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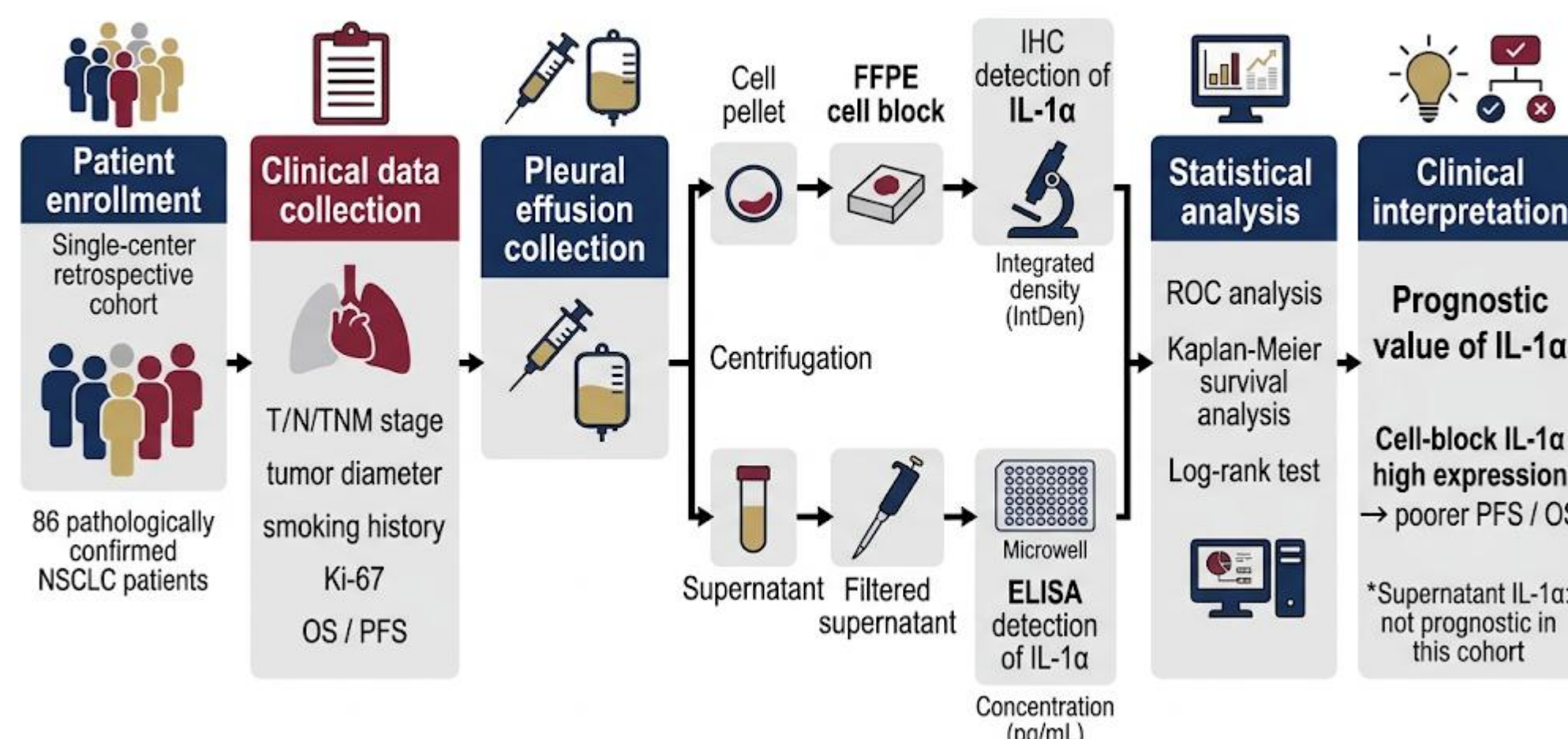
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INTRODUCTION

- NSCLC pleural effusion is a clinically accessible sample for biomarker analysis.
- IL-1 α is a pro-inflammatory cytokine linked to angiogenesis, stromal inflammation, CAF activation, invasion, and treatment resistance.
- The central question was whether cellular IHC or supernatant ELISA better captures clinically meaningful IL-1 α biology.

METHODS

Design: Single-center retrospective biomarker study



- Included 86 pathologically confirmed NSCLC patients treated between December 2022 and January 2023
- Collected paired pleural effusion samples and clinicopathological data
- Pleural effusion was centrifuged and separated into:
 - 1) Cell pellet for FFPE cell-block preparation
 - 2) Supernatant for soluble cytokine analysis
- Statistical analyses:
 - 1) ROC curve analysis for predictive performance
 - 2) Kaplan-Meier and log-rank tests for survival outcomes

DISCUSSION AND CONCLUSION

Key Conclusions

- IL-1 α is not suitable as a standalone diagnostic marker.
- High IL-1 α expression in pleural effusion cell blocks may indicate poor prognosis in NSCLC.
- **Cell-block IHC** appears more clinically informative than supernatant ELISA for prognostic assessment.

Limitations

- Single-center retrospective study design limits generalizability.
- Mechanistic validation was not performed in vitro or in vivo.

REFERENCES & ACKNOWLEDGEMENTS

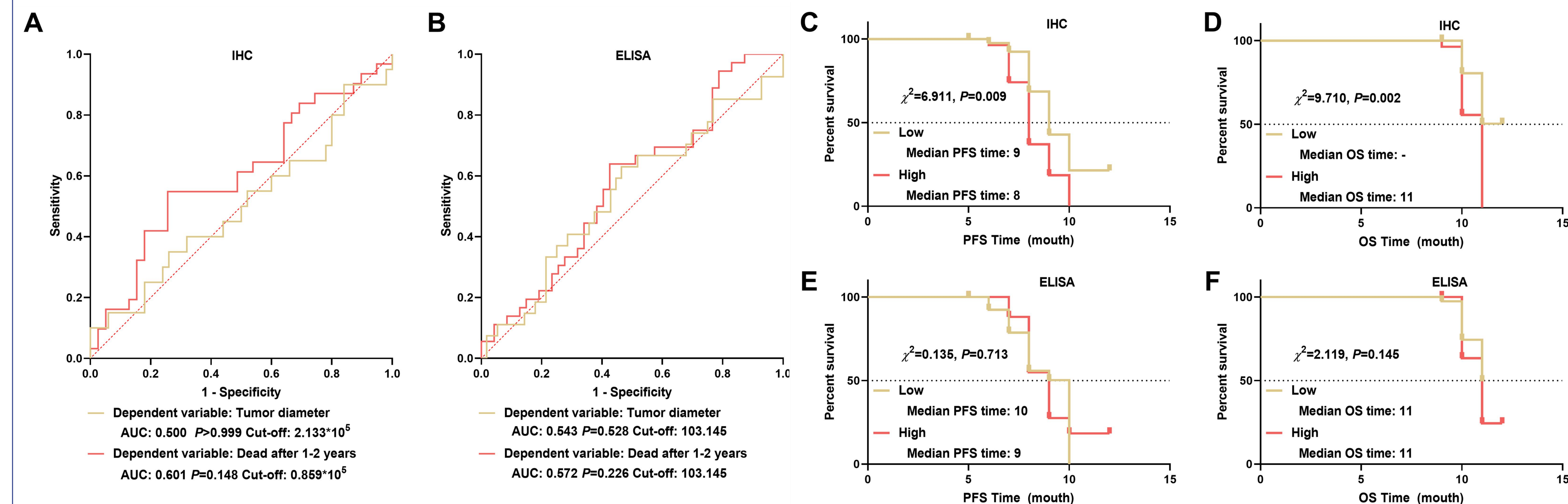
Key References:

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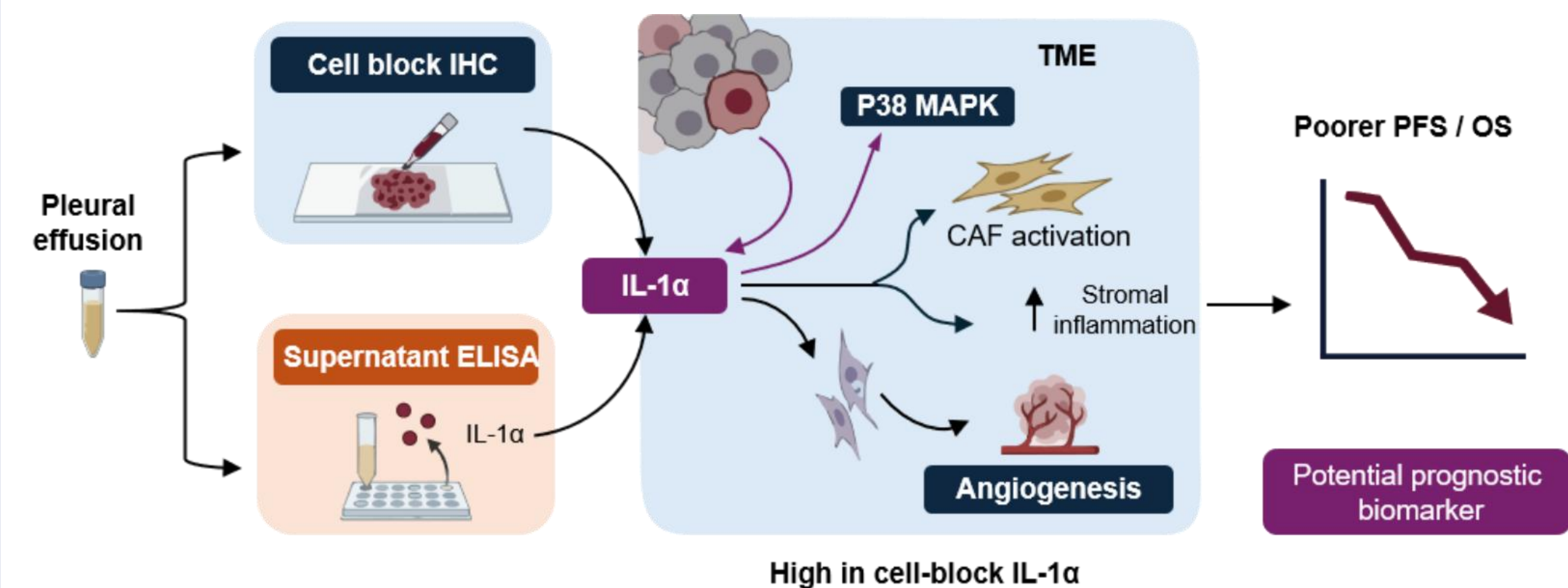
Acknowledgements

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RESULTS



- ROC analysis showed AUC values below 0.7 for both cell-block and supernatant IL-1 α , indicating limited standalone predictive performance.
- High cell-block IL-1 α expression was significantly associated with shorter PFS (**P = 0.009**).
- High cell-block IL-1 α expression was significantly associated with poorer OS (**P = 0.002**).
- Supernatant IL-1 α levels were not significantly associated with PFS or OS.



- IL-1 α was detectable in pleural effusion samples from NSCLC patients.
- IL-1 α alone showed limited value for predicting tumor diameter or 1-2 year mortality.
- High IL-1 α expression in pleural effusion cell blocks was associated with poorer prognosis.
- IL-1 α levels in pleural effusion supernatant were not significantly associated with survival outcomes.