5 / 13.3 / 7.6
China (2,694)	38.1 (36.3–39.9)	26.5 / 53.9	40.0 / 57.6	47.5 / 14.9 / 10.1
Hong Kong (334)	48.2 (42.9–53.6)	34.2 / 65.3	28.9 / 64.3	50.7 / 58.3 / 14.3
Indonesia (101)	28.7 (20.8–38.2)	28.8 / 28.6	N.D.	27.6 / 32.0 / 25.0
Japan (1,542)	30.2 (28.0–32.6)	18.1 / 52.9	19.5 / 56.5	39.3 / 5.6 / 3.0
Korea (2,950)	35.8 (34.1–37.6)	24.0 / 53.3	25.6 / 50.6	43.0 / 11.1 / 5.7
Malaysia (352)	45.7 (40.6–51.0)	35.3 / 57.6	N.D.	45.7 / N.S
Philippines (90)	38.9 (29.5–49.2)	25.0 / 57.9	16.0 / 66.7	41.5 / 0 / 0
Singapore (562)	42.9 (38.9–47.0)	27.7 / 63.3	N.D.	45.5 / 100.0‡ / 100.0‡
Taiwan (1,569)	53.3 (50.8–55.7)	42.9 / 63.9	43.3 / 66.0	55.6 / 26.4 / 22.6
Thailand (443)	45.1 (40.6–49.8)	31.8 / 56.8	45.7 / 66.0	45.8 / 18.2 / 20.0
Vietnam (50)	36.0 (24.1–49.9)	27.6 / 47.6	18.2 / 66.7	36.0 / N.S.

Numbers of *EGFR* mutation-positive samples and denominators for each subgroup are shown in Supplementary Tables S2.1, S2.2 and S2.3. Mutation frequency is based on the number of samples, and may include multiple samples per patient. 'ADC' includes ADC and other characteristics in ADC category. 'Other morphological subtypes' includes adenosquamous and histologies with other non-ADC characteristics. 'SCC' is a subset of 'other morphological subtypes'. *EGFR*, epidermal growth factor receptor; CI, confidence interval; ADC, adenocarcinoma; SCC, squamous cell carcinoma; N.D., No data; N.S. No samples tested.

*Wilson score confidence interval. †Not all sites provided data for gender, smoking status and histology. ‡Only one sample was tested.

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Figure 1

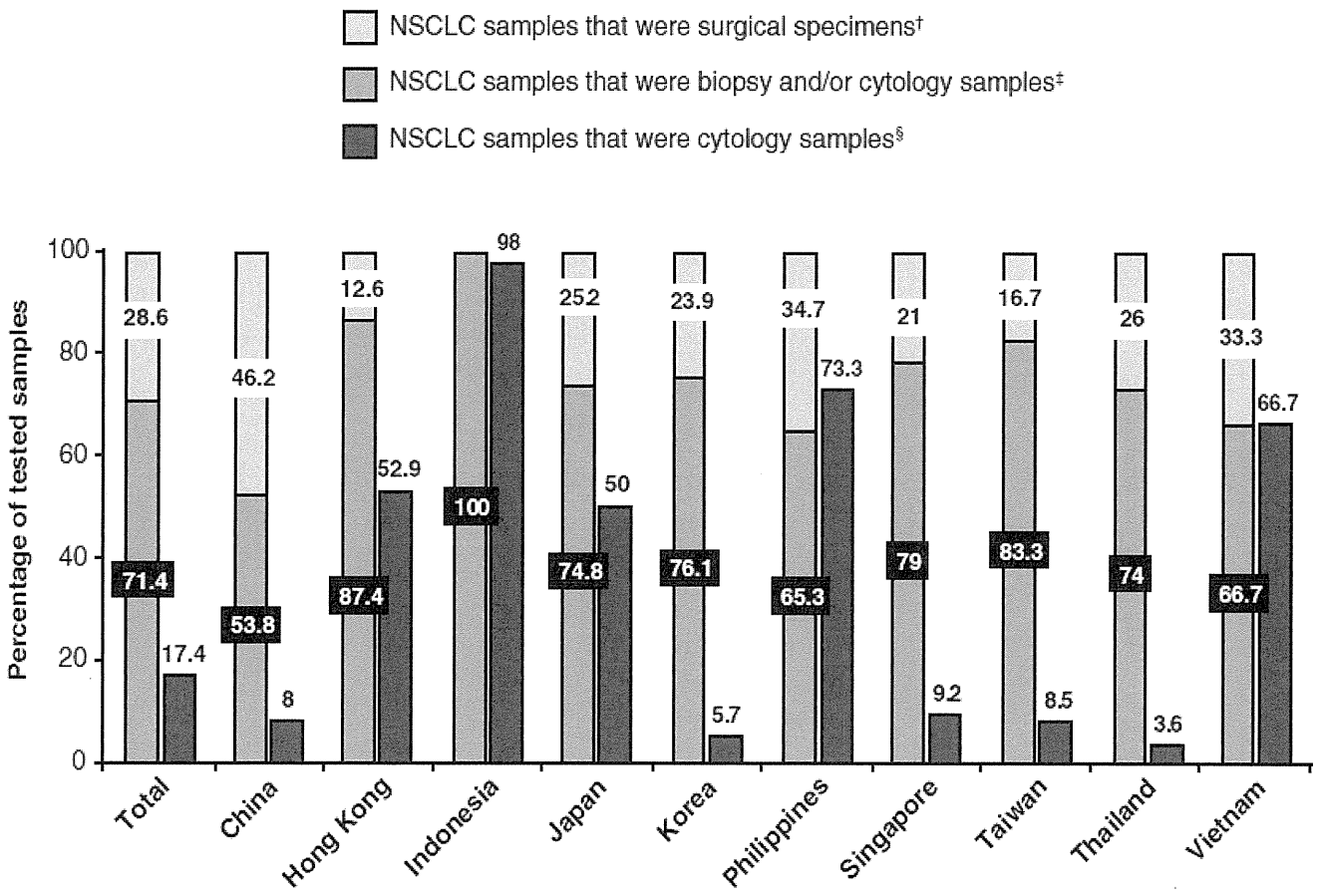

NSCLC samples that were surgical specimens†
NSCLC samples that were biopsy and/or cytology samples‡
NSCLC samples that were cytology samples§
Percentage of tested samples
100
80
60
40
20
0
28.6
71.4
17.4
46.2
53.8
8
12.6
87.4
52.9
100
98
25.2
74.8
50
23.9
76.1
5.7
34.7
65.3
73.3
21
79
9.2
16.7
83.3
8.5
26
74
3.6
33.3
66.7
66.7
Total
China
Hong Kong
Indonesia
Japan
Korea
Philippines
Singapore
Taiwan
Thailand
Vietnam

Figure 2

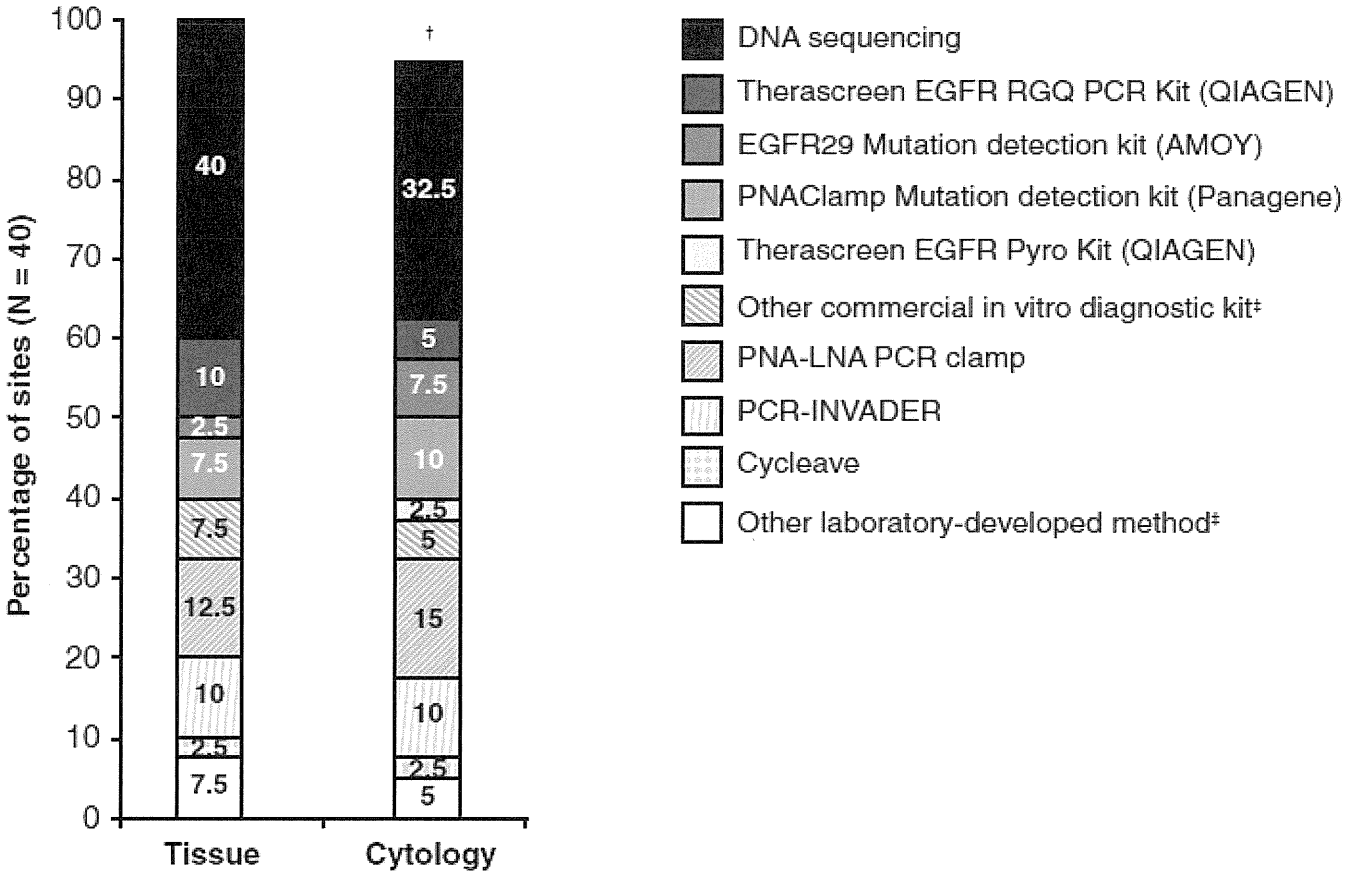
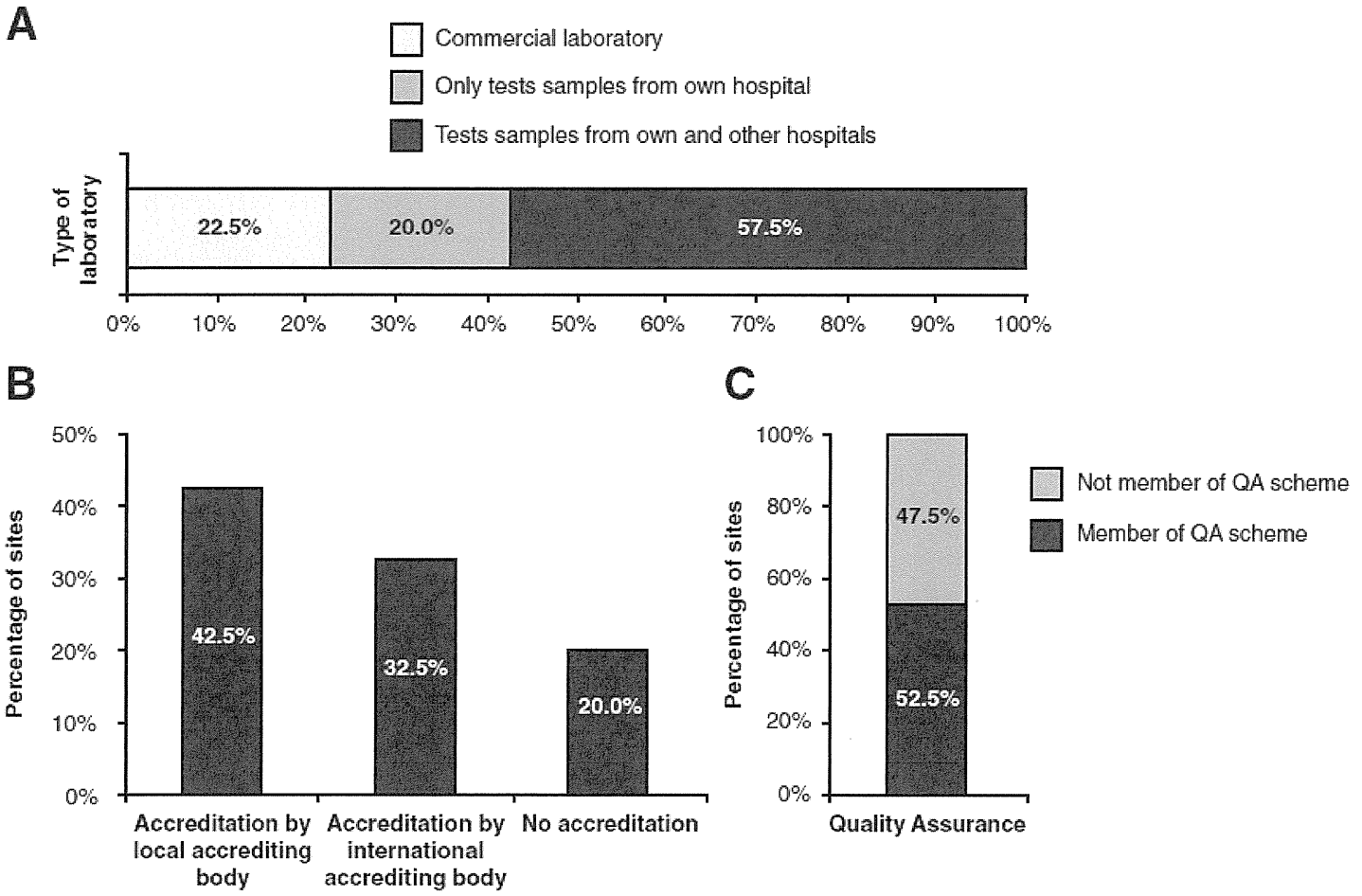
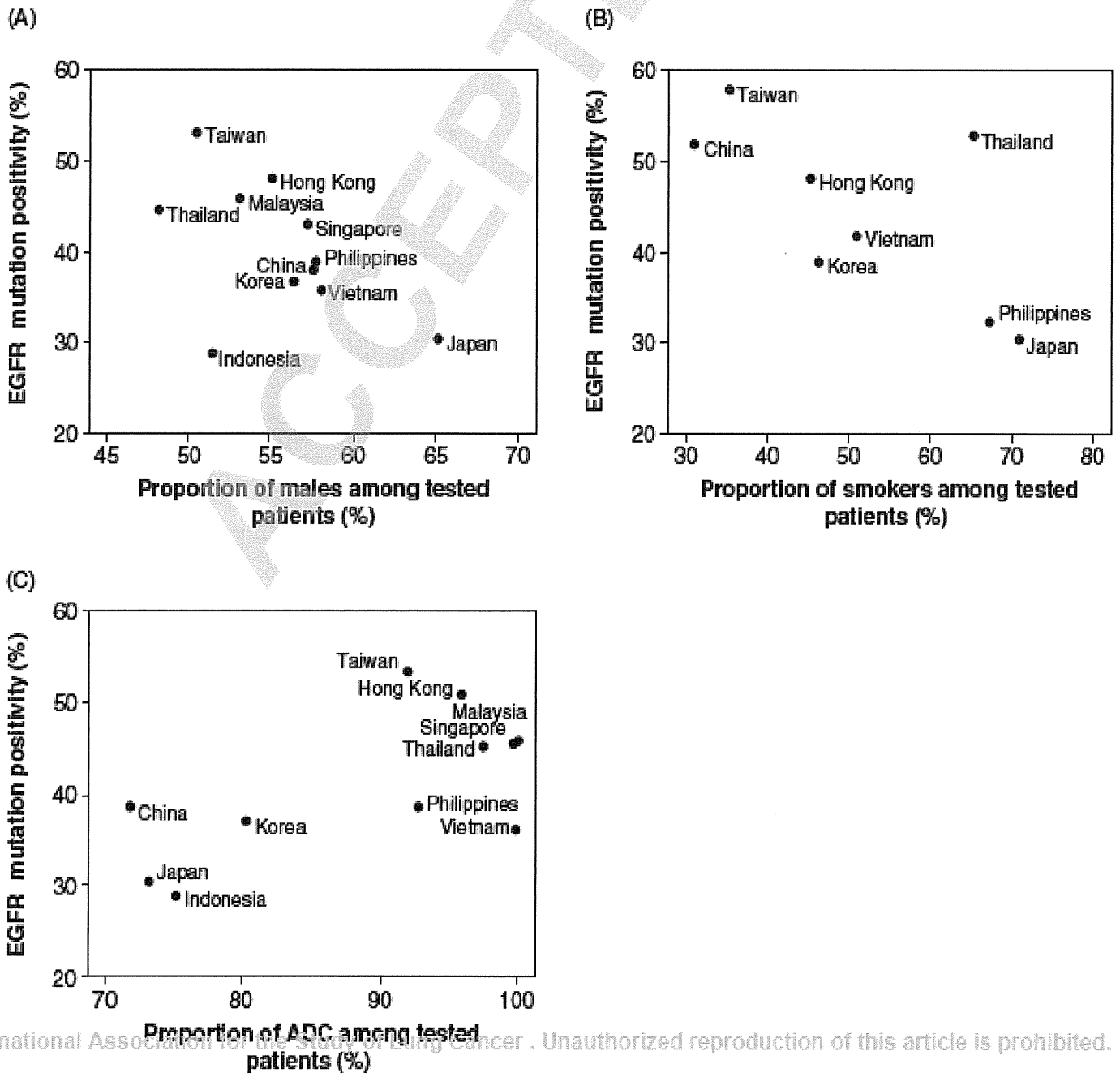

Percentage of sites (N = 40)
100
90
80
70
60
50
40
30
20
10
0
40
10
2.5
7.5
7.5
12.5
10
2.5
7.5
†
32.5
5
7.5
10
2.5
5
15
10
2.5
5
Tissue
Cytology
DNA sequencing
Therascreen EGFR RGQ PCR Kit (QIAGEN)
EGFR29 Mutation detection kit (AMOY)
PNAClamp Mutation detection kit (Panagene)
Therascreen EGFR Pyro Kit (QIAGEN)
Other commercial in vitro diagnostic kit‡
PNA-LNA PCR clamp
PCR-INVADER
Cycleave
Other laboratory-developed method‡

Figure 3


A
Commercial laboratory
Only tests samples from own hospital
Tests samples from own and other hospitals
Type of laboratory
22.5%
20.0%
57.5%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
B
Percentage of sites
50%
40%
30%
20%
10%
0%
42.5%
32.5%
20.0%
Accreditation by local accrediting body
Accreditation by international accrediting body
No accreditation
C
Percentage of sites
100%
80%
60%
40%
20%
0%
47.5%
52.5%
Quality Assurance
Not member of QA scheme
Member of QA scheme

Supplemental Figure



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Supplementary tables

Supplementary Table S1.1 Number of patients tested for *EGFR* mutation

Factor	Category	Number of NSCLC patients newly diagnosed	Number of patients tested for *EGFR* mutation	%	95% CI*	
					Lower	Upper
	Total	22193	7068	31.8	31.2	32.5
Country	China	12086	2207	18.3	17.6	19
	Hong Kong	795	334	42	38.6	45.5
	Indonesia					
	Japan	2379	1542	64.8	62.9	66.7
	Korea	3794	1272	33.5	32	35
	Malaysia					
	Philippines					
	Singapore					
	Taiwan	2890	1569	54.3	52.5	56.1
	Thailand	249	144	57.8	51.6	63.8
	Vietnam					
Gender	Male	14364	3867	26.9	26.2	27.7
	Female	7168	2880	40.2	39	41.3
	Missing	661				
Smoking status	Current smoker/ex-smoker	3786	1780	47	45.4	48.6
	Never-smoker	2794	1604	57.4	55.6	59.2
	Missing	15613				

*: Wilson score confidence interval.

This table is based on sites providing both "Number of NSCLC patients newly diagnosed" and "Number of patients *EGFR* mutation tested" for each category.

Blank cell indicates no data are available for this table, hence the proportion is not calculable.

Any discrepancy between "Number of patients tested for *EGFR* mutation" in Table S1.1 and "Number of patients tested for *EGFR* mutation" in Table S2.1 is due to difference in subsets of sites used for constructing these tables.

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Supplementary Table S1.2. Number of patients tested for *EGFR* mutation by country: Gender and smoking status

Country	Factor	Category	Number of NSCLC patients newly diagnosed	Number of patients tested for *EGFR* mutation	%	95% CI*	
						Lower	Upper
China	Gender	Male	8438	1283	15.2	14.5	16
		Female	3648	924	25.3	23.9	26.8
		Missing	0				
	Smoking status	Current smoker/ex-smoker					
		Never-smoker					
		Missing					
Hong Kong	Gender	Male	508	184	36.2	32.2	40.5
		Female	287	150	52.3	46.5	58
		Missing	0				
	Smoking status	Current smoker/ex-smoker	446	152	34.1	29.8	38.6
		Never-smoker	349	182	52.1	46.9	57.3
		Missing	0				
Indonesia	Gender	Male					
		Female					
		Missing					
	Smoking status	Current smoker/ex-smoker					
		Never-smoker					
		Missing					
Japan	Gender	Male	1577	1003	63.6	61.2	65.9
		Female	802	537	67	63.6	70.1

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		Missing	0				
	Smoking status	Current smoker/ex-smoker	1337	920	68.8	66.3	71.2
		Never-smoker	564	385	68.3	64.3	72
		Missing	478				
Korea	Gender	Male	1996	520	26.1	24.2	28
		Female	1137	433	38.1	35.3	40.9
		Missing	661				
	Smoking status	Current smoker/ex-smoker	569	154	27.1	23.6	30.9
		Never-smoker	343	147	42.9	37.7	48.1
		Missing	2882				
Malaysia	Gender	Male					
		Female					
		Missing					
	Smoking status	Current smoker/ex-smoker					
		Never-smoker					
		Missing					
Philippines	Gender	Male					
		Female					
		Missing					
	Smoking status	Current smoker/ex-smoker					
		Never-smoker					
		Missing					
Singapore	Gender	Male					
		Female					

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		Missing					
	Smoking status	Current smoker/ex-smoker					
		Never-smoker					
		Missing					
Taiwan	Gender	Male	1684	794	47.1	44.8	49.5
		Female	1206	775	64.3	61.5	66.9
		Missing	0				
	Smoking status	Current smoker/ex-smoker	1244	460	37	34.3	39.7
		Never-smoker	1479	840	56.8	54.3	59.3
		Missing	167				
Thailand	Gender	Male	161	83	51.6	43.9	59.1
		Female	88	61	69.3	59	78
		Missing	0				
	Smoking status	Current smoker/ex-smoker	190	94	49.5	42.4	56.5
		Never-smoker	59	50	84.7	73.5	91.8
		Missing	0				
Vietnam	Gender	Male					
		Female					
		Missing					
	Smoking status	Current smoker/ex-smoker					
		Never-smoker					
		Missing					

*: Wilson score confidence interval.

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This table is based on sites providing both "Number of NSCLC patients newly diagnosed" and "Number of patients tested for *EGFR* mutation" for a particular category.

"Missing" collects number of patients not falling into the other categories in a particular factor.

Blank indicates no data are available for this table, hence the proportion is not calculable.

Any discrepancy between "Number of patients tested for *EGFR* mutation" in Table S2.2 and "Number of patients tested for *EGFR* mutation" in Table S1.2 is due to difference in subsets of sites used for constructing these tables.

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Supplementary Table S1.3. Number of cases tested for *EGFR* mutation by country: Histology

Country	Category	Number of NSCLC cases newly diagnosed	Number of cases tested for *EGFR* mutation	%	95% CI*	
					Lower	Upper
Total	Adenocarcinoma	12455	6278	50.4	49.5	51.3
	Other morphological subtypes	9850	1228	12.5	11.8	13.1
	Squamous cell carcinoma	6308	786	12.5	11.7	13.3
China	Adenocarcinoma	5460	1652	30.3	29.1	31.5
	Other morphological subtypes	6615	530	8	7.4	8.7
	Squamous cell carcinoma	3604	339	9.4	8.5	10.4
Hong Kong	Adenocarcinoma	527	292	55.4	51.1	59.6
	Other morphological subtypes	133	12	9	5.2	15.1
	Squamous cell carcinoma	109	7	6.4	3.1	12.7
Indonesia	Adenocarcinoma					
	Other morphological subtypes					
	Squamous cell carcinoma					
Japan	Adenocarcinoma	1630	1128	69.2	66.9	71.4
	Other morphological subtypes	749	412	55	51.4	58.5
	Squamous cell carcinoma	535	269	50.3	46.1	54.5
Korea	Adenocarcinoma	2590	1624	62.7	60.8	64.5
	Other morphological subtypes	1462	143	9.8	8.4	11.4
	Squamous cell carcinoma	1623	135	8.3	7.1	9.8
Malaysia	Adenocarcinoma					

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	Other morphological subtypes					
	Squamous cell carcinoma					
Philippines	Adenocarcinoma					
	Other morphological subtypes					
	Squamous cell carcinoma					
Singapore	Adenocarcinoma					
	Other morphological subtypes					
	Squamous cell carcinoma					
Taiwan	Adenocarcinoma	2083	1444	69.3	67.3	71.3
	Other morphological subtypes	807	125	15.5	13.2	18.1
	Squamous cell carcinoma	365	31	8.5	6	11.8
Thailand	Adenocarcinoma	165	138	83.6	77.2	88.5
	Other morphological subtypes	84	6	7.1	3.3	14.7
	Squamous cell carcinoma	72	5	6.9	3	15.2
Vietnam	Adenocarcinoma					
	Other morphological subtypes					
	Squamous cell carcinoma					

*: Wilson score confidence interval.

This table is based on sites providing both "Number of NSCLC cases newly diagnosed" and "Number of cases tested for *EGFR* mutation" for each category.

"Adenocarcinoma" includes adenocarcinoma and other characteristics in adenocarcinoma category.

"Other morphological subtypes" includes adenosquamous and histologies with other non-adenosquamous characteristics.

"Squamous cell carcinoma" is a subset of "Other morphological subtypes".

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Any discrepancy between "Number of samples *EGFR* mutation tested" in Table S2.3 and "Number of patients tested for *EGFR* mutation" in Table S1.3 is due to difference in subsets of sites used for constructing these tables.

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Supplementary Table S2.1. *EGFR* mutation-positive patients

Factor	Category	Number of patients tested for *EGFR* mutation	*EGFR* mutation-positive patients	%	95% CI*	
					Lower	Upper
	Total	10687	4230	39.6	38.7	40.5
Country	China	2694	1026	38.1	36.3	39.9
	Hong Kong	334	161	48.2	42.9	53.6
	Indonesia	101	29	28.7	20.8	38.2
	Japan	1542	466	30.2	28	32.6
	Korea	2950	1057	35.8	34.1	37.6
	Malaysia	352	161	45.7	40.6	51
	Philippines	90	35	38.9	29.5	49.2
	Singapore	562	241	42.9	38.9	47
	Taiwan	1569	836	53.3	50.8	55.7
	Thailand	443	200	45.1	40.6	49.8
	Vietnam	50	18	36	24.1	49.9
Gender	Male	5375	1493	27.8	26.6	29
	Female	4109	2321	56.5	55	58
	Missing	1203				
Smoking status	Current smoker/ex-smoker	2146	589	27.4	25.6	29.4
	Never-smoker	1933	1176	60.8	58.6	63
	Missing	6608				

*: Wilson score confidence interval.

This table is based on sites providing both "Number of patients *EGFR* mutation tested" and "*EGFR* mutation-positive patients".

"Missing" collects number of patients not falling into the other categories.

Blank indicates no data are available for this table, hence the proportion is not calculable.

Any discrepancy between "Number of patients tested for *EGFR* mutation" in Table S2.1 and "Number of patients tested for *EGFR* mutation" in Table S1.1 is due to difference in subsets of sites used for constructing these tables.

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Supplementary Table S2.2. *EGFR* mutation-positive patients: Gender and smoking status by country

Country	Factor	Category	Number of patients tested for *EGFR* mutation	*EGFR* mutation positive patients	%	95% CI*	
						Lower	Upper
China	Gender	Male	1552	411	26.5	24.3	28.7
		Female	1142	615	53.9	51	56.7
		Missing	0				
	Smoking status	Current smoker/ex-smoker	30	12	40	24.6	57.7
		Never-smoker	66	38	57.6	45.6	68.8
		Missing	2598				
Hong Kong	Gender	Male	184	63	34.2	27.8	41.4
		Female	150	98	65.3	57.4	72.5
		Missing	0				
	Smoking status	Current smoker/ex-smoker	152	44	28.9	22.3	36.6
		Never-smoker	182	117	64.3	57.1	70.9
		Missing	0				
Indonesia	Gender	Male	52	15	28.8	18.3	42.3
		Female	49	14	28.6	17.8	42.4
		Missing	0				
	Smoking status	Current smoker/ex-smoker					
		Never-smoker					
		Missing					
Japan	Gender	Male	1003	182	18.1	15.9	20.7
		Female	537	284	52.9	48.7	57.1
		Missing	2				
	Smoking status	Current smoker/ex-smoker	1086	212	19.5	17.3	22
		Never-smoker	444	251	56.5	51.9	61.1
		Missing	12				
Korea	Gender	Male	990	238	24	21.5	26.8
		Female	766	408	53.3	49.7	56.8
		Missing	1194				
	Smoking status	Current smoker/ex-smoker	277	71	25.6	20.8	31.1
		Never-smoker	318	161	50.6	45.2	56.1
		Missing	2355				
Malaysia	Gender	Male	187	66	35.3	28.8	42.4

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		Female	165	95	57.6	49.9	64.9
		Missing	0				
	Smoking status	Current smoker/ex-smoker					
		Never-smoker					
		Missing					
Philippines	Gender	Male	52	13	25	15.2	38.2
		Female	38	22	57.9	42.2	72.1
		Missing	0				
	Smoking status	Current smoker/ex-smoker	25	4	16	6.4	34.7
		Never-smoker	12	8	66.7	39.1	86.2
		Missing	53				
Singapore	Gender	Male	318	88	27.7	23	32.8
		Female	237	150	63.3	57	69.2
		Missing	7				
	Smoking status	Current smoker/ex-smoker					
		Never-smoker					
		Missing					
Taiwan	Gender	Male	794	341	42.9	39.5	46.4
		Female	775	495	63.9	60.4	67.2
		Missing	0				
	Smoking status	Current smoker/ex-smoker	460	199	43.3	38.8	47.8
		Never-smoker	840	554	66	62.7	69.1
		Missing	269				
Thailand	Gender	Male	214	68	31.8	25.9	38.3
		Female	229	130	56.8	50.3	63
		Missing	0				
	Smoking status	Current smoker/ex-smoker	94	43	45.7	36	55.8
		Never-smoker	50	33	66	52.2	77.6
		Missing	299				
Vietnam	Gender	Male	29	8	27.6	14.7	45.7
		Female	21	10	47.6	28.3	67.6
		Missing	0				
	Smoking status	Current smoker/ex-smoker	22	4	18.2	7.3	38.5
		Never-smoker	21	14	66.7	45.4	82.8

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Missing	7	

*: Wilson score confidence interval.

This table is based on sites providing both "Number of patients *EGFR* mutation tested" and "*EGFR* mutation positive patients" for each category.

"Missing" collects number of patients not falling into the other categories.

Blank indicates no data are available for this table, hence the proportion is not calculable.

Any discrepancy between "Number of patients tested for *EGFR* mutation" in Table S2.2 and "Number of patients tested for *EGFR* mutation" in Table S1.2 is due to difference in subsets of sites used for constructing these tables.

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