

# Integrin beta-6 (IB6) in focus: Contemporary real-world evidence on prevalence in non-small cell lung cancer (NSCLC)

Jeffrey A. Borgia,<sup>1</sup> Ling-I Hsu,<sup>2</sup> Jodi Smith,<sup>3</sup> Yitong J. Zhang,<sup>2</sup> Samantha Whitman,<sup>3</sup> Benjamin Li,<sup>4</sup> Polly Cronin,<sup>3</sup> Renee L. Gennarelli,<sup>5</sup> E. Anne Davis,<sup>3</sup> Adrienne Brackey,<sup>6</sup> Danielle Bloch,<sup>6</sup> Stephanie Bell,<sup>6</sup> LaShantay Walls,<sup>6</sup> Paraic A. Kenny,<sup>7</sup> Mary Jo Fidler<sup>8</sup>

<sup>1</sup>Rush University Medical Center, Chicago, IL, USA; <sup>2</sup>Pfizer, South San Francisco, CA, USA; <sup>3</sup>Pfizer, Bothell, WA, USA; <sup>4</sup>Pfizer, New York, NY, USA; <sup>5</sup>Cencora, Conshohocken, PA, USA; <sup>6</sup>Tempus AI Inc, Chicago, IL, USA; <sup>7</sup>Gundersen Health System, La Crosse, WI, USA; <sup>8</sup>Rush MD Anderson Cancer Center, Chicago, IL, USA

## Conclusions

- This is an updated analysis of the first real-world study characterizing IB6 expression in mNSCLC
- In this diverse US population, 93.0% of patients with known IB6 IHC status had IB6 expression (≥1% positivity of tumor cells at any staining intensity)
- Consistent with the prior results, IB6-high expression (≥50% positivity of tumor cells at ≥2+ intensity) was common (76.7%) in this larger cohort of mNSCLC samples
- No difference by histology was observed between the less stringent IB6-expressing and -nonexpressing subgroups, but significant variation was observed between the more stringent IB6-high and -low subgroups
  - Prevalence of IB6-high expression was higher in nonsquamous vs squamous histology (81.3% vs 57.1%)
- Clinical and biopsy characteristics were generally consistent across IB6-high vs -low subgroups, except for smoking history and histology
- No trends were observed between IB6-high expression status and PD-L1 expression levels or ALK status, but potential trends between IB6-high expression status and KRAS status and EGFR status may merit future investigation
- Although the clinical implications of IB6 expression levels remain under investigation, these data suggest that IB6 may be a widely applicable therapeutic target, which warrants further exploration



**Electronic Poster**  
Please scan this Quick Response code with your smartphone app to view this poster. Copies of this poster obtained through the Quick Response code are for personal use only and may not be reproduced without written permission of the authors. If you do not have a smartphone, access the poster via the internet at: <https://scientificpubs.congressposter.com/p/5192mpub4ki7nqra>

**References:** 1. Brzozowska E, Deshmukh S. *Int J Mol Sci.* 2023;22:12346. 2. Lyon RP, et al. *Mol Cancer Ther.* 2023;22:1444-1453. 3. Peters S, et al. *J Clin Oncol.* 2024;42(16 suppl):8521. 4. ClinicalTrials.gov. Accessed September 24, 2025. <https://clinicaltrials.gov/study/NCT06012435> 5. Reck M, et al. *Future Oncol.* 2025;21(30):3891-3901. 6. ClinicalTrials.gov. Accessed September 24, 2025. <https://clinicaltrials.gov/study/NCT06389123> 7. ClinicalTrials.gov. Accessed September 24, 2025. <https://clinicaltrials.gov/study/NCT04665947> 8. ClinicalTrials.gov. Accessed September 24, 2025. <https://clinicaltrials.gov/study/NCT06228482> 9. Kapucija S, et al. 37th European Congress of Pathology. Poster presentation. 10. Borgia JA et al. ESMO 2025. Poster 1919P. 11. Fidler MJ et al. AMP 2025. Poster ST158.

**Acknowledgments:** Editorial and medical writing support were provided by Isabella Overton, MSci, of Nucleus Global, and were funded by Pfizer.

**Funding:** This study was sponsored by Pfizer.

**Disclosures:** JAB reports paid consultancy or advisory roles for the Lumindex Corporation and Rational Vaccines; and research funding from Serum Detect and Abbott Diagnostics.

**Contact:** Jeffrey A. Borgia, Jeffrey\_A\_Borgia@rush.edu

Presented at the European Lung Cancer Congress 2026  
March 25-28, 2026 | Copenhagen, Denmark

## Background

- Integrin beta-6 (IB6), a member of the integrin superfamily of transmembrane adhesion proteins, is overexpressed in several solid tumors, including non-small cell lung cancer (NSCLC)<sup>1,2</sup>
- As IB6 is a novel potential target in oncology, several clinical trials of IB6-directed agents are ongoing<sup>3-8</sup>
  - Sigvatatug vedotin, an investigational IB6-directed antibody-drug conjugate, has shown encouraging activity in a first-in-human phase 1 study and is the subject of 2 ongoing phase 3 NSCLC studies<sup>2-5</sup>
- Concurrent studies are being conducted to characterize IB6 expression levels and patterns in patients with NSCLC. Initial findings using commercially sourced samples estimated a high prevalence of patients with IB6-high status (79%)<sup>9</sup>
- However, there is an unmet need to better understand patient demographics and clinical characteristics associated with different levels of IB6 expression
- The retrospective real-world BEACON (IB6 Expression and Clinical Outcomes in NSCLC) study characterized the expression of IB6 in real-world NSCLC tissue samples and described characteristics associated with IB6 status. Preliminary real-world IB6-high and -low expression data were previously presented<sup>10,11</sup>
  - Demographics, clinical characteristics, and biopsy characteristics were generally consistent across IB6-high vs -low subpopulations, except for histology<sup>10,11</sup>
- Here, we present an updated analysis of BEACON in a larger cohort with (1) initial data assessing IB6-expressing and -nonexpressing status and (2) updated data for IB6-high and -low expressors

## Results

- After screening records for patients with NSCLC, 253 met eligibility criteria and were included in this study. IB6 expression status could not be determined in 26 patients due to insufficient or ineligible tumor samples
- Overall, the median age was 67 years; 50.6% were male, 55.7% were White, and 69.2% had a nonsquamous cell carcinoma. Of the tissue samples, 36.8% were obtained from primary tumors, and 83.4% of biopsies were collected on or after metastatic diagnosis (Table 1)

Table 1. Demographics, clinical, and biopsy characteristics of the overall population	
	Overall (N=253)
<b>Median (range) age at metastatic diagnosis, years</b>	67.0 (37.0-85.0)
<b>Sex, n (%)</b>	
Male	128 (50.6)
Female	116 (45.8)
Not documented	9 (3.6)
<b>Race, n (%)</b>	
White	141 (55.7)
Black or African American	65 (25.7)
Asian	9 (3.6)
Other	17 (6.7)
Not documented	21 (8.3)
<b>Ethnicity, n (%)</b>	
Not Hispanic or Latino	196 (77.5)
Hispanic or Latino	13 (5.1)
Not documented	44 (17.4)
<b>Institution type, n (%)</b>	
Academic	203 (80.2)
Nonacademic	50 (19.8)
<b>Primary tumor histology, n (%)<sup>a</sup></b>	
Nonsquamous <sup>b</sup>	175 (69.2)
Squamous	43 (17.0)
Not otherwise specified <sup>c</sup>	13 (5.1)
Unknown <sup>d</sup>	22 (8.7)
<b>ECOG PS at metastatic diagnosis, n (%)<sup>a</sup></b>	
0	41 (16.2)
1	90 (35.6)
2+	36 (14.2)
Not documented	86 (34.0)
<b>Smoking history, n (%)</b>	
Former	140 (55.3)
Current	64 (25.3)
Never	41 (16.2)
Not documented	8 (3.2)
<b>Number of metastatic sites at metastatic diagnosis, n (%)<sup>a</sup></b>	
1	139 (54.9)
2	59 (23.3)
3+	47 (18.6)
Not documented <sup>f</sup>	8 (3.2)
<b>Biopsy type, n (%)</b>	
Primary	93 (36.8)
Metastatic	160 (63.2)
<b>Biopsy collection date</b>	
Prior to metastatic diagnosis	34 (13.4)
On or after metastatic diagnosis	211 (83.4)
Not documented <sup>f</sup>	8 (3.2)

ECOG PS, Eastern Cooperative Oncology Group performance status. <sup>a</sup>Recorded any time before or ≤30 days after metastatic diagnosis. <sup>b</sup>In this study, all patients with nonsquamous NSCLC had tumors classified as adenocarcinoma. <sup>c</sup>Includes the following histologies: adenosquamous carcinoma, non-small cell carcinoma, epithelioid hemangioendothelioma, carcinoma, no subtype, and bronchiolo-alveolar carcinoma, mixed mucinous and nonmucinous. <sup>d</sup>Includes patients with a primary tumor histology recorded >30 days after metastatic diagnosis (n=14) and patients with unknown metastatic diagnosis date (n=8). <sup>e</sup>Within 60 days before or after metastatic diagnosis. <sup>f</sup>Includes patients with unknown metastatic diagnosis date.

- Of the 227 patients with known IB6 IHC expression status, 93.0% had IB6 expression at any staining intensity on ≥1% of tumor cells, and 76.7% had IB6-high expression with ≥50% positivity of tumor cells at ≥2+ intensity (Figure 3)

## Limitations

- This real-world retrospective dataset may be subject to unmeasured bias not controlled for in the analyses
- Patient records were primarily obtained from three US medical centers and may not be generalizable to a broad NSCLC population
- Tumor sample acquisition was heterogeneous with respect to a NSCLC patient's journey and may not reflect natural changes to IB6 expression as the disease evolves

## Methods

- This is a retrospective, observational study that used de-identified real-world clinical and molecular data from patients in the Tempus Database in the US
- Patients with metastatic NSCLC (mNSCLC) included in this study had to meet patient- and sample-level eligibility criteria (Figure 1)
- Patient demographics and clinical characteristics were obtained via electronic health record integration and clinical record abstraction
- These data were matched with tissue samples from primary or metastatic lesions collected on or after May 1, 2019, that subsequently underwent IB6 immunohistochemistry (IHC) and were manually scored by a pathologist to characterize IB6 expression at a central laboratory
  - IB6-expressing tumors had ≥1% of tumor cells with any staining intensity
  - IB6-high and -low expression were defined as ≥50% and <50% positivity of tumor cells, respectively, at ≥2+ intensity (Figure 2)
- Data cutoff was February 10, 2026, and data are presented descriptively for cohorts

Figure 1. Study design schematic

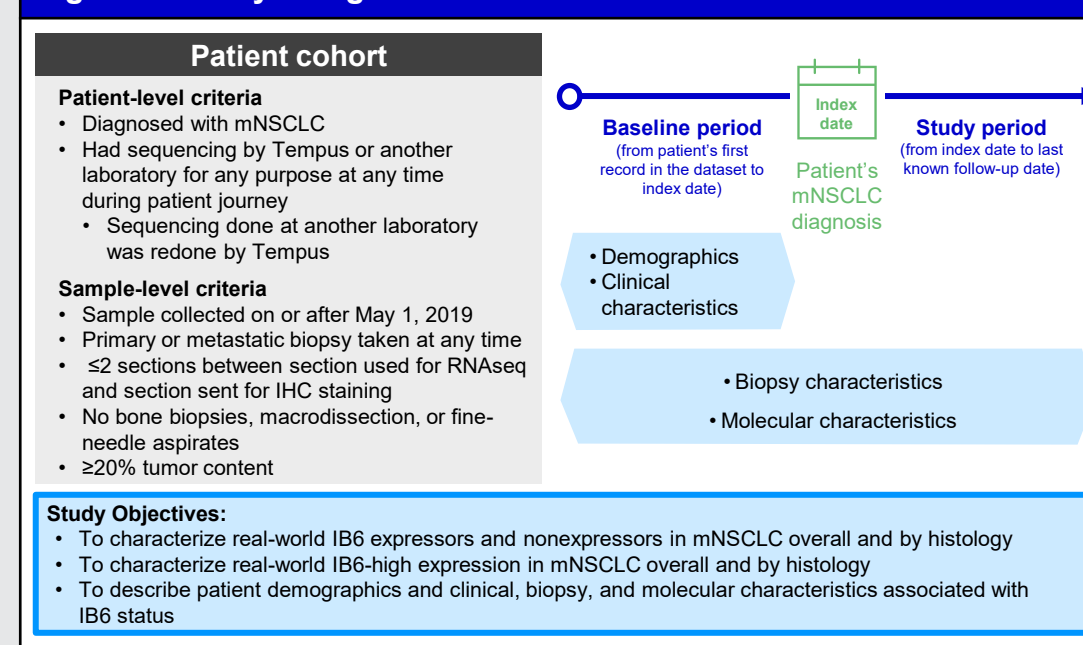


Figure 2. Examples of IB6-high and -low status in metastatic NSCLC

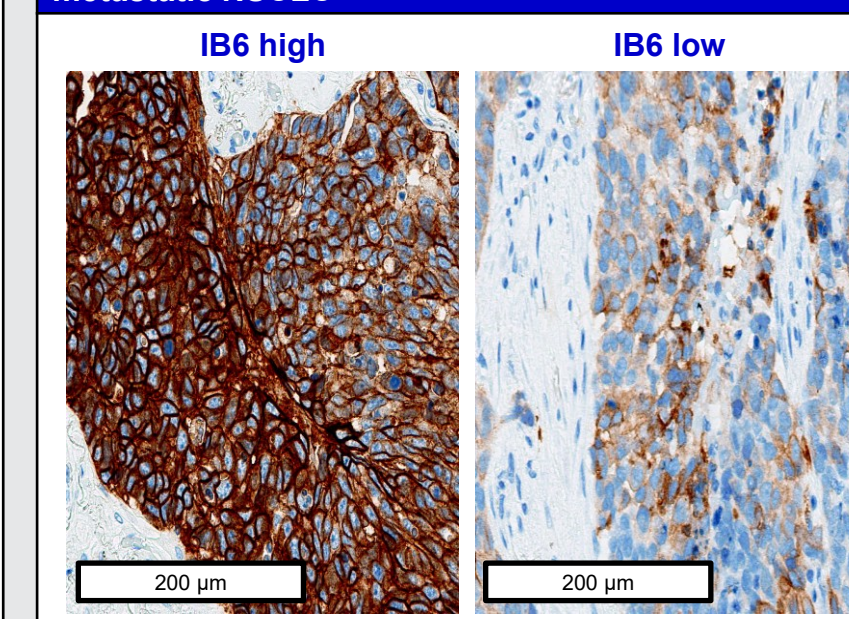
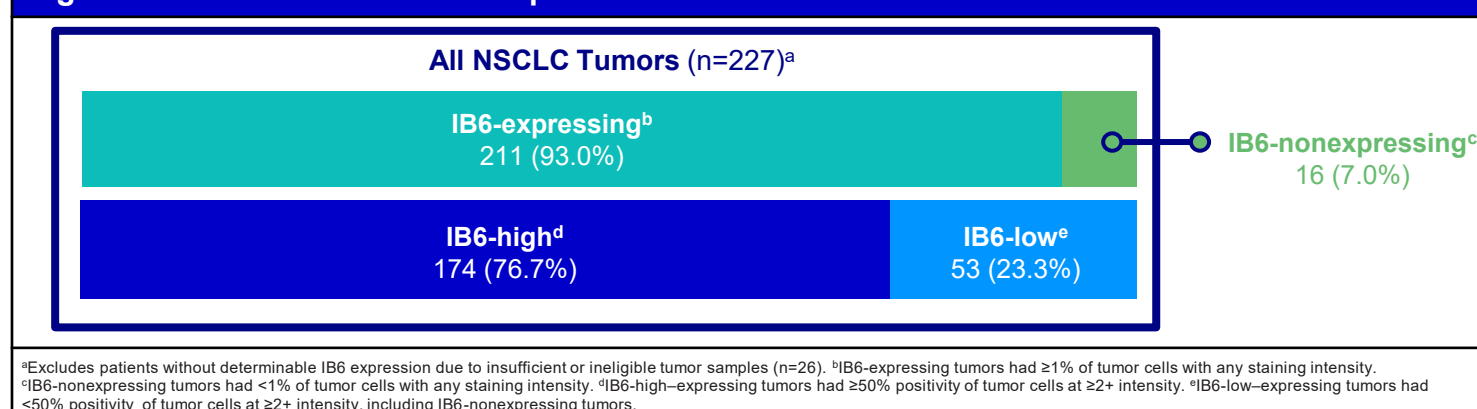
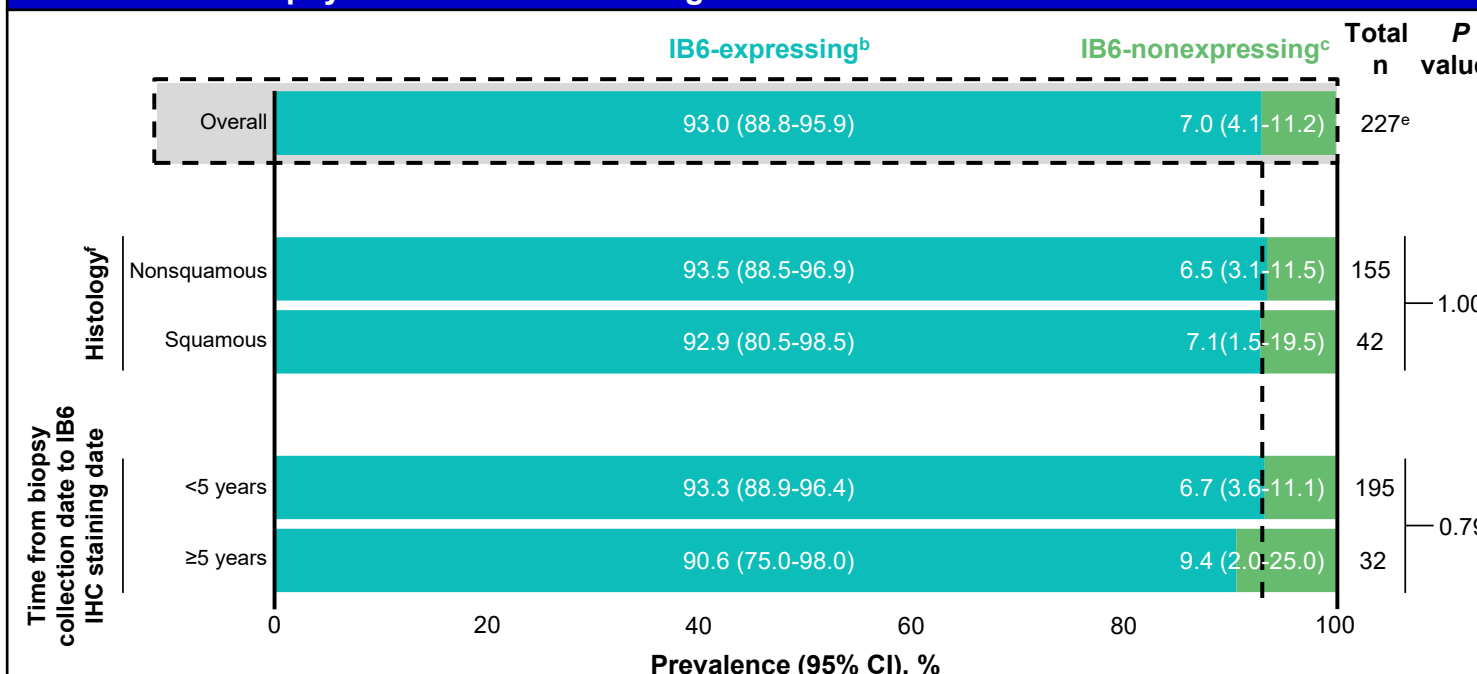


Figure 3. Classification of IB6 expression status



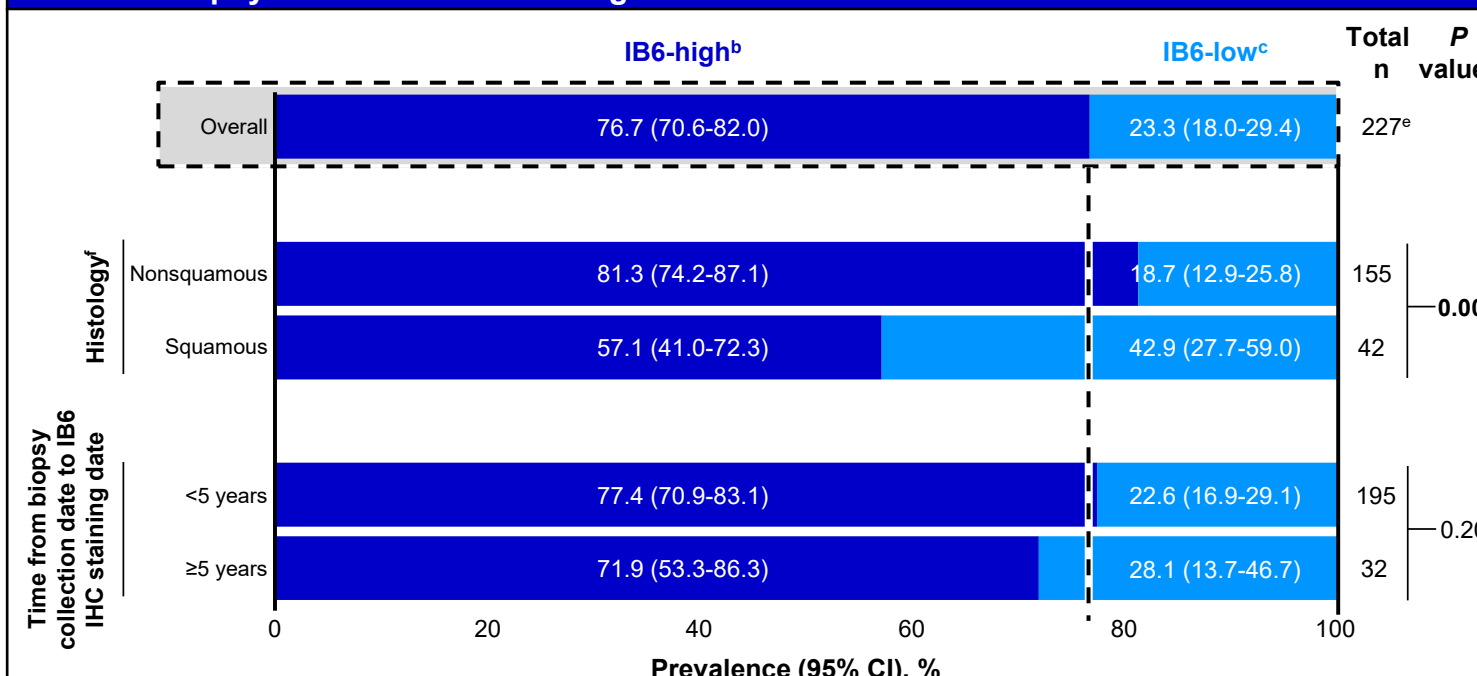
- Prevalence of IB6-expressing vs -nonexpressing status showed no difference by histology or by time from biopsy collection date to IB6 IHC staining date (<5 vs ≥5 years) (Figure 4)

Figure 4. Prevalence of IB6-expressing status by IHC in overall population by histology<sup>a</sup> and by time between biopsy collection and staining



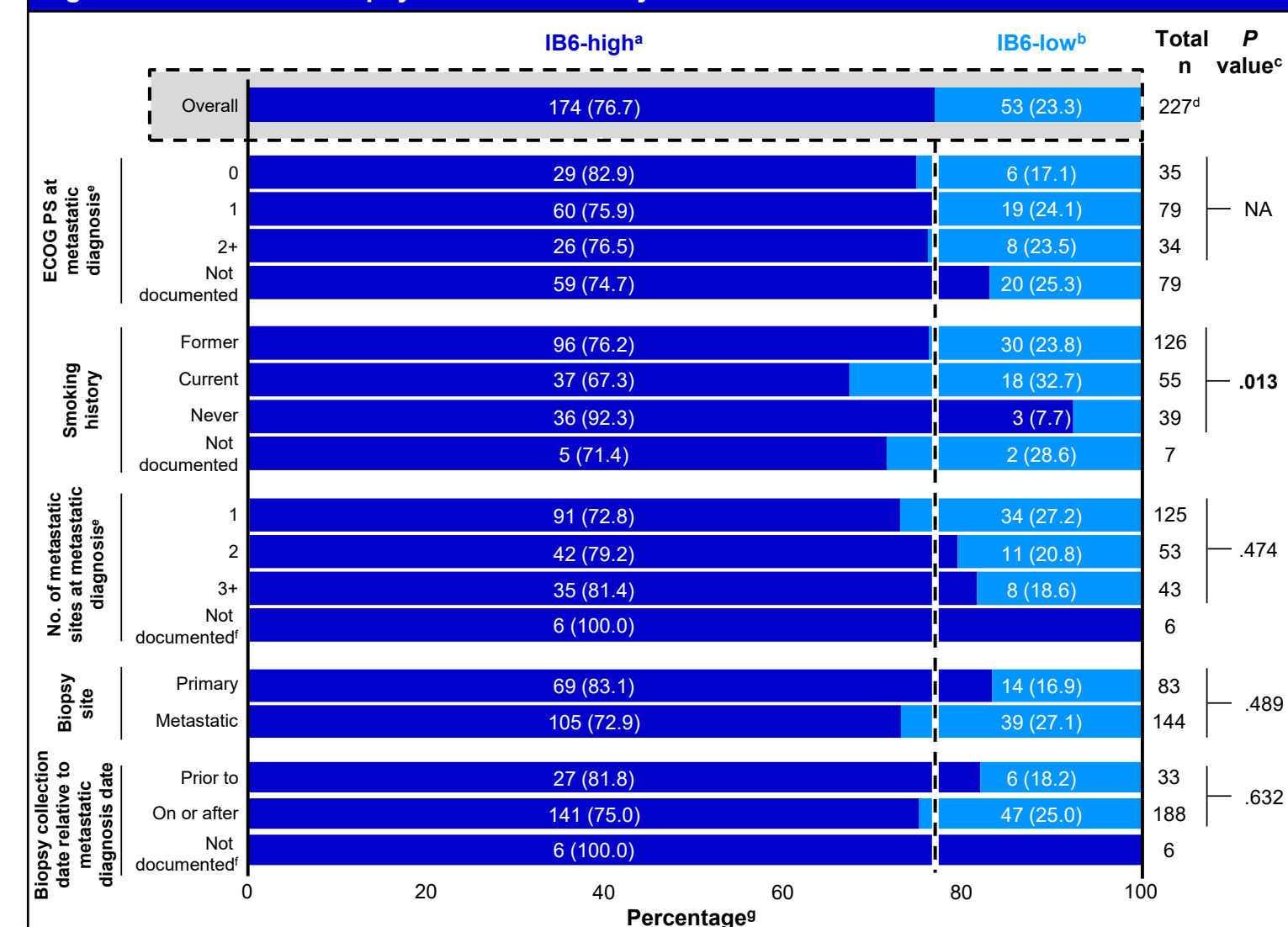
- Prevalence of IB6-high vs -low expression varied significantly by histology but not by time from biopsy collection date to IB6 IHC staining date (Figure 5)
  - IB6-high expression was observed in 81.3% of nonsquamous samples and 57.1% of squamous samples

Figure 5. Prevalence of IB6-high status by IHC in overall population by histology<sup>a</sup> and by time between biopsy collection and staining



- IB6-high and -low subgroups were further characterized by clinical and biopsy characteristics (Figure 6)
  - Characteristics were generally consistent between the IB6-high vs -low subgroups, except for smoking history

Figure 6. Clinical and biopsy characteristics by IB6 IHC status



- PD-L1 expression was generally consistent across IB6-high and -low subgroups (Figure 7)
  - Prevalence of KRAS G12C mutation and EGFR mutations was slightly higher in the IB6-high vs the IB6-low subgroup
  - Prevalence of ALK fusion was similar in the IB6-high and -low subgroups

Figure 7. Molecular characteristics of the overall population and by IB6 IHC status

