

P3.252: ITGB6 Expression and Real-World Outcomes in Non-Small Cell Lung Cancer

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MedStar Health

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INTRODUCTION

- Integrin beta-6 (*ITGB6*) forms the $\alpha\beta6$ integrin, an epithelial adhesion receptor overexpressed in solid tumors.
- ITGB6*-directed therapies are currently in clinical trials for non-small cell lung cancer (NSCLC).
- We present the largest real-world analysis characterizing *ITGB6* expression and real-world outcomes in NSCLC.

METHODS

- Next Generation DNA and RNA sequencing was performed on NSCLC samples (n = 34022) submitted to Caris Life Sciences.
- ITGB6* expression was reported in transcripts per million (TPM) and categorized into quartiles (Q1: low, Q4: high).
- Real-world overall survival (rwOS) was derived from insurance claims and calculated from biopsy to last contact while time on treatment was calculated from initiation to end of therapy.
- Hazard ratio (HR) was calculated by Cox proportional hazard method.
- Mann-Whitney U and X2/Fisher-Exact tests were applied where appropriate, with *p*-values adjusted (*p* < .05).

CONCLUSIONS

- ITGB6* expression varies by histology and genomic context in NSCLC
- High *ITGB6* expression supports exploration of *ITGB6* targeted therapy in driver-positive NSCLC.
- ITGB6* shows opposing prognostic effects in LUAD and LUSC
- Shorter EGFR TKI duration with high *ITGB6* may reflect differential TKI sensitivity.

RESULTS

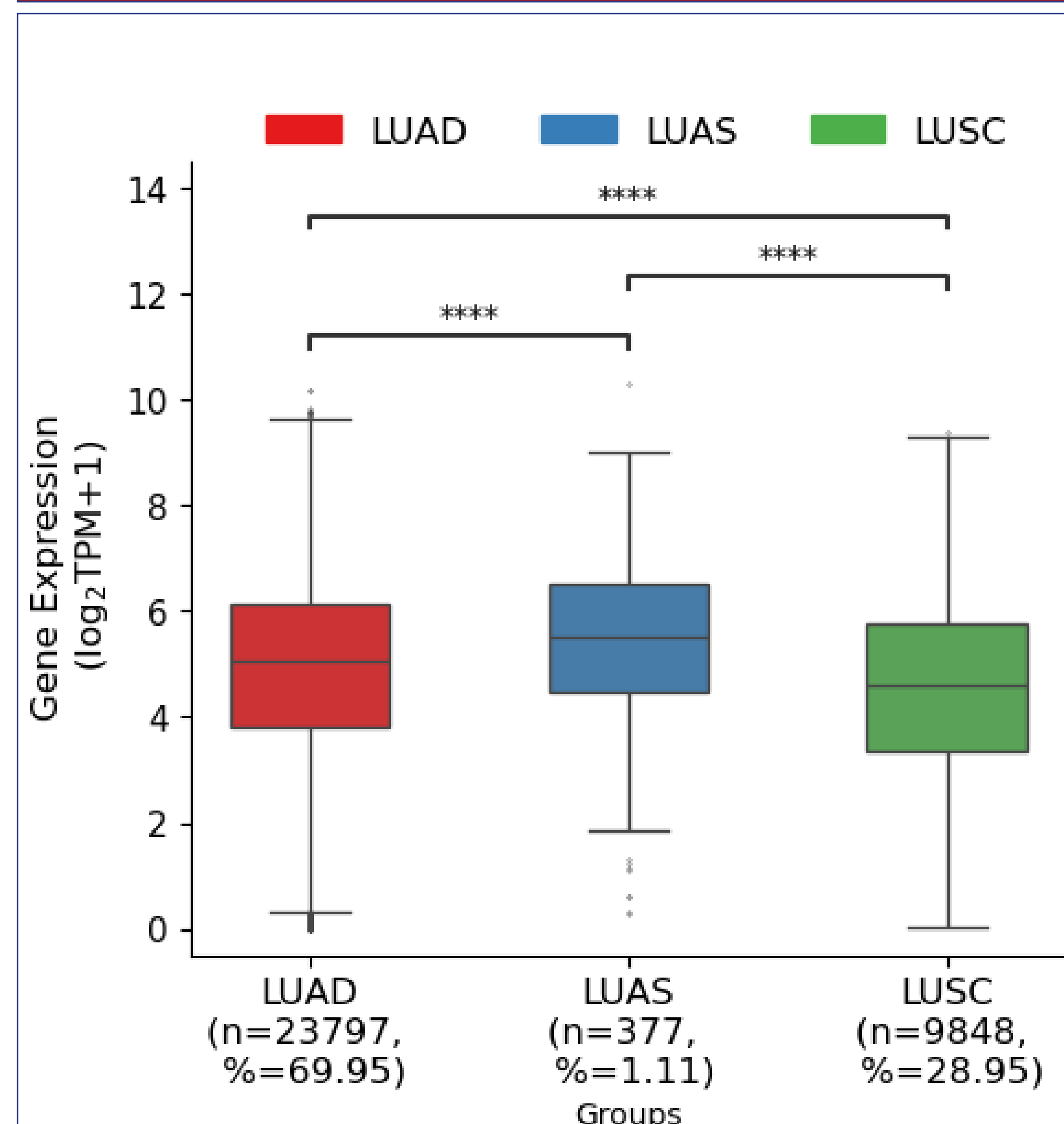


Figure 1: *ITGB6* expression in lung adenocarcinoma (LUAD, TPM 32), squamous cell carcinoma (LUSC, TPM 23), adenosquamous carcinoma (LUAS, TPM 45). Asterisk indicate statistical significance (*p*<0.05)

RESULTS

Subgroup	Number (%)	Median TPM	rwOS in LUAD, ITGB6-Q1 (Months, N)	rwOS in LUAD, ITGB6-Q4 (Months, N)	P-value
<i>MET</i> Exon 14	793 (2.3)	44.7	12.8 (123)	31.8 (219)	<.001
<i>ROS1</i> Fusion	193 (.6)	44.5	12.6 (33)	33.6 (66)	.04
<i>ALK</i> Fusion	661 (1.9)	44	36.3 (98)	45.2 (219)	.26
<i>BRAF</i> V600E	426 (1.3)	43.2	14.9 (74)	24.3 (138)	.15
<i>KRAS</i> G12C	3252 (9.6)	41.6	16.4 (611)	24.1 (951)	<.001
<i>RET</i> Fusion	224 (.7)	40.7	17.3 (37)	40.1 (68)	.04
<i>EGFR</i> Mut	3592 (10.6)	33.1	24 (746)	34.2 (755)	<.001
<i>HER2</i> Mut	441 (1.3)	31.1	20.4 (104)	21.9 (98)	.89
Driver Negative	24164 (71)	26.7	16.1 (4071)	20.6 (3353)	<.001

Table 1: *ITGB6* Expression (NSCLC) and rwOS (LUAD, months) by Genomic Subgroup.

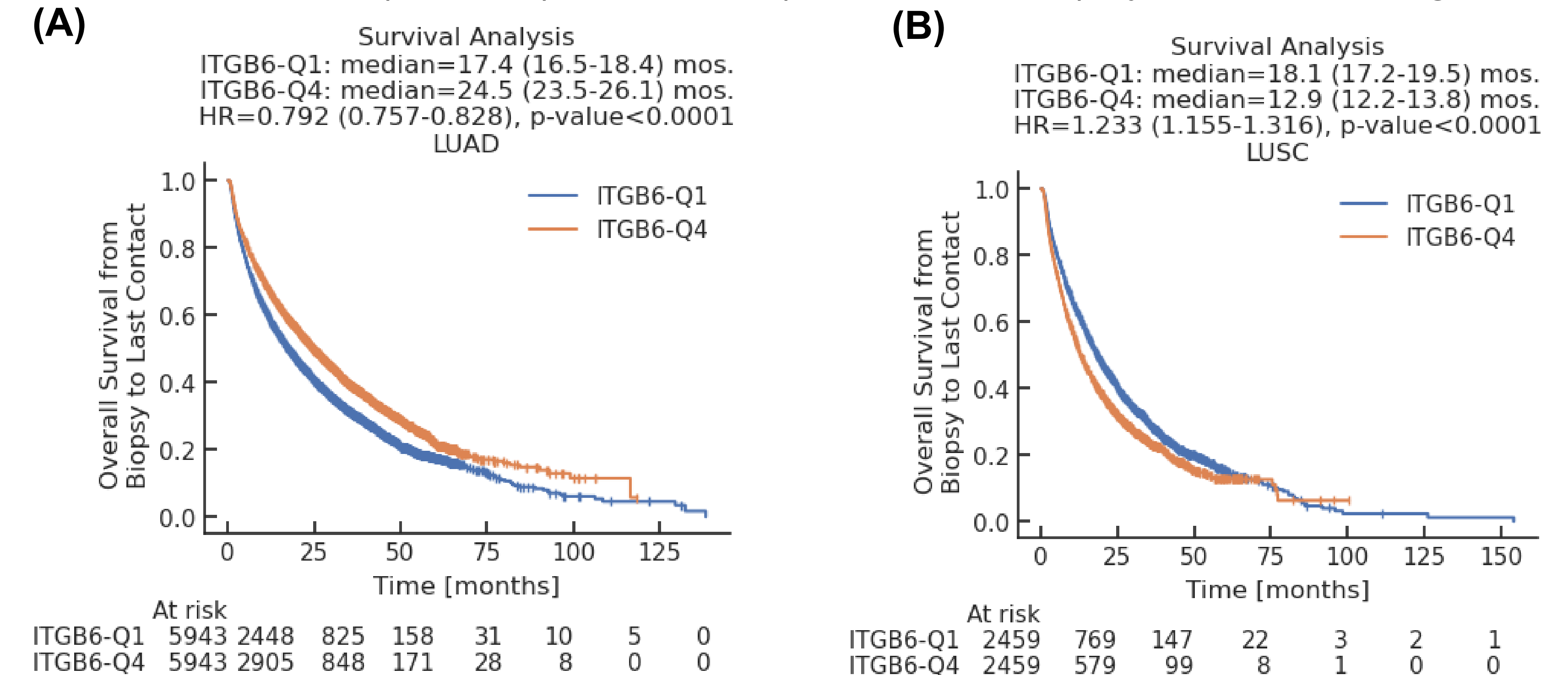


Figure 2: rwOS between *ITGB6* Q1/Q4 in (A) LUAD and (B) LUSC.

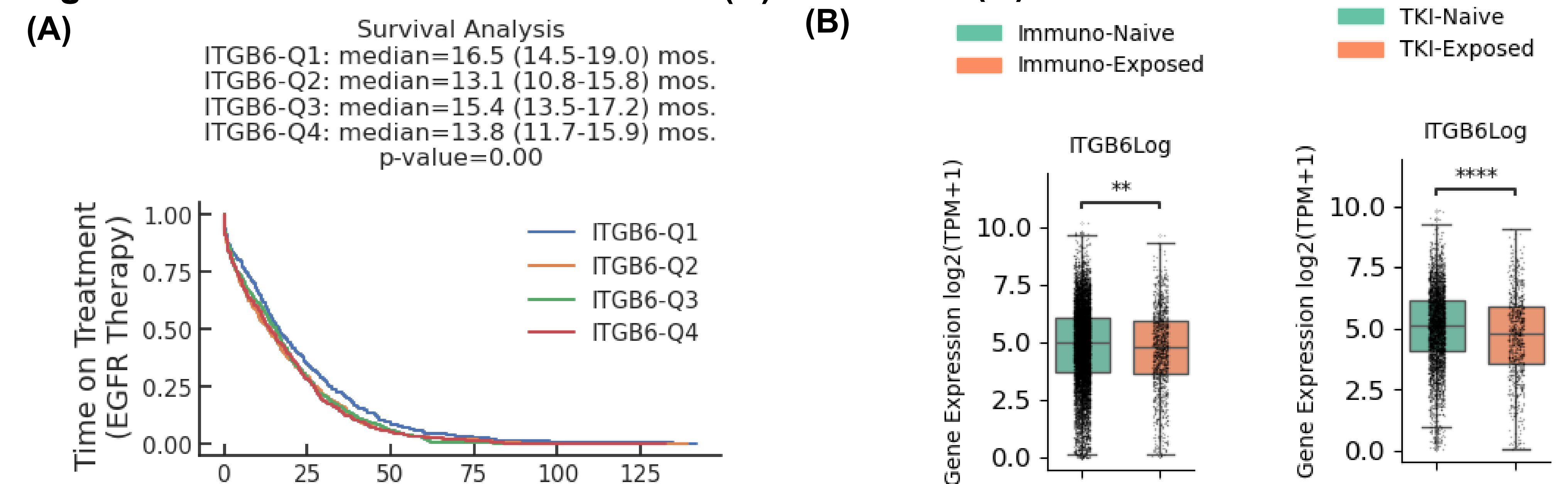


Figure 3: (A) Time on EGFR therapy by *ITGB6* quartiles and (B) *ITGB6* expression by treatment status in LUAD. Asterisk indicate statistical significance (*p*<0.05)

Treatment Groups	Naïve (TPM)	Exposed (TPM)
ICI-Treatment	30.69	26.80
TKI-Treatment	34.40	26.67