A. Detection Accuracy by Scale

X-axis: Number of eccDNAs (100, 500, 1k, 3k, 5k, 10k, 50k, 100k)
Y-axis: Accuracy (%)

B. Performance Metrics

X-axis: Number of eccDNAs (100, 500, 1k, 3k, 5k, 10k, 50k, 100k)
Y-axis: Percentage (%)
Legend: Recall, Precision, F1

C. Error Distribution

X-axis: Number of eccDNAs (100, 500, 1k, 3k, 5k, 10k, 50k, 100k)
Y-axis: Count (Total of 10 Runs)
Legend: False Positives, False Negatives
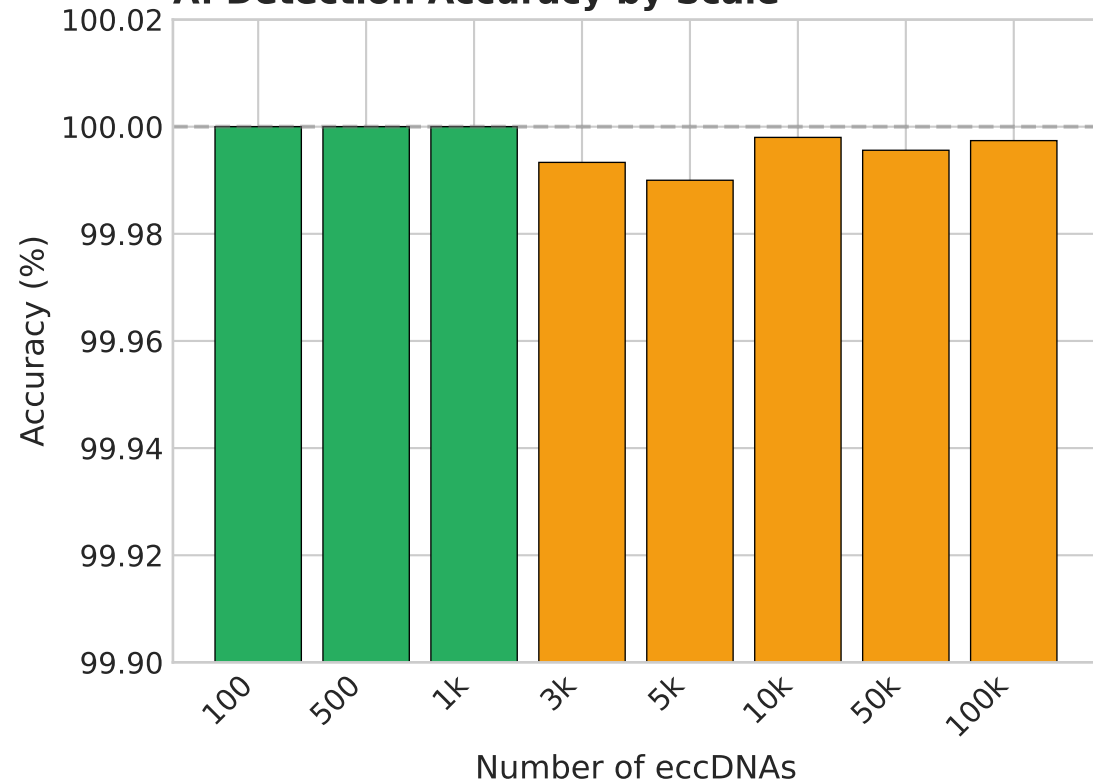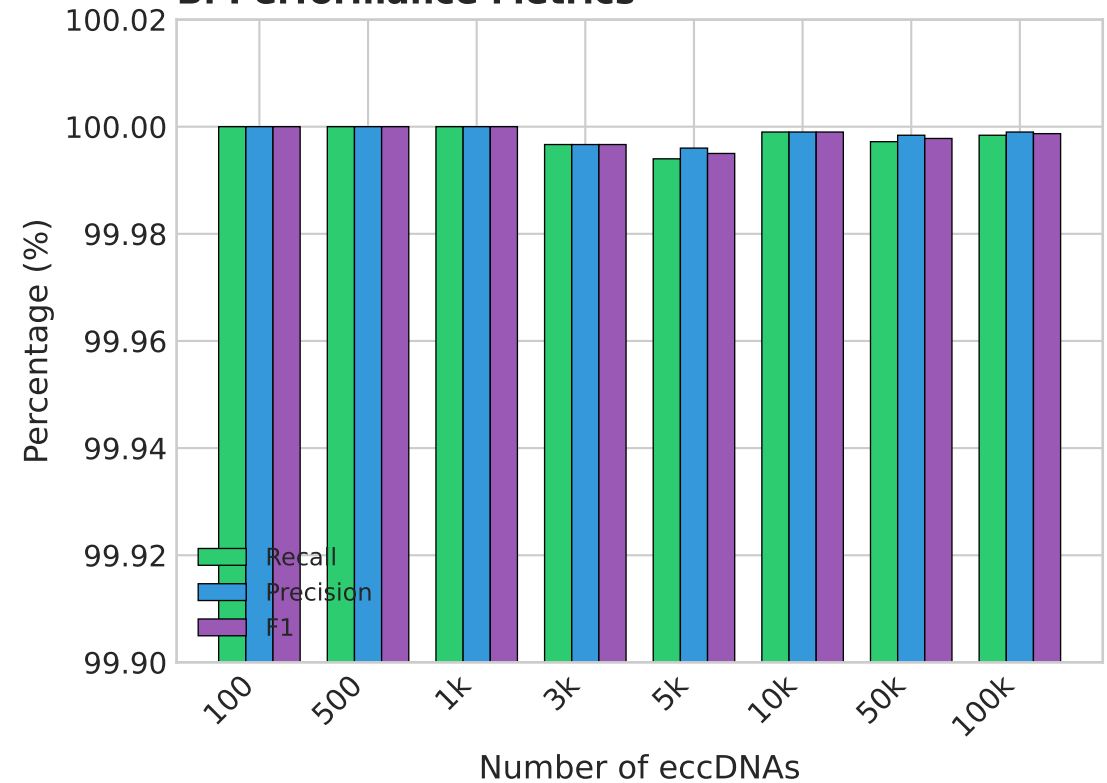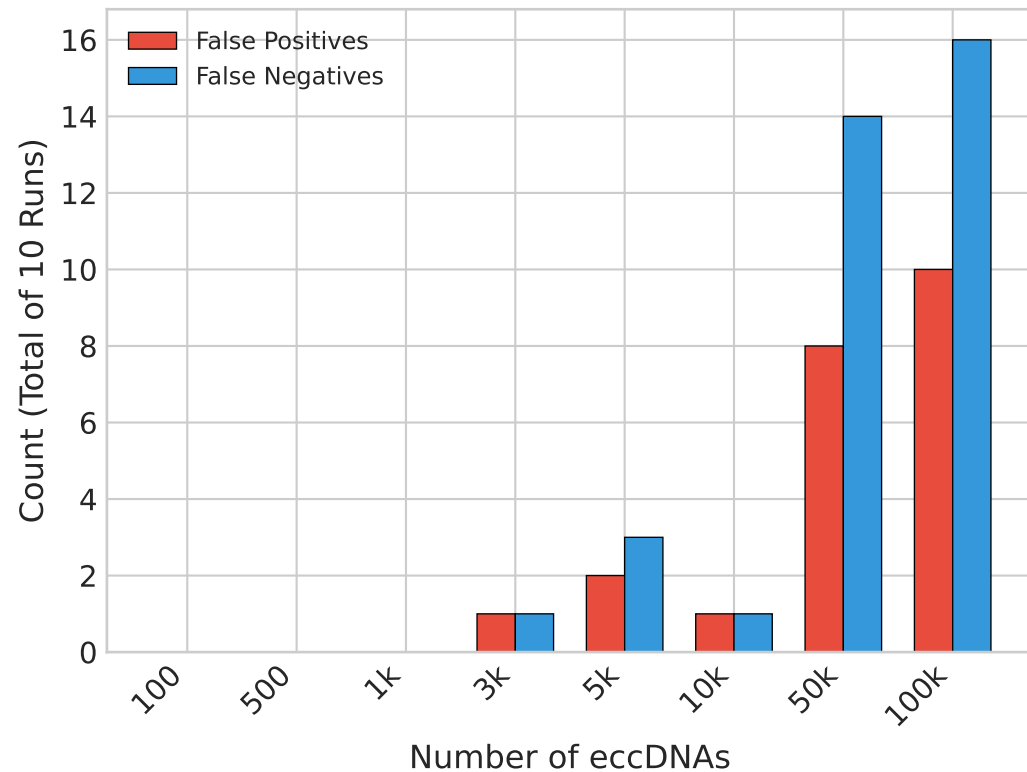
D. Summary Statistics

```
Validation Summary
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Configuration:
• Scales tested: 100 to 100,000 eccDNAs
• Runs per scale: 10 (seeds 42-51)
• eccDNA composition: 70% Unique, 15% Multimap, 15% Cluster
• Total ground truth: 1,696,000 eccDNAs

Overall Performance:
• Successful runs: 80/80 (100%)
• True Positives: 1,695,965
• False Positives: 22 (avg 0.28/run)
• False Negatives: 35 (avg 0.44/run)

• Accuracy:  99.9966%
• Recall:    99.9979%
• Precision: 99.9987%
• F1 Score:  99.9983%

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CircleSeeker v0.10.2 | minimap2 v2.30
```