

#1350: Tumor BCR Repertoire Metrics Outperform PD-L1 and TMB as Survival Biomarkers in NSCLC After Adjuvant Chemoimmunotherapy

Belén Sierra-Rodero¹, Cristina Martínez-Toledo², Marta Molina-Alejandre³, Ángeles Gil-González⁴, Juan Manuel Gutiérrez-Escobedo⁵, Beatriz Martín-Peñas⁶, Javier Martín-López¹, Ernest Nadal², Ramon Palmero², Reyes Bernabé³, Alex Martínez-Martí⁴, Manuel Dómine⁵, Begoña Campos⁶, Bartomeu Massutí⁷, Enric Carcereny⁸, Andrés Barba⁹, Carlos Aguado¹⁰, Maite Martínez Aguillo¹¹, Virginia Calvo¹, Oscar Juan-Vidal¹², Sergio Sandiego¹³, Paloma Martín-Martorell¹⁴, Alberto Cruz-Bermúdez^{1*}, and Mariano Provencio^{1*}

¹Hospital Universitario Puerta de Hierro-Majadahonda, Madrid, Spain, ²Institut Català d'Oncologia, L'Hospitalet de Llobregat, Barcelona, ³Hospital Universitario Virgen del Rocío, Sevilla, Spain, ⁴Vall d'Hebron Institute of Oncology (VHO), Hospital Universitari Vall d'Hebrón, Barcelona, Spain, ⁵Hospital Universitario Fundación Jiménez Díaz, IIS-FJD, Madrid, Spain, ⁶Hospital Universitario Lucus Augusti, Lugo, Spain, ⁷Hospital General Universitario Dr. Balmis, Alicante, Spain, ⁸Institut Català d'Oncologia Badalona- Hospital Germans Trias i Pujol, B-Argo Group, Badalona, Spain, ⁹Hospital de la Santa Creu i Sant Pau, Barcelona, Spain, ¹⁰Hospital Clínico San Carlos, Madrid, Spain, ¹¹Complejo Hospitalario de Navarra, Pamplona, Spain, ¹²Hospital Universitario y Politécnico la Fe, Valencia, Spain, ¹³IVO, Institut Valencià de Oncologia, Valencia, Spain, ¹⁴Hospital Clínico Universitario de Valencia, Valencia, Spain. * There authors contributed equally.

Correspondence: bsierra@idiphim.org



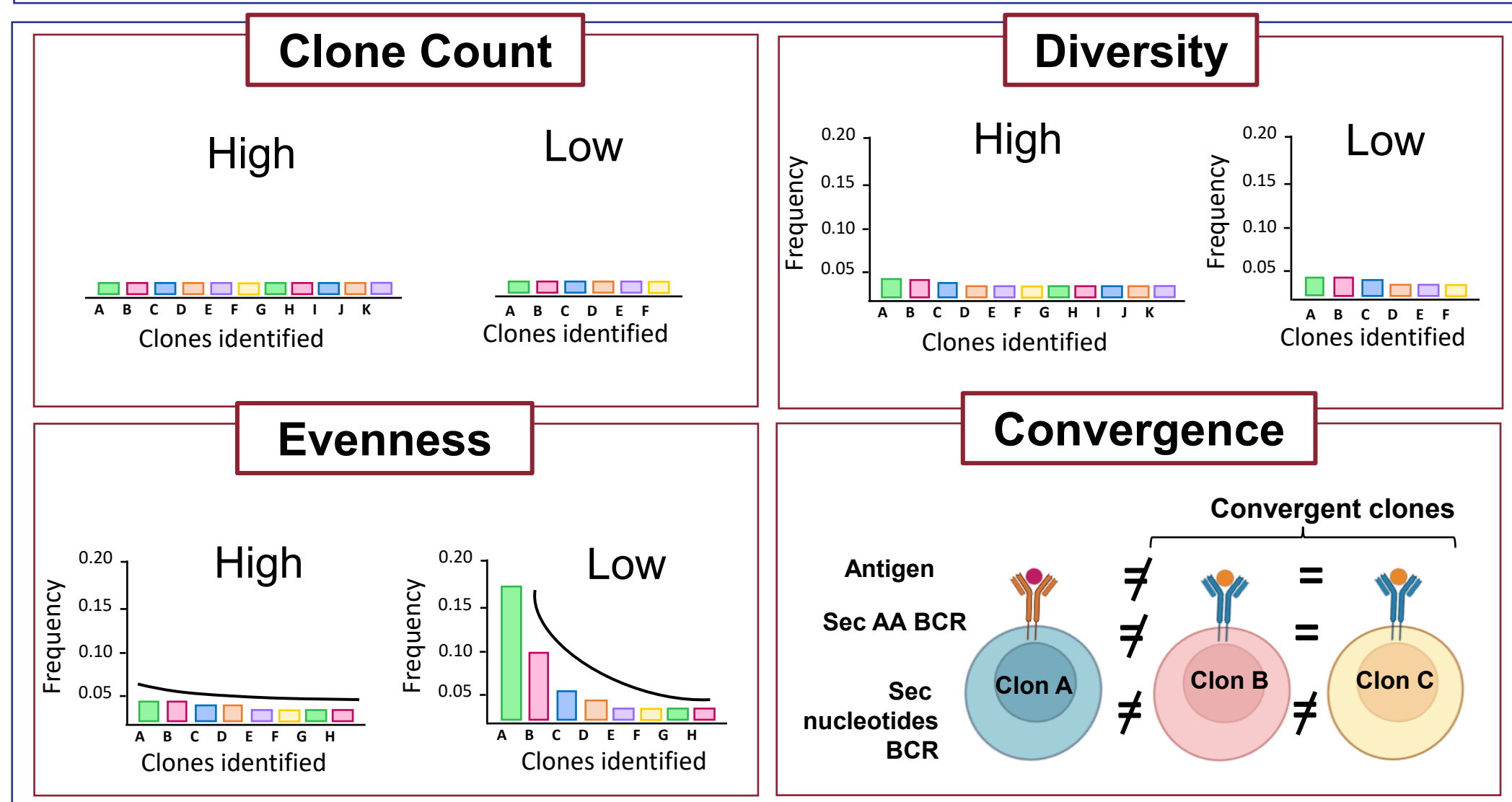
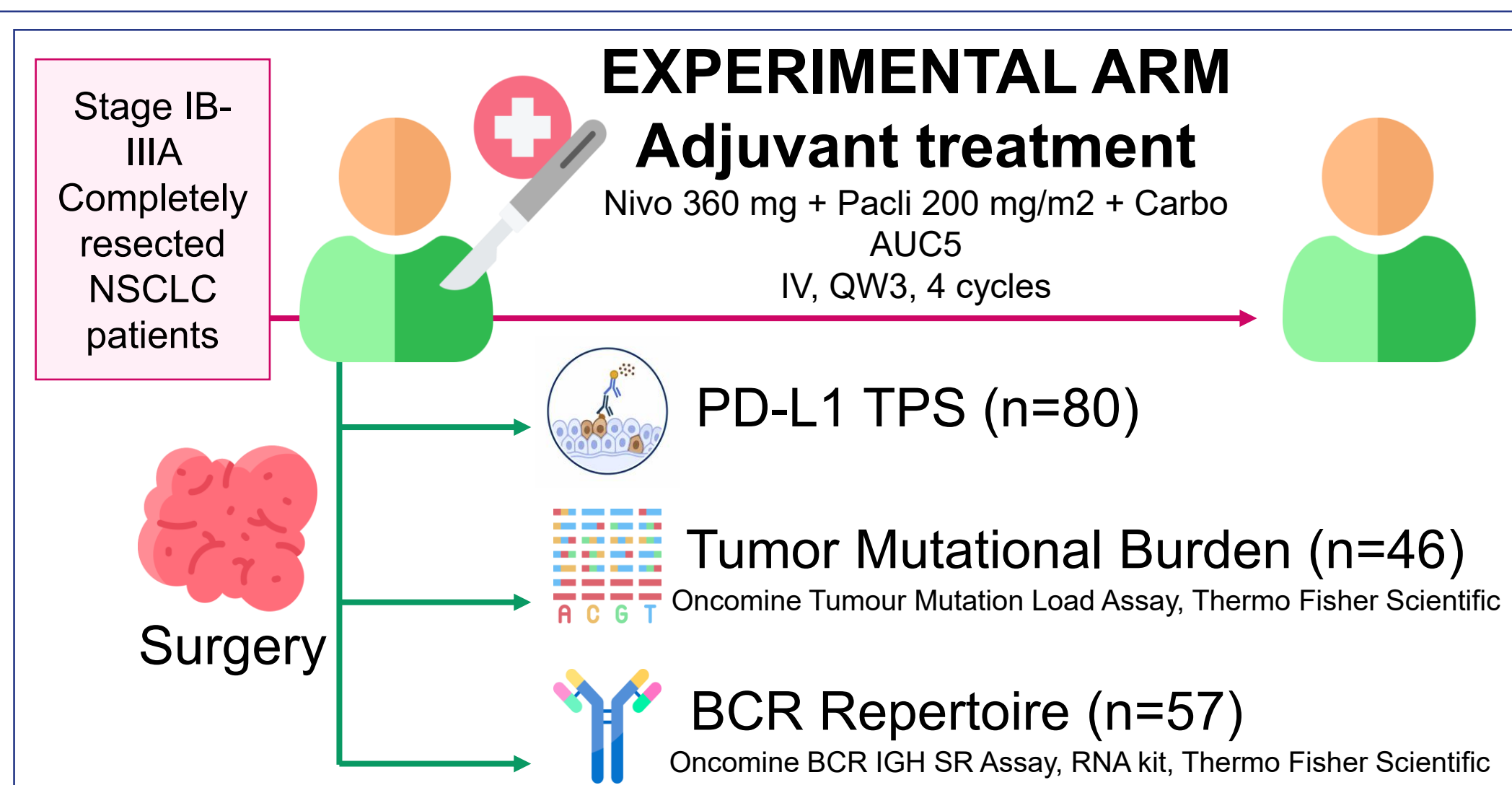
IASLC 2026 World
Conference on Lung Cancer
SEPTEMBER 12 - 15, 2026
SEOUL, REPUBLIC OF KOREA

INTRODUCTION

Results of **NADIM ADJUVANT** clinical trial presented at WCLC 2025 showed that **adjuvant chemoimmunotherapy (ChIO)** reduce the risk of recurrence in patients with **completely resected IB-IIIa non-small cell lung cancer (NSCLC)** compared to chemotherapy alone¹. Current biomarkers, such as **PD-L1** and **tumor mutational burden (TMB)**, showed **limited sensitivity for predicting clinical outcomes**.

The presence of B lymphocytes and tertiary lymphoid structures has recently been associated with improved responses to immunotherapy², but the prognostic relevance of the **B-cell receptor (BCR) repertoire** remains unclear. We analyzed the **association between tumoral BCR and survival** in patients enrolled in the **NADIM ADJUVANT** trial.

METHODS



Data cutoff: **June 13, 2025**. At least, 50% of patients had **~34 months of follow-up**. **Cancer-specific DFS analysis** included only cancer-related events, censoring non-cancer deaths such as infections or cardiovascular causes. Patients were grouped according BCR value with the highest sensitivity/specificity ratio in the ROC curve. **Kaplan-Meier curves** with log-rank test were performed. **Univariate and multivariate analysis** with Cox regression are also shown.

DISCUSSION AND CONCLUSION

Patients with **more diverse and convergent BCR** repertoire in early stage **NSCLC** tumors treated with **adjuvant chemoimmunotherapy** show **improved outcomes**.

BCR repertoire metrics outperformed PD-L1 and TMB as prognostic biomarkers, supporting their potential clinical utility.

REFERENCES & ACKNOWLEDGEMENTS

REFERENCES

- Provencio M, Bernabé R, Nadal E et al. PL03.10 Adjuvant Chemotherapy (CT) vs CT-immunotherapy for R0 Stage IB-IIIa NSCLC Patients (NADIM ADJUVANT): a Randomized, Phase 3 Trial. Journal of Thoracic Oncology, 20S6
- Sierra-Rodero B, Gil-González Á, Molina-Alejandre M, et al. Decoding B-cell Signatures of Complete Pathologic Response to Perioperative Chemoimmunotherapy in Non-Small Cell Lung Cancer. Clin Cancer Res. 2026 Apr 15;32(8):1499-1512.

AI Use Disclosure: ChatGPT (GPT-5.6 Luna) was used for English language editing and proofreading of the poster text. No AI tools were used for data analysis, interpretation, generation of results, or scientific conclusions.

We would like to thank the patients, their families, all the participating clinical teams, and all the Spanish Lung Cancer Group for making this study possible.

Scan Me



FUNDING

This study was funded by "Instituto de Salud Carlos III" (ISCIII, PI22/01223, PI23/01054 and PI25/01704 grants), the European Regional Development Fund (ERDF), Ministry of Science and Innovation (CPP2022-009545 'STRAGEN-IO'), European Union's Horizon 2020 research and innovation programme, P4-LUCAT project (PERME19002RODR and AC19/00026), Comunidad de Madrid and European social fund.



Funded by the Horizon 2020 Framework Programme of the European Union

RESULTS

CURRENT BIOMARKERS

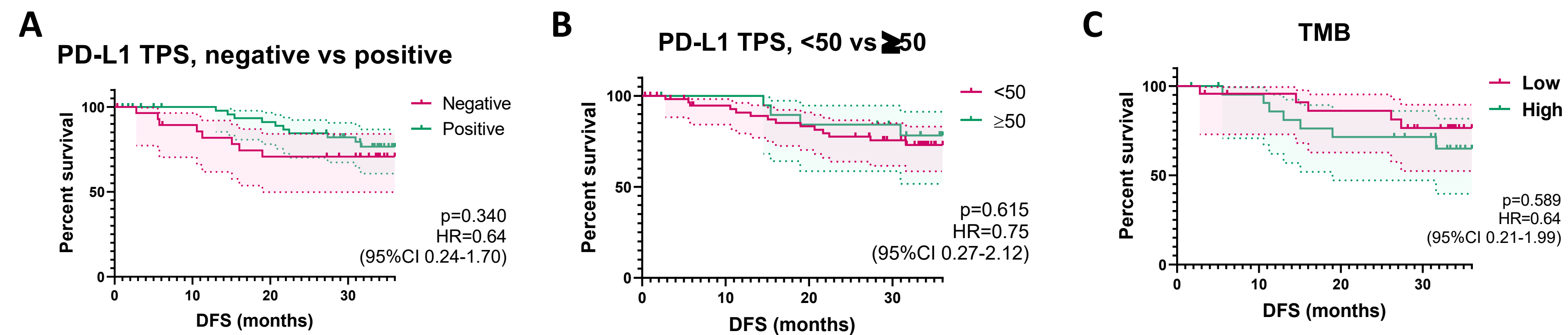


Figure 1. Disease Free Survival (DFS) of patients included in experimental arm grouped by high or low PD-L1 TPS or Tumor Mutational Burden (TMB), Kaplan Meier curve with log rank test. **a)** PD-L1 TPS, negative (n=29) vs positive (n=51). **b)** PD-L1 TPS, below 50 (n=60) vs equal to or above 50 (n=20). **c)** Tumor Mutational Burden, cutoff established by median TMB=10,35 mut/Mb (low, n=23, high, n=23).

PD-L1 and TMB biomarkers do not have prognostic value for identifying patients treated with adjuvant chemoimmunotherapy with longer DFS.

BCR REPERTOIRE

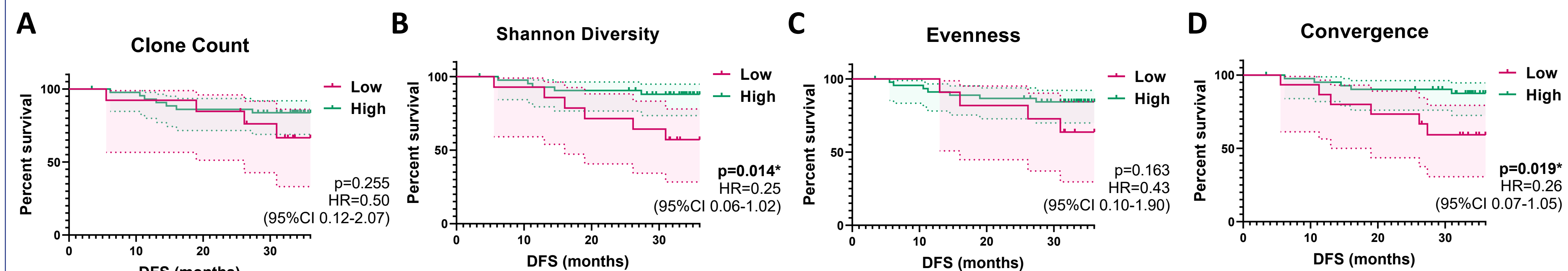


Figure 2. Disease Free Survival (DFS) of patients included in experimental arm grouped by high or low BCR metrics, Kaplan Meier curve with log rank test. Cutoff was determined as the value with the highest sensitivity/specificity of ROC curve of patients with or without recurrence **a)** Clone count (cutoff 2141, low n=13, high n=44). **b)** Shannon Diversity, (cutoff 8.266, low n=14, high n=43). **c)** Evenness, (cutoff 0.6964, low n=11, high n=46). **d)** Convergence, (cutoff 0.0003458, low n=15, high n=42).

Patients with higher tumoral BCR diversity and convergence showed longer DFS.

COX ANALYSIS

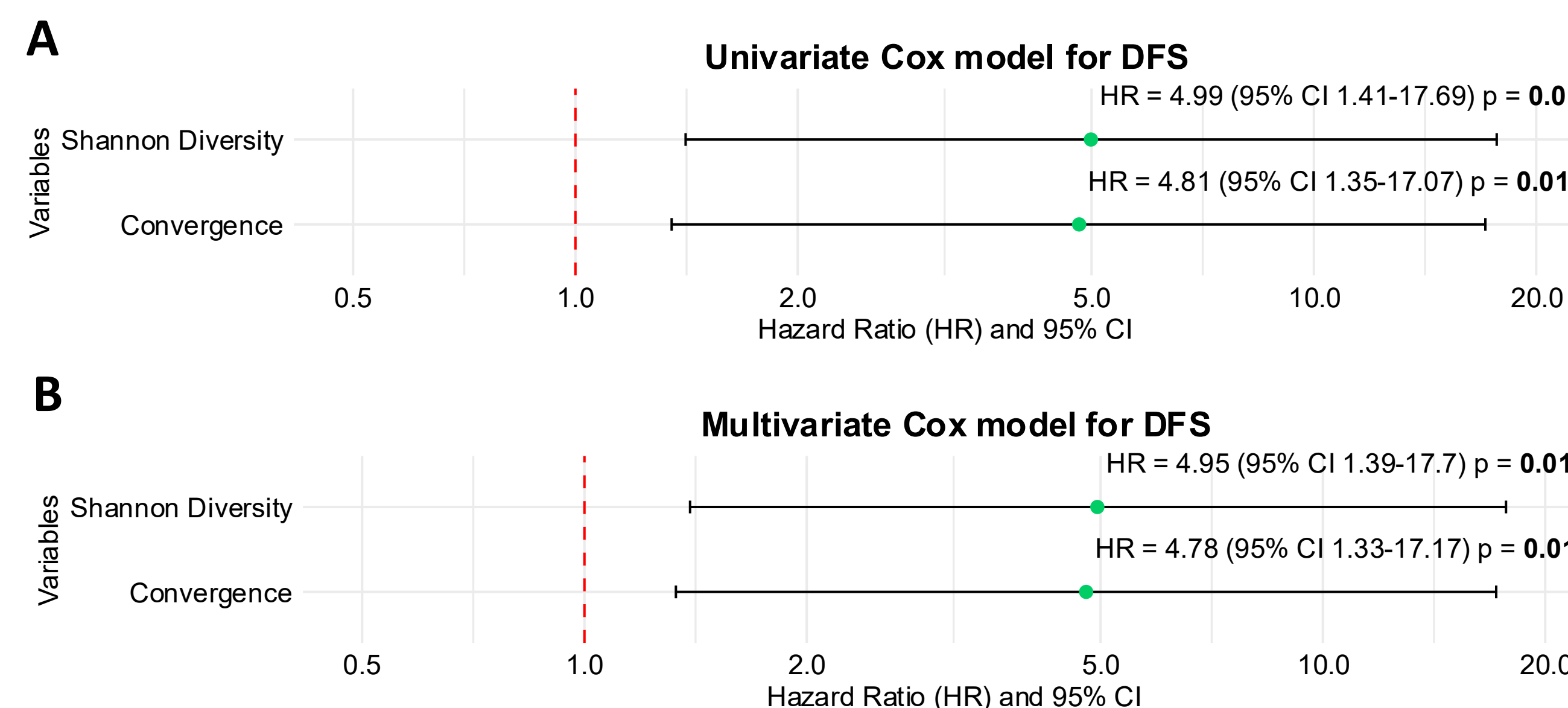


Figure 3. Forest plots of the **a)** univariate and **b)** multivariate Cox analysis for the variables Shannon Diversity and Convergence of the BCR repertoire.

Higher diversity and convergence were associated with longer DFS in both univariable and multivariable Cox analyses.