

P3.121 Not All Residual Tumors Are Created Equal: Perioperative Chemoimmunotherapy differentially shapes tumor microenvironment

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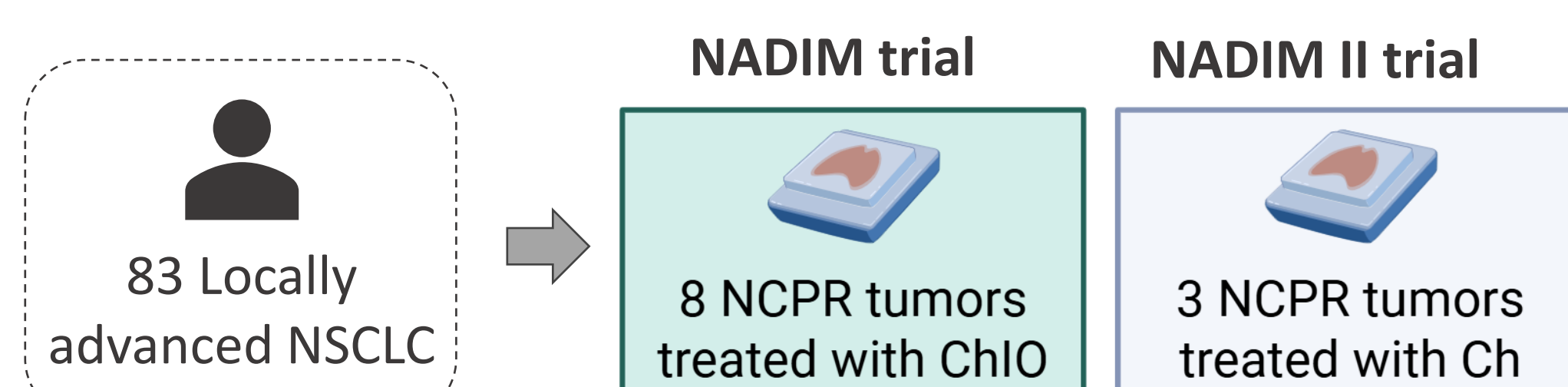
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INTRODUCTION

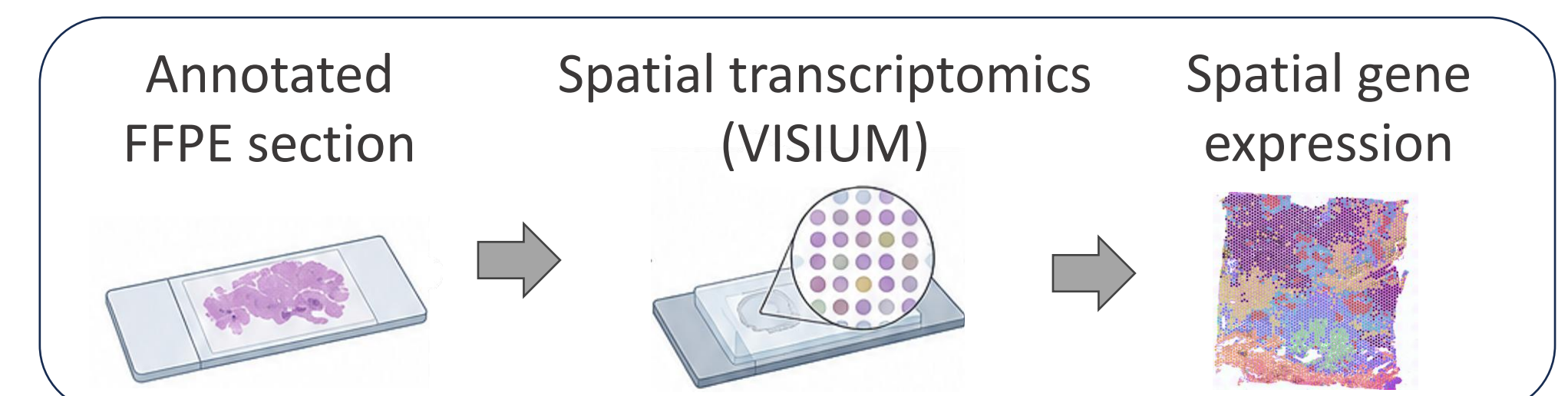
Perioperative chemoimmunotherapy (ChIO) has improved outcomes in **locally advanced NSCLC**, but some tumors exhibit non complete pathological responses (NCPR). However, **neoadjuvant ChIO induces a meaningful antitumor immune response** in these **NCPR tumors**.

Our study aimed to **evaluate survival outcomes in patients with NCPR tumors** treated with perioperative ChIO versus neoadjuvant chemotherapy (Ch) alone, and to **characterize spatial transcriptomic differences** within the post-treatment tumor microenvironment to better understand the biological basis of these outcomes.

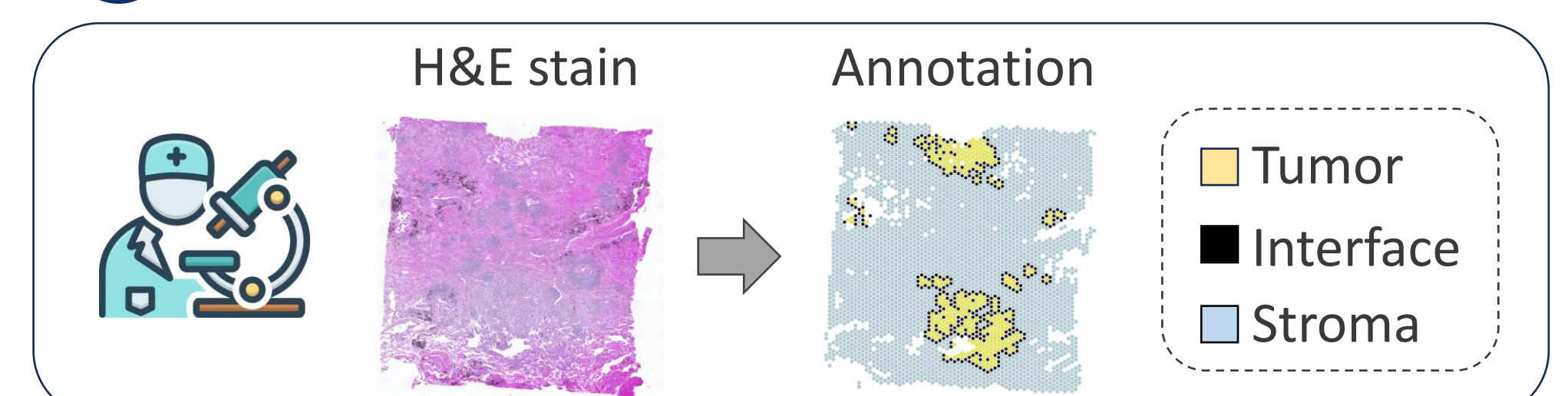
METHODS



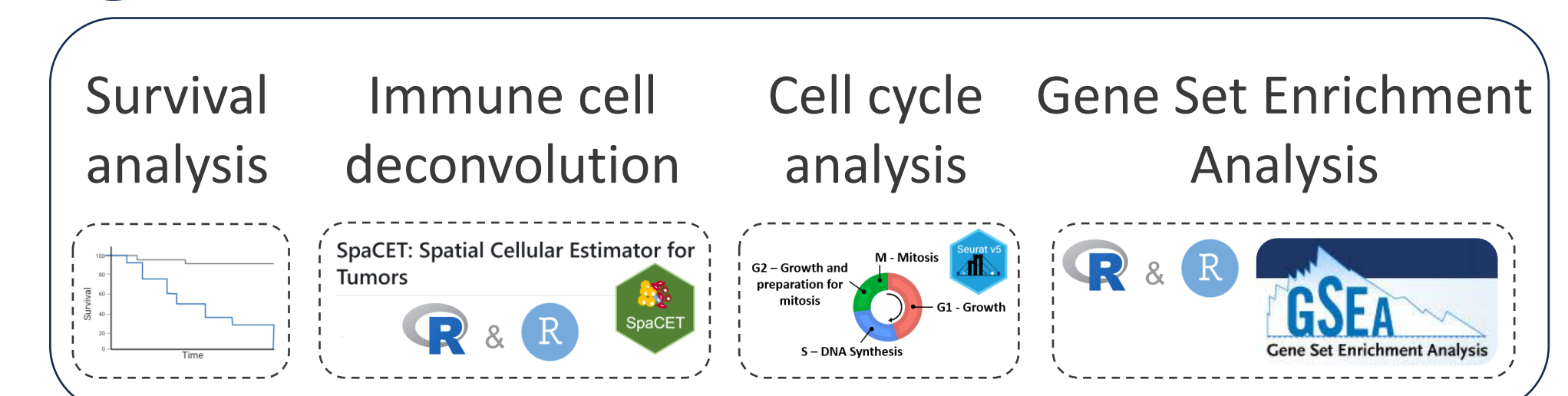
1 SPATIAL TRANSCRIPTOMICS



2 REGION ANNOTATION BY PATHOLOGIST



3 COMPARATIVE ANALYSIS



DISCUSSION AND CONCLUSION

The tumor microenvironment of NCPR tumors after perioperative ChIO showed increased stromal immune infiltration and activity, together with distinct residual tumor programs and reduced proliferation.

These biological changes may contribute to the improved outcomes observed in patients with NCPR tumors receiving perioperative ChIO compared to Ch alone.

REFERENCES & ACKNOWLEDGEMENTS

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RESULTS

Patients with NCPR tumors treated with ChIO have a better survival compared to Ch treatment.

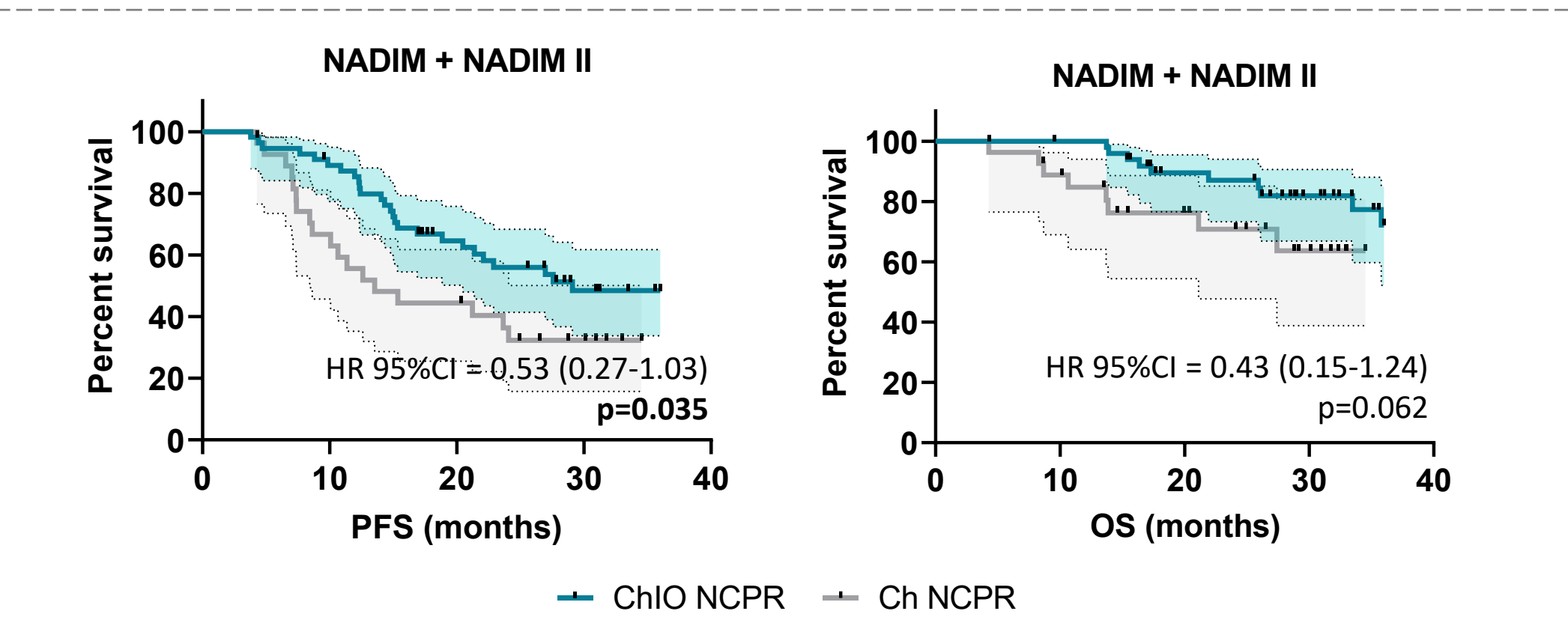


Figure 1. Kaplan-Meier survival curves of progression-free survival (PFS, on the left) and overall survival (OS, on the right) for patients with NCPR tumors treated with ChIO (N=56) and Ch (n=27). An adjusted p value of <0.05 was considered statistically significant. NCPR, Non-complete pathological response; ChIO, chemoimmunotherapy; Ch, chemotherapy.

Tumors treated with ChIO showed a lower proliferative status.

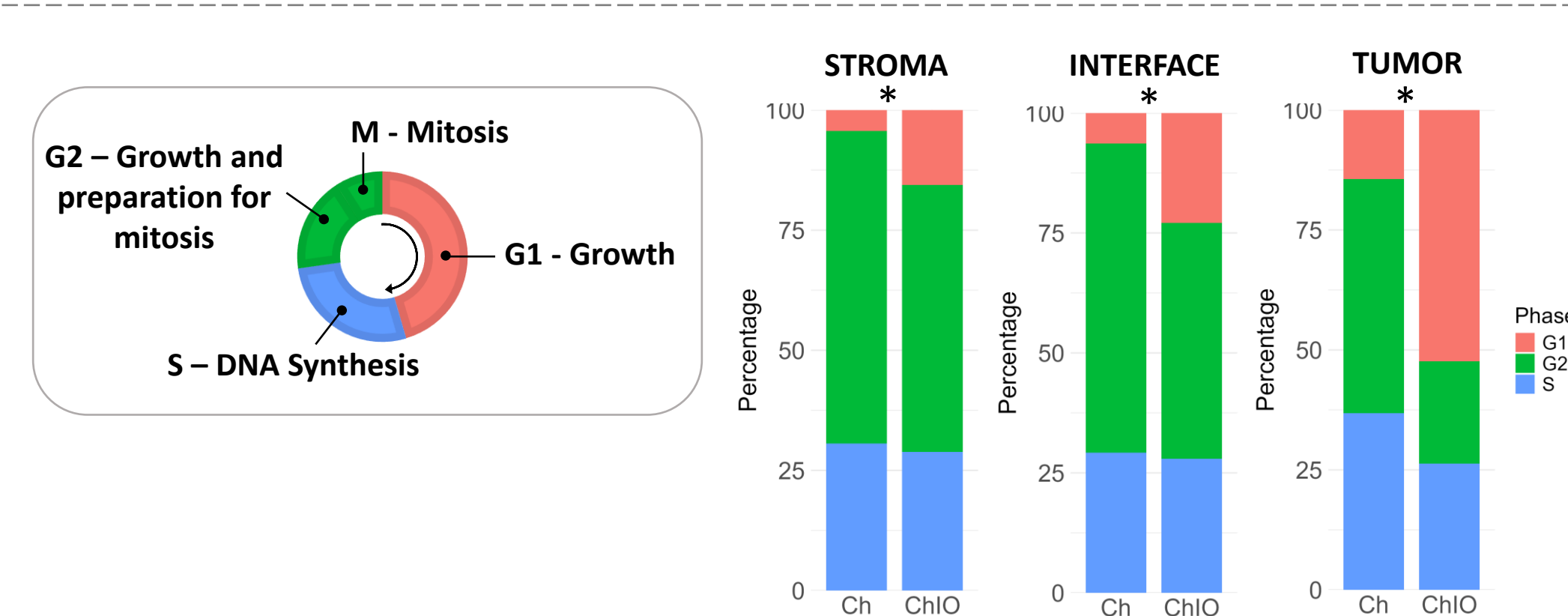


Figure 3. Proliferation status in tumor, stroma and interface regions based on G1, S, and G2/M scores. The chi-squared test was used to analyze associations between cell cycle phases and areas. An adjusted p value of <0.05 (*) was considered statistically significant.

In addition, tumors treated with ChIO have an upregulation of antigen processing and RNA biosynthesis.

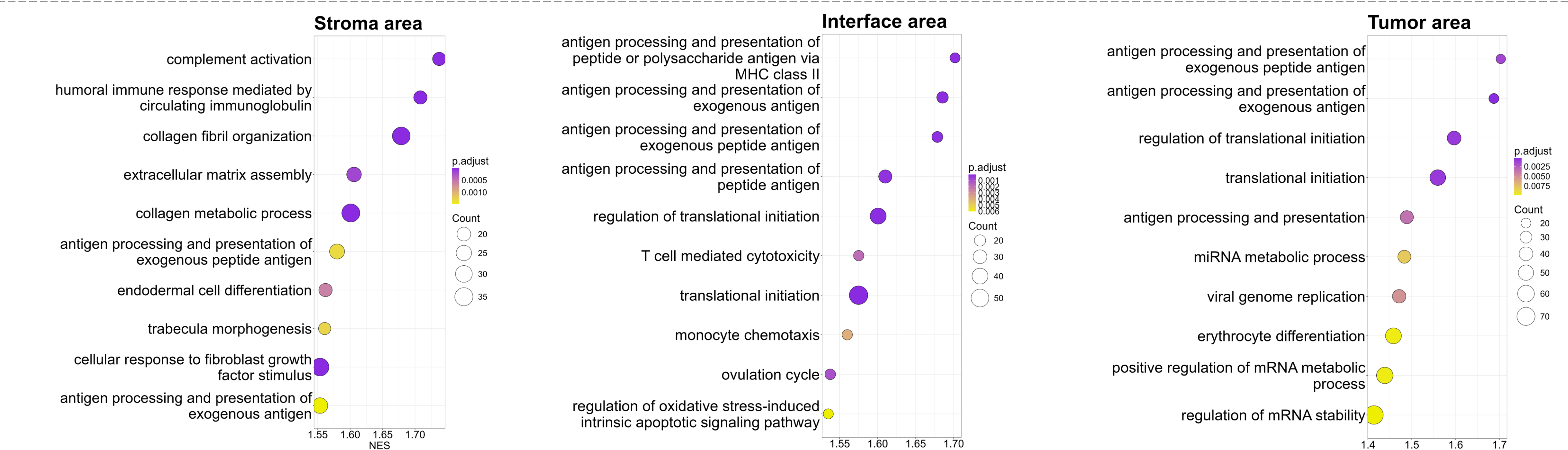


Figure 4. Gene Set Enrichment Analysis (GSEA) in stroma, interface and tumor regions. Pathways with p adjusted <0.01 and core enrichment >15 genes were considered statistically significant.

Patients with ChIO-treated NCPR tumors have a higher immune infiltration in stroma regions and colder tumor regions compared to Ch.

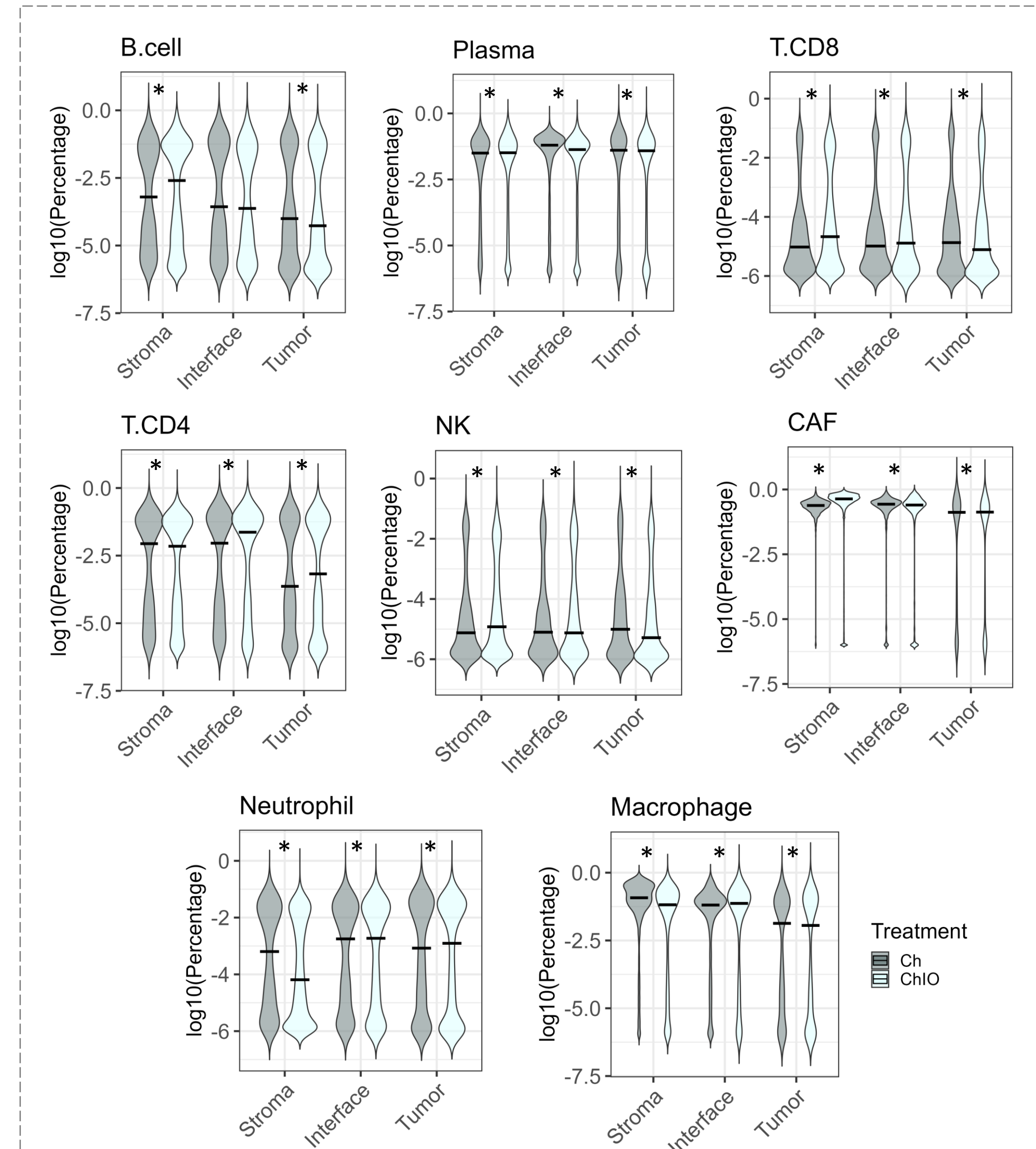


Figure 2. Deconvoluted immune cell populations in stroma, interface and tumor. Dunn's test for multiple comparisons was used to compare immune cells between areas. An adjusted p value of <0.05 (*) was considered statistically significant.