

# Oncohost Tube Bridging Experiment

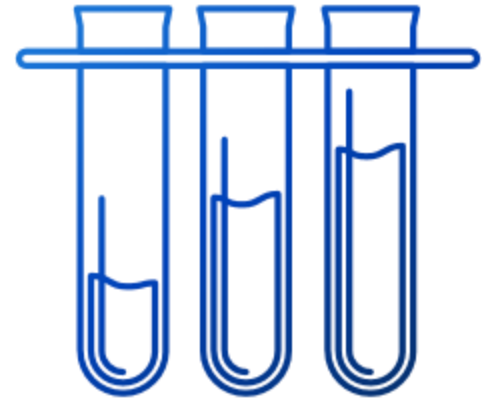
William Schwarzmann  
Global Scientific Engagement

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# Overview of Experiment

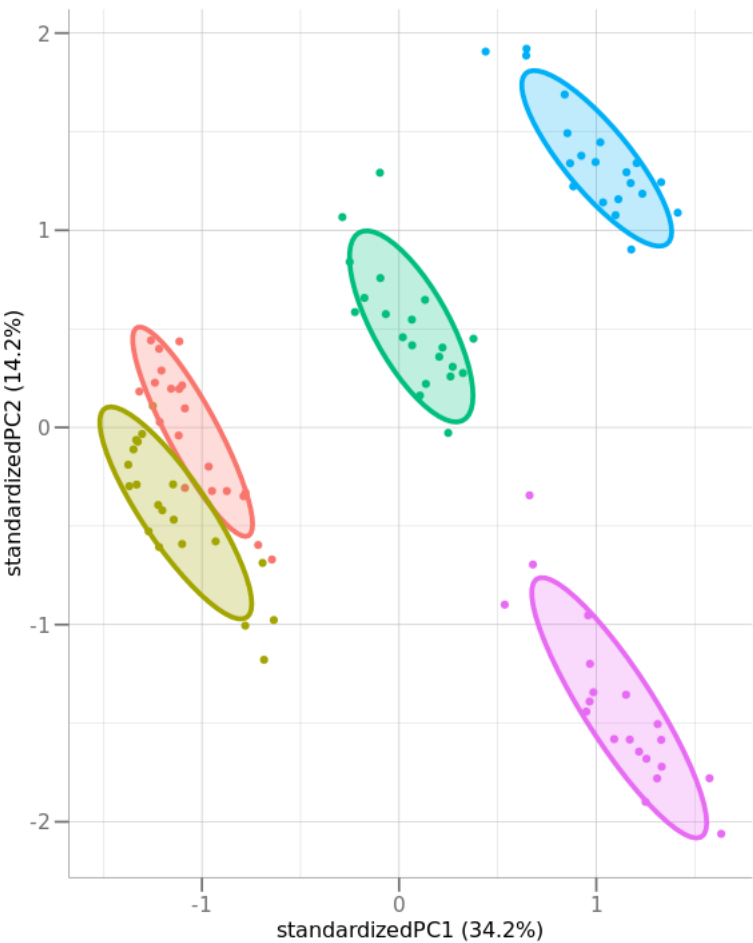
- Different plasma tubes have shown differing proteomic signatures
- The standard for the SomaScan assay is EDTA tubes
- Bridging methods give the possibility of making alternate tube types comparable to EDTA plasma results
- Oncohost ran several different tube types with the goal of bridging the data to the SomaScan EDTA standard



# Variance Between Tube Types

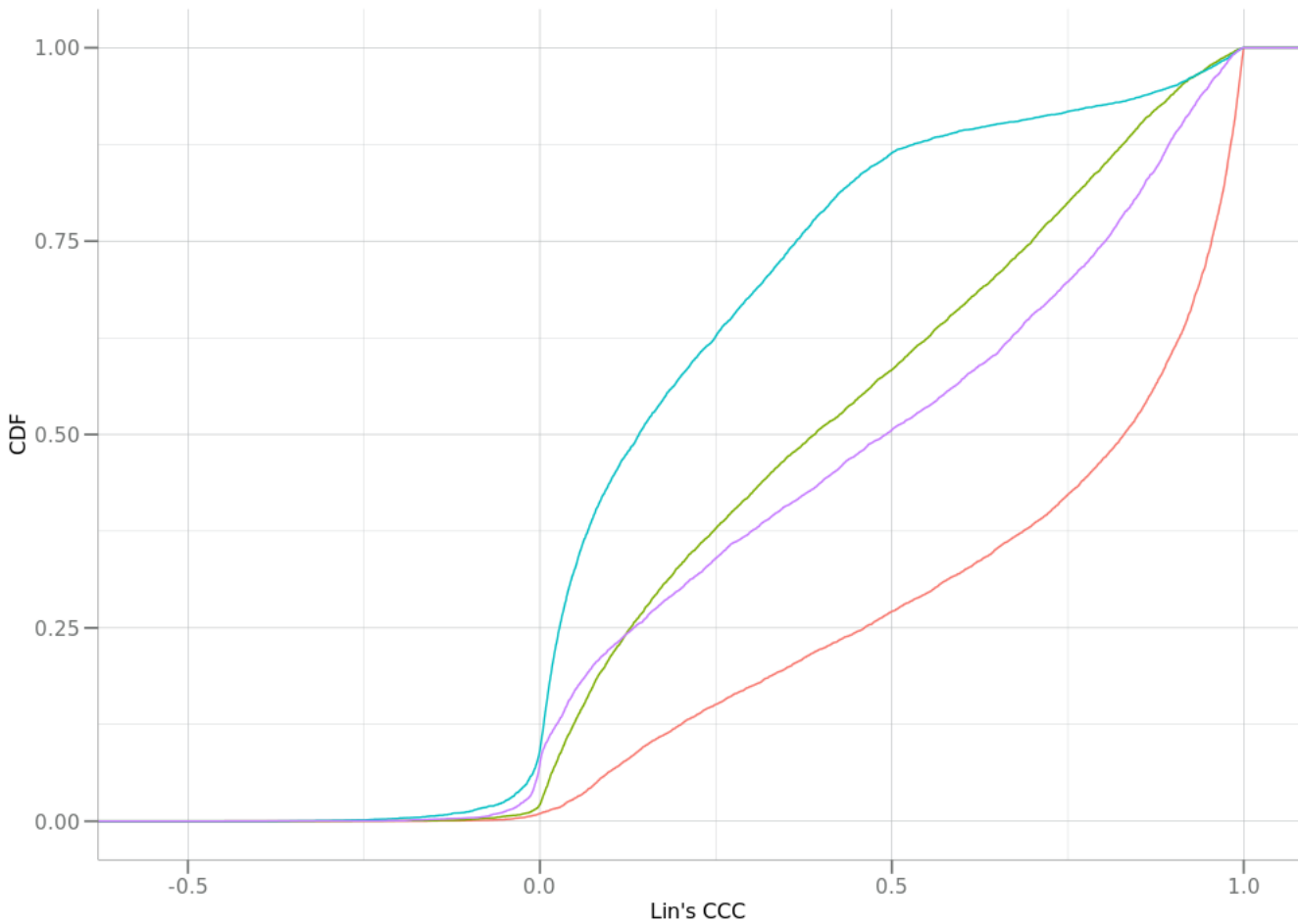
PCA by Tube Type

groups CPT Plasma EDTA plasma STRECK-cfDNA DS STRECK-PROT+ STRECK-PROT+ DS



Distribution of Concordance to EDTA Plasma

TubeType CPT STRECK-cfDNA DS STRECK-PROT+ STRECK-PROT+ DS



# The Bridging Method

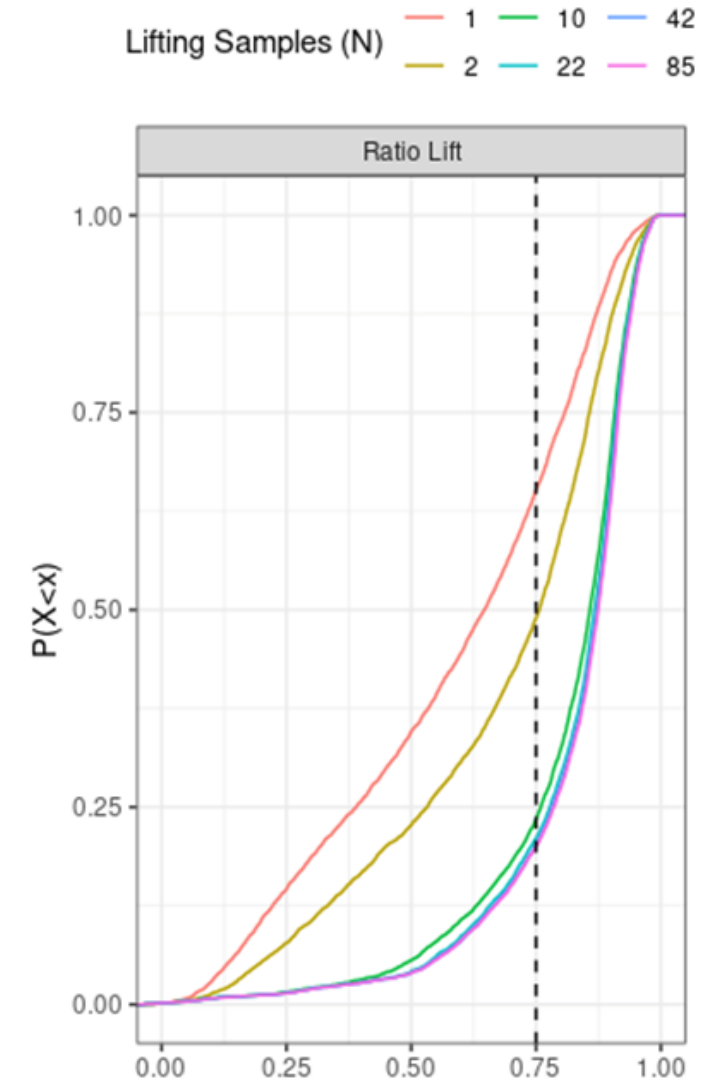
- The SomaScan team have previously tested several bridging methods for bridging cross-assay version
- For our purposes, we found a ratio lift method to perform best
- Take a ratio of the reference type divided by the type to be bridged

$$R_i = \frac{\hat{\mu}_{7k}}{\hat{\mu}_{11k}},$$

- Resulting scalar can be multiplied by the values to be bridged to lift the data

- Assessed by Lin's CCC

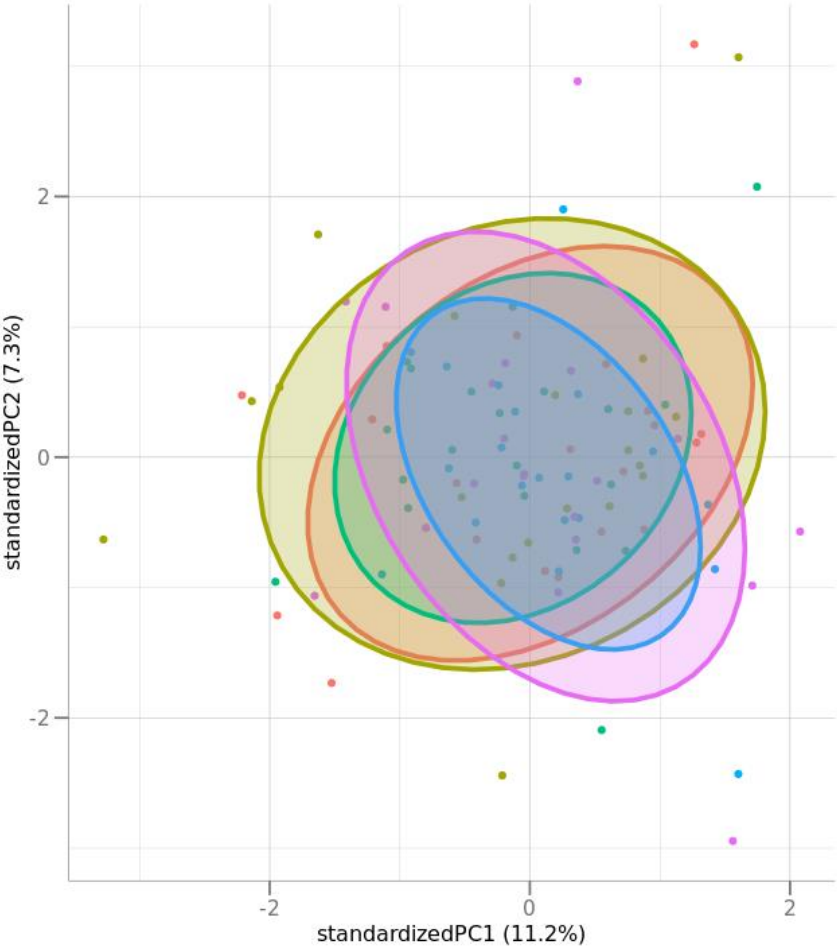
$$CCC = \frac{2\rho\hat{\sigma}_x\hat{\sigma}_y}{(\hat{\mu}_x - \hat{\mu}_y)^2 + \hat{\sigma}_x^2 + \hat{\sigma}_y^2},$$



# Post-Bridging

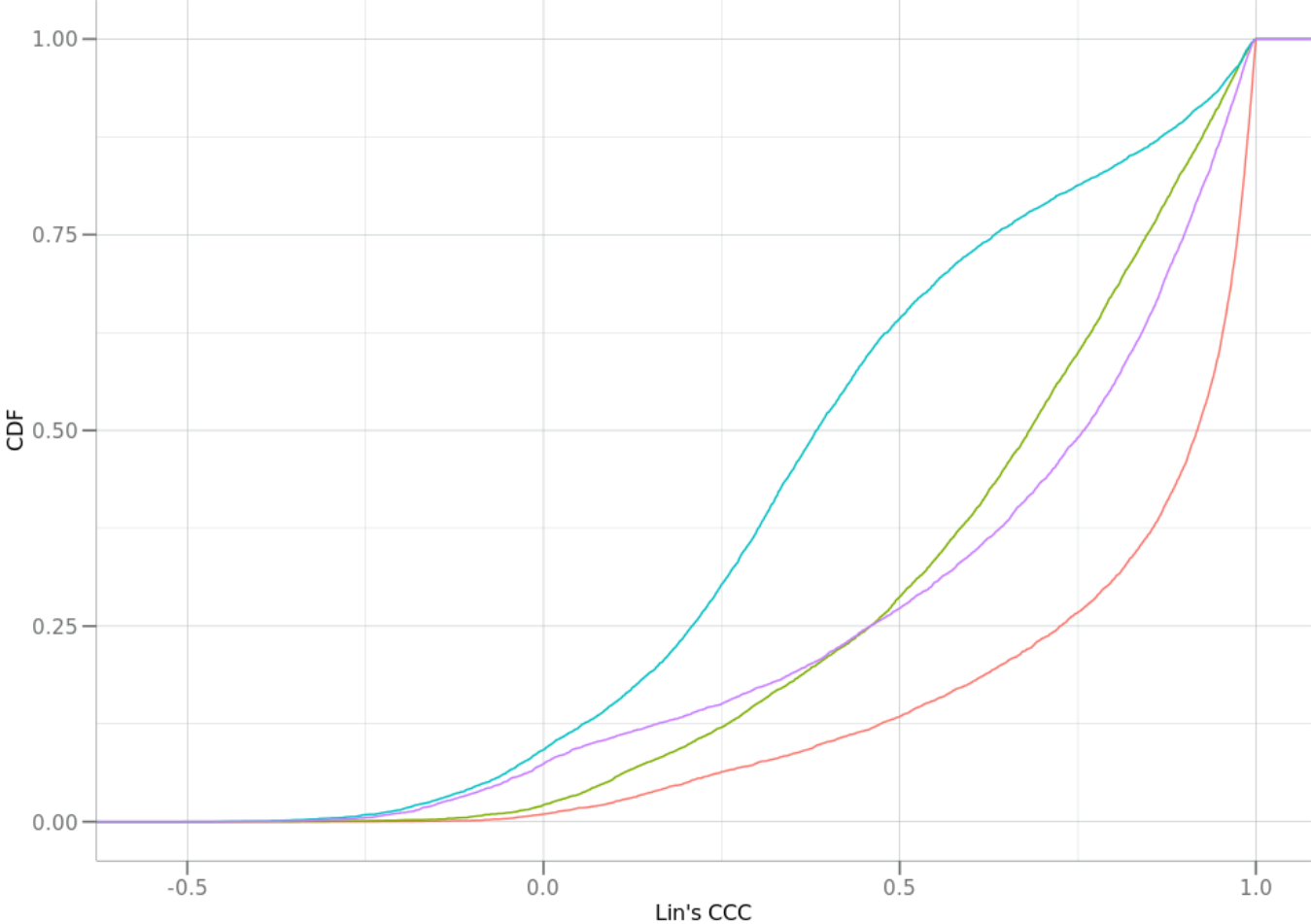
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Distribution of Concordance to EDTA Plasma

TubeType CPT STRECK-cfDNA DS STRECK-PROT+ STRECK-PROT+ DS



# Preliminary Results

Median CCC	CPT	STRECK cfDNA DS	STRECK Protein+	STRECK Protein+ DS
Pre-Bridge	0.82	0.39	0.14	0.49
Post-Bridge	0.91	0.68	0.38	0.76

- CPT tubes bridge very well
- In an Estimated Marginal Means (EMM) model, only two analytes are significant for CPT post-bridge
- STRECK Protein+ bridges the worst by our methods
- In an EMM for STRECK Protein+, 80 analytes are significant post-bridge

# Next Steps

- We can incorporate the new data to see what results are
- We can also share the scalars, CCC's, and statistical results
- Could also use CV (with a method like Bland-Altman) as a different way of representing reproducibility



# Questions?