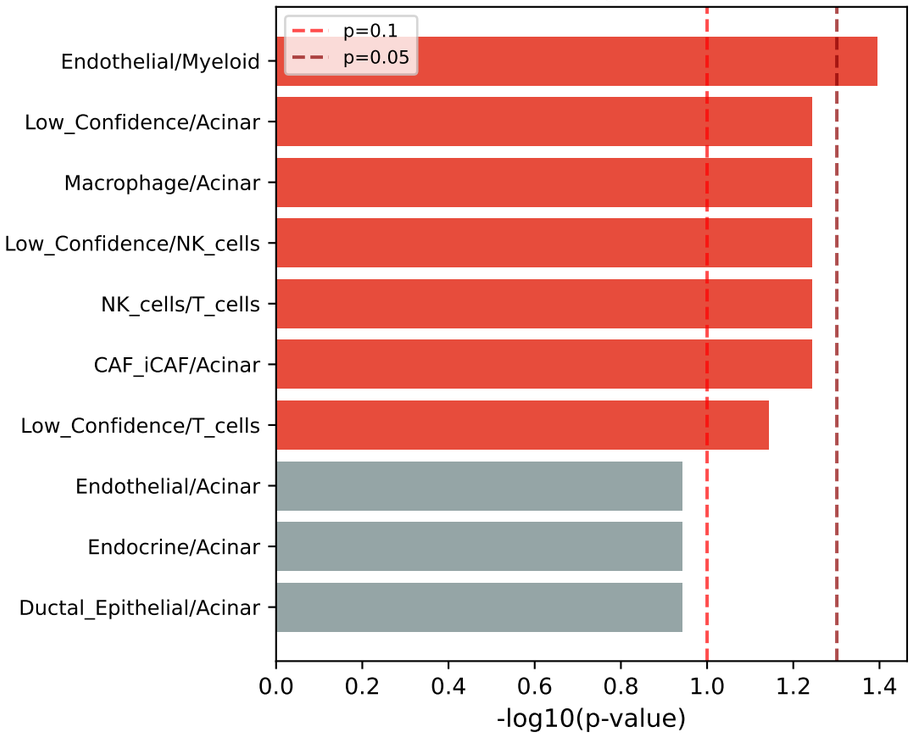
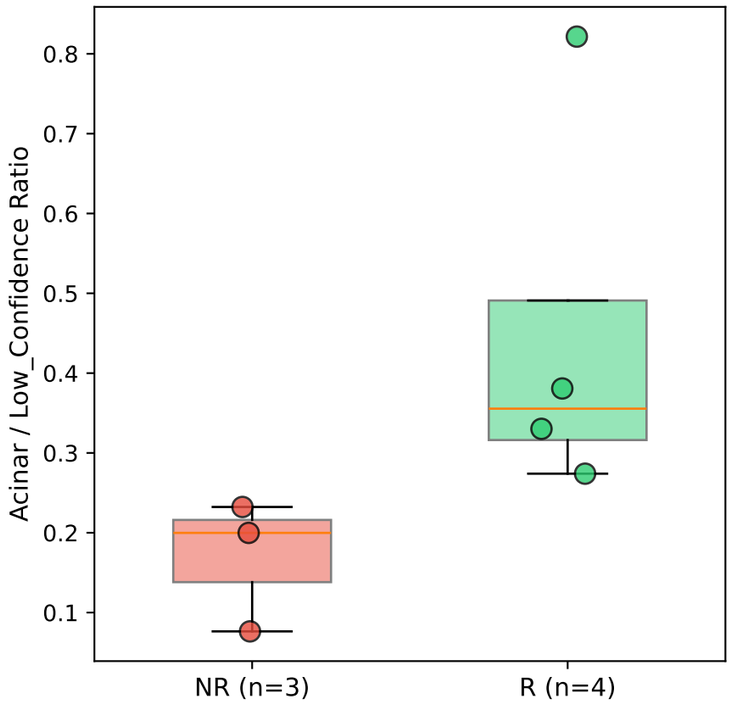
CELL TYPE RATIO ANALYSIS: Composite Biomarkers for Treatment Response
Ratios reveal tissue architecture differences between R and NR

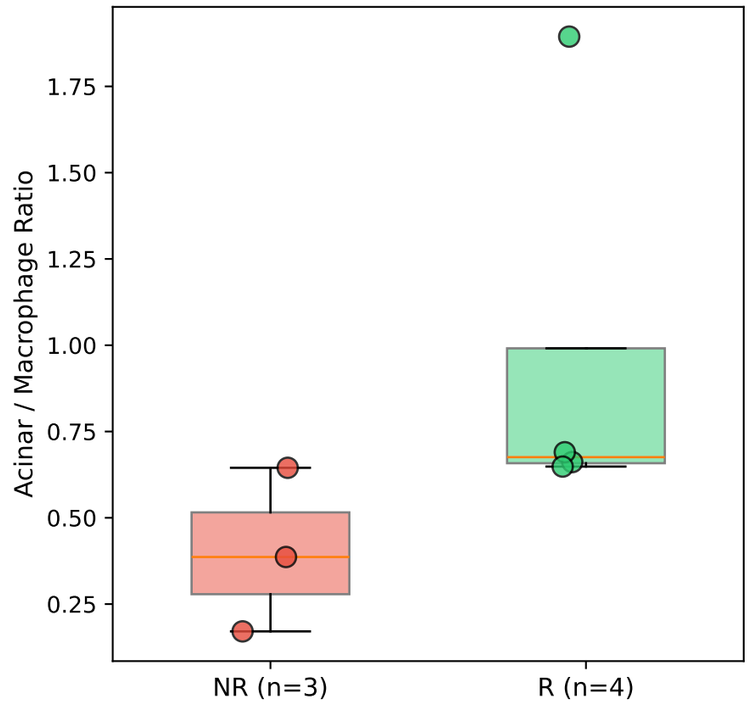
A. Top Discriminating Ratios (sorted by significance)



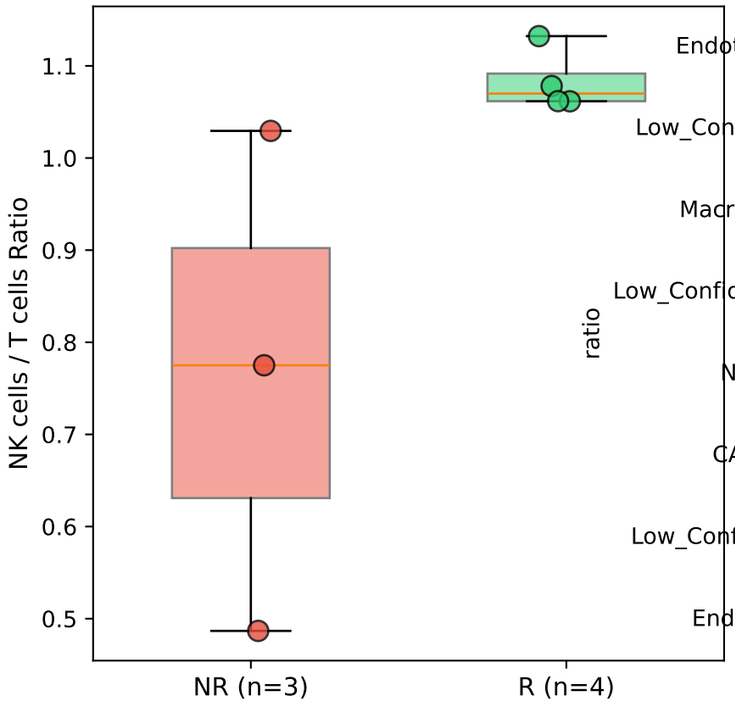
B. Acinar/Low_Confidence (MWU p=0.057)



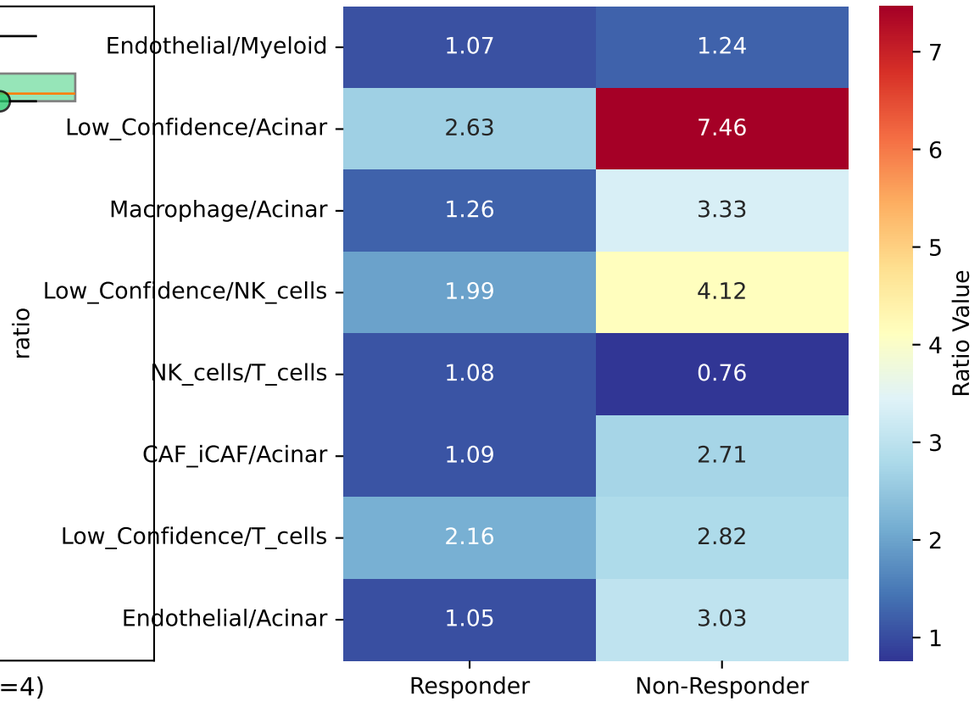
C. Acinar/Macrophage (MWU p=0.057)



D. NK/T Cell Ratio (MWU p=0.057, higher in R)



E. Significant Ratios by Response



F. Interpretation

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KEY RATIO FINDINGS
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SIGNIFICANT RATIOS (MWU p < 0.1):

1. Acinar/Low_Confidence: 2.7x higher in R
   → Preserved acinar identity in responders

2. Acinar/Macrophage: 2.4x higher in R
   → Acinar cells outnumber macrophages in R

3. Acinar/CAF_iCAF: 2.1x higher in R
   → Less stromal dominance in responders

4. NK/T cell ratio: 1.4x higher in R
   → Different immune balance in R

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BIOLOGICAL INTERPRETATION
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Responders show:
• PRESERVED normal tissue architecture
  (high Acinar-based ratios)

• BALANCED immune composition
  (NK/T ratio higher)

• LESS stromal dominance
  (lower CAF/Acinar ratios)

Non-responders show:
• DISRUPTED tissue with low Acinar
• MACROPHAGE/CAF dominant stroma
• DUCTAL epithelial takeover

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CLINICAL IMPLICATION
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Acinar-based ratios may serve as
composite biomarkers for predicting
treatment response in PDAC.

Best candidate: Acinar/(Macrophage+CAF)
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