

P3.131: A Co-Culture Model Based on Cancer-Associated Fibroblast Subtypes for Evaluating Lung Cancer Immunotherapy Efficacy

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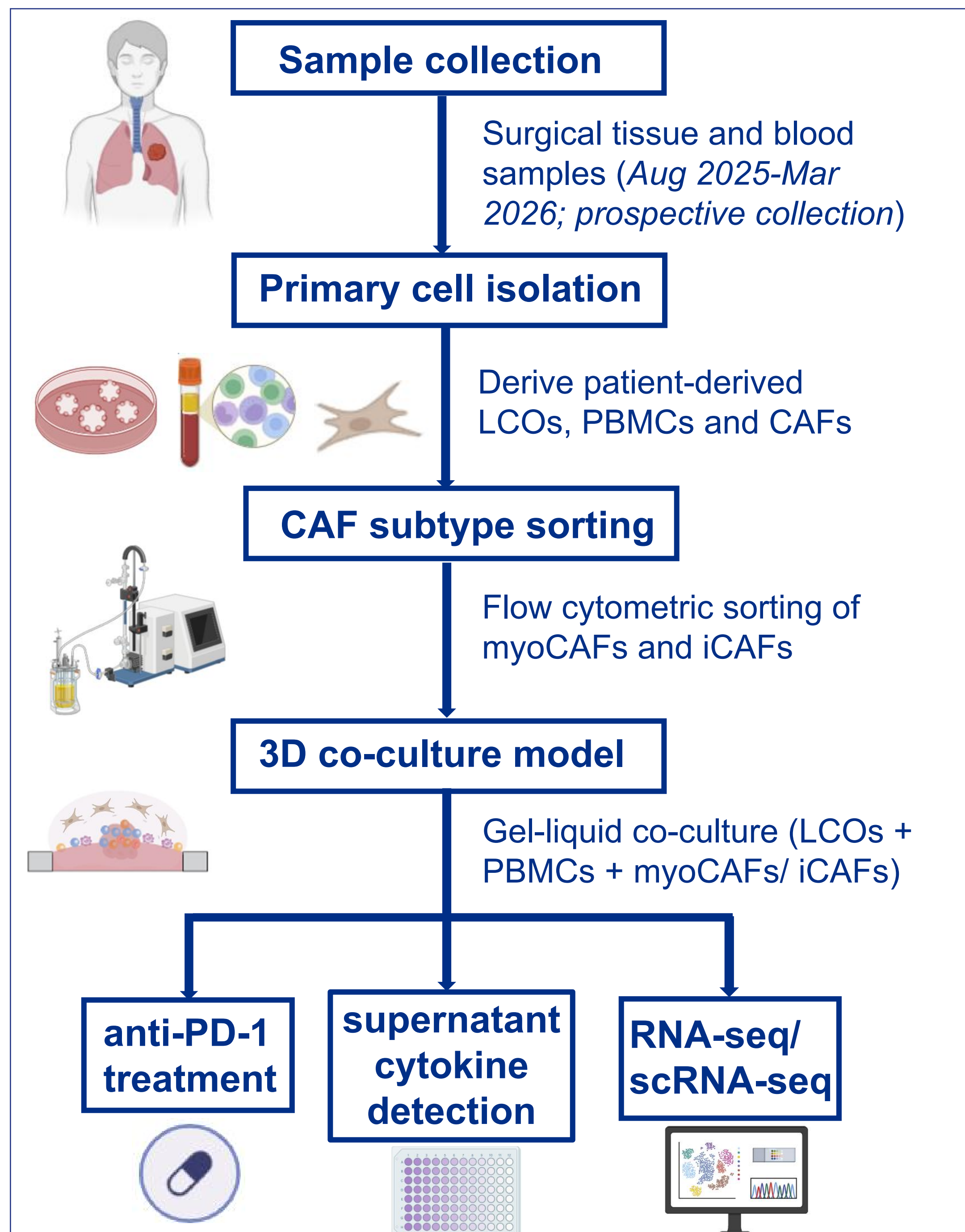
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INTRODUCTION

- Cancer-associated fibroblasts (CAFs) are highly heterogeneous within the tumor microenvironment (TME). Conventional in vitro systems poorly recapitulate this heterogeneity and the CAF-tumor-immune crosstalk.
- We established a 3D co-culture model with patient derived lung cancer organoids (LCOs), PBMCs and distinct CAF subtypes to mimic the in vivo TME.
- This platform enables systematic assessment of subtype specific CAF immunomodulation and immunotherapy responses.

METHODS



DISCUSSION AND CONCLUSION

Actionable Take Away Message

- Our patient-derived 3D co-culture model recapitulates CAF-tumor-immune crosstalk with lung cancer organoids, PBMCs and distinct CAF subtypes.
- myoCAFs induce immune exclusion via physical barriers; iCAFs correlate with immune dysfunction and T-cell exhaustion.
- CAF subtype stratification helps evaluate and predict immunotherapy responses.

Future Direction for Research

- Expand patient cohorts to verify CAF subtype effects on immunotherapy responses.
- Dissect mechanisms of myoCAF driven immune exclusion and iCAF related T-cell dysfunction.
- Link CAF subtype profiles to clinical outcomes for predictive immunotherapy biomarker development.

REFERENCES & ACKNOWLEDGEMENTS

REFERENCES

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RESULTS

