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INTRODUCTION

Tertiary lymphoid structures (TLSs) are highly organized ectopic immune aggregates that form within the tumor microenvironment and contribute to antitumor immune responses.

In the perioperative NADIM (NCT03081689)¹ and NADIM II (NCT03838159)² trials, **TLS quantity** alone was **not associated with pathological response**, whereas **TLS functionality** assessed by spatial transcriptomics **correlated with treatment response**³.

Here, we developed **an automated tool to characterize TLS cellular composition** from **multiplex immunofluorescence (mIF)** images and investigate its **association with pathological response** after neoadjuvant treatment in NSCLC.

DISCUSSION AND CONCLUSION

CPR tumors exhibit higher cellular density in mature TLSs, particularly with increased B cells in non-germinal center regions, supporting B cell density as a key marker of antitumor mature TLS activity.

Further studies are warranted to clarify the biological significance of these findings.

RESULTS

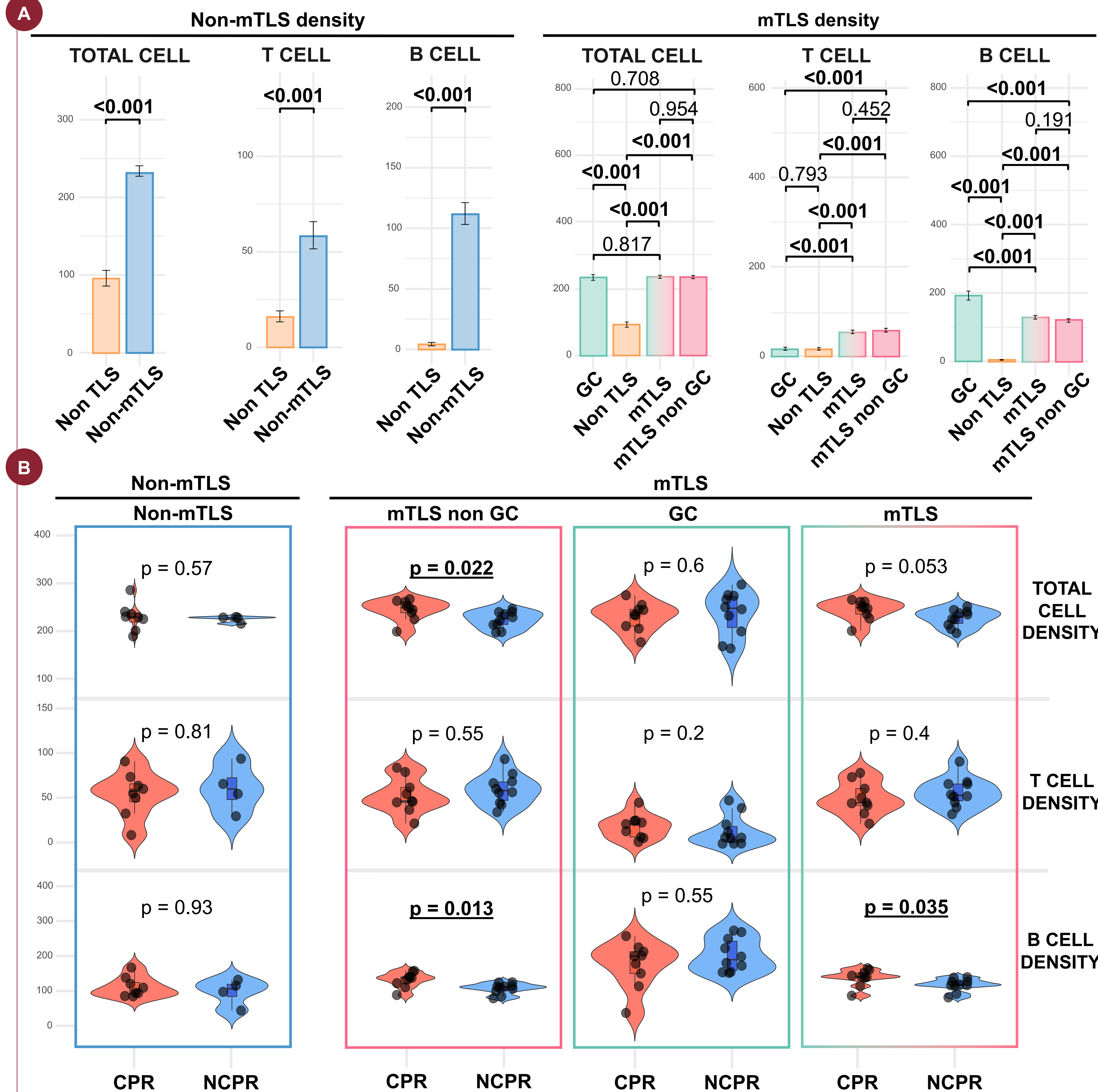
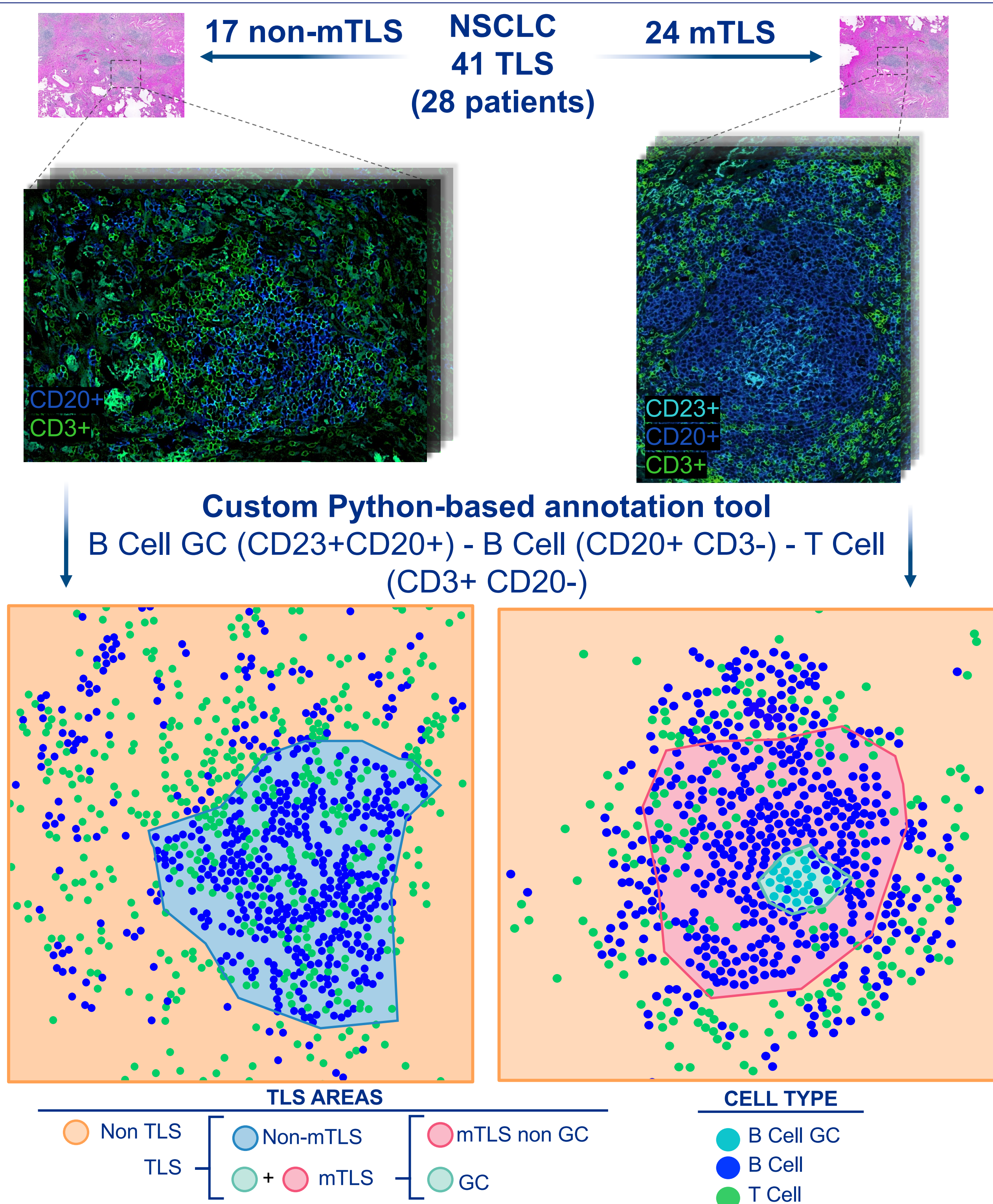


Figure 1: A. Bar plots display total cell density and total T-cell and B-cell (B cells + germinal center B cells) densities in each area, with the corresponding p-values. **B.** Violin plots comparing patients with complete pathological response (CPR) and non-complete pathological response (NCPR) for total cell density, Total T-cell density, and Total B-cell density in the mTLS, GC, and mTLS non GC areas of mTLS, and in the non-mTLS area of non-mTLS. TLS (tertiary lymphoid structure), GC (germinal center). Statistical significance was defined as $p < 0.05$.

METHODS



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