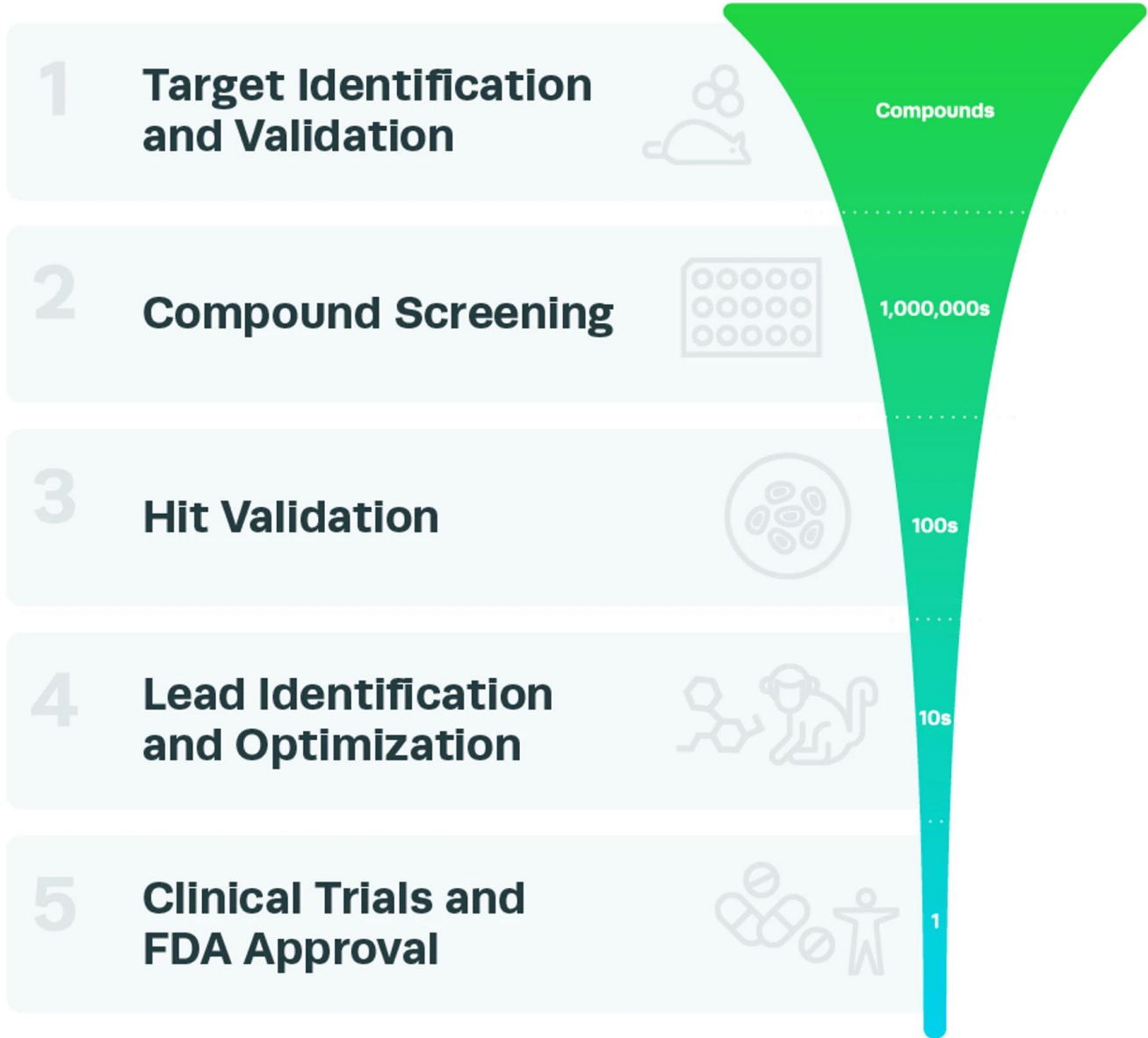


Supporting Novel High-Throughput Assay Development via a Flexible Shiny Dashboard

Jocelyn Sendeki , Traymon Beavers ,
Amruta Ronghe, Simin Rahighi , Steven Jacobs



10-14 Years
> \$1 Billion in Costs

2

Compound Screening

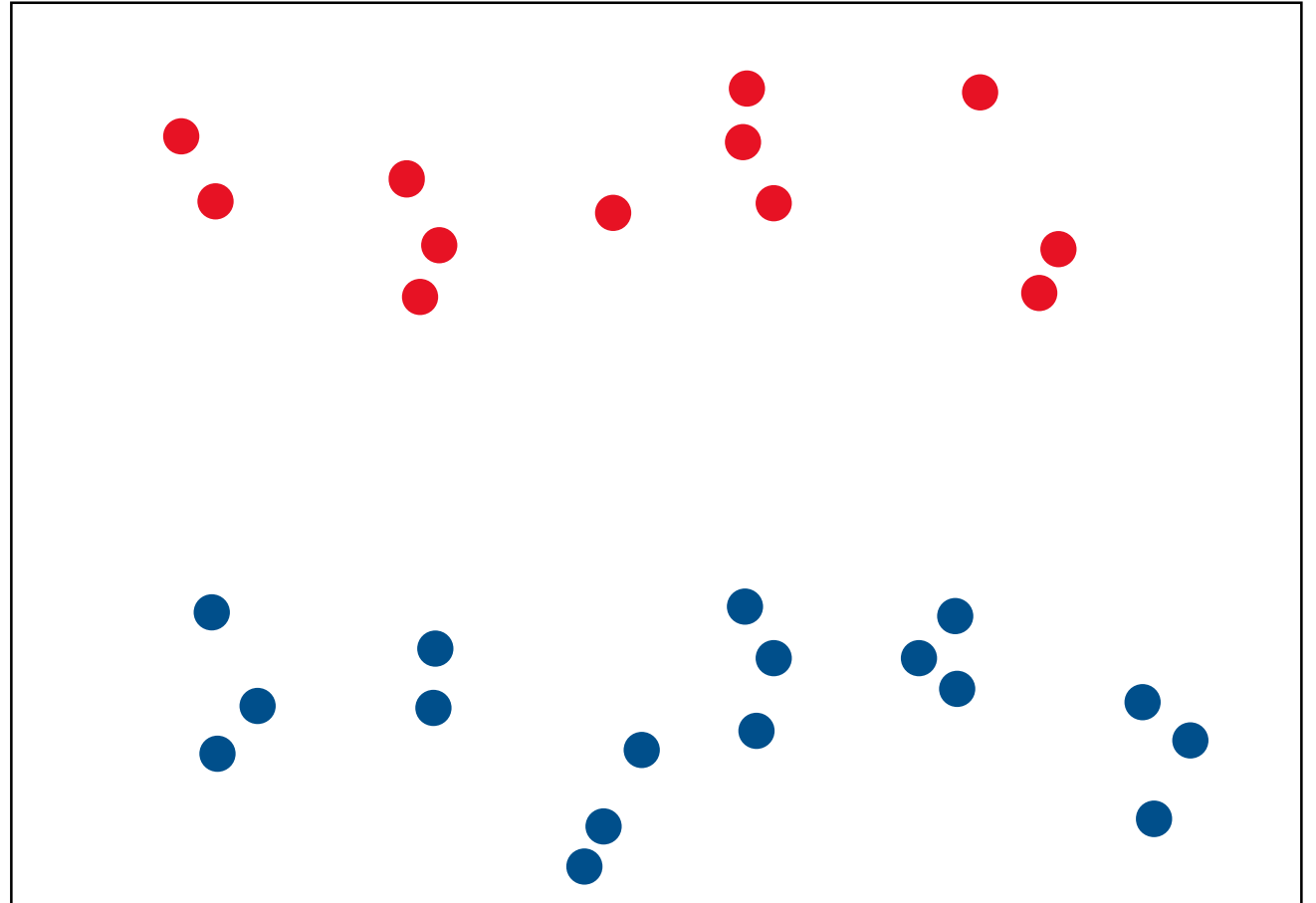


1,000,000s

- High-throughput assays used to sift through compound candidates
 - Include desirable functional properties like good target binding
 - Exclude undesirable properties impacting developability and clinical safety, for example:
 - poor solubility
 - high aggregation
- **How do we add a new assay to the existing collection of assays?**

Establishing a new assay

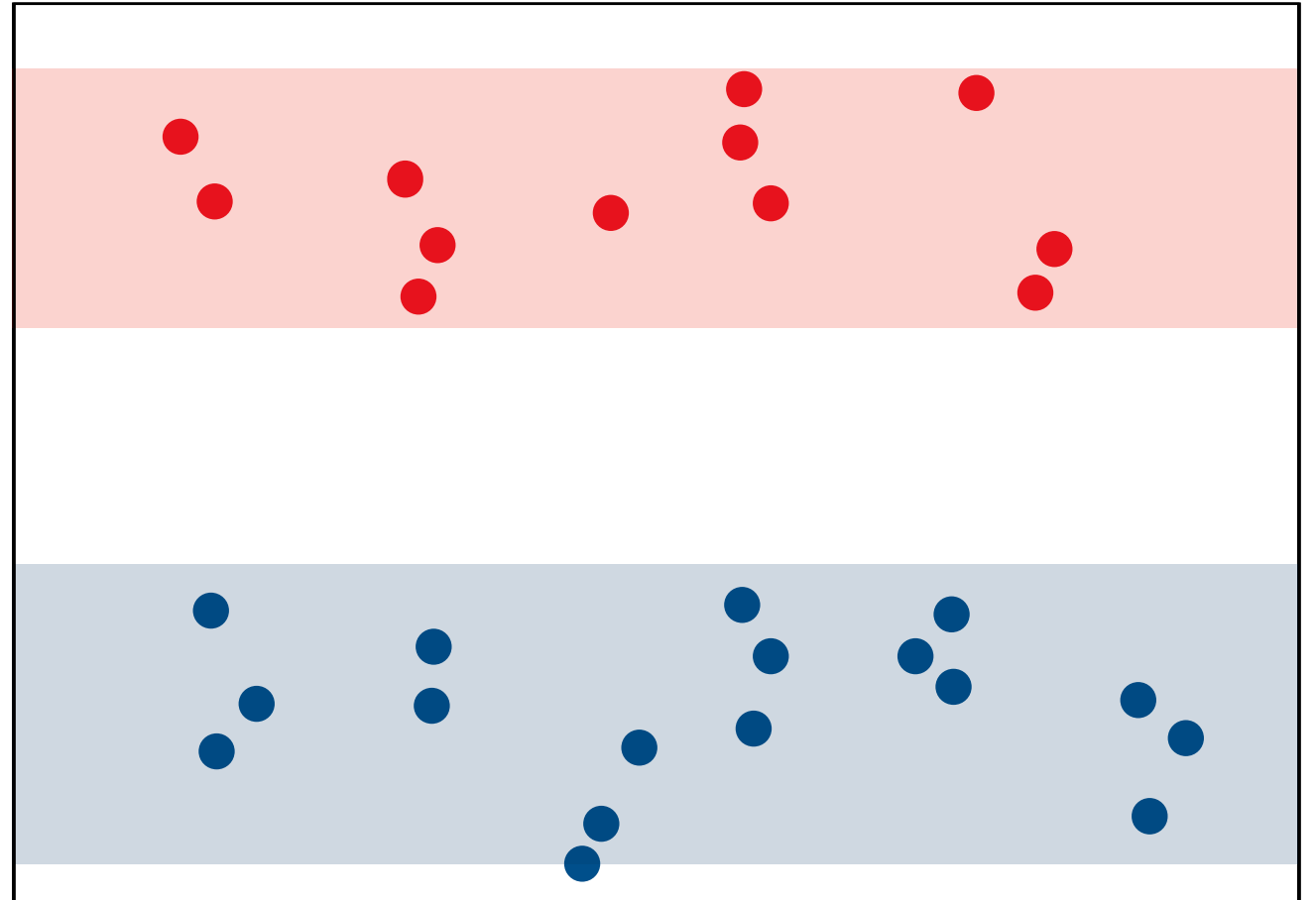
Collect data on positive and negative controls



Establishing a new assay

Collect data on positive and negative controls

Set tolerance intervals

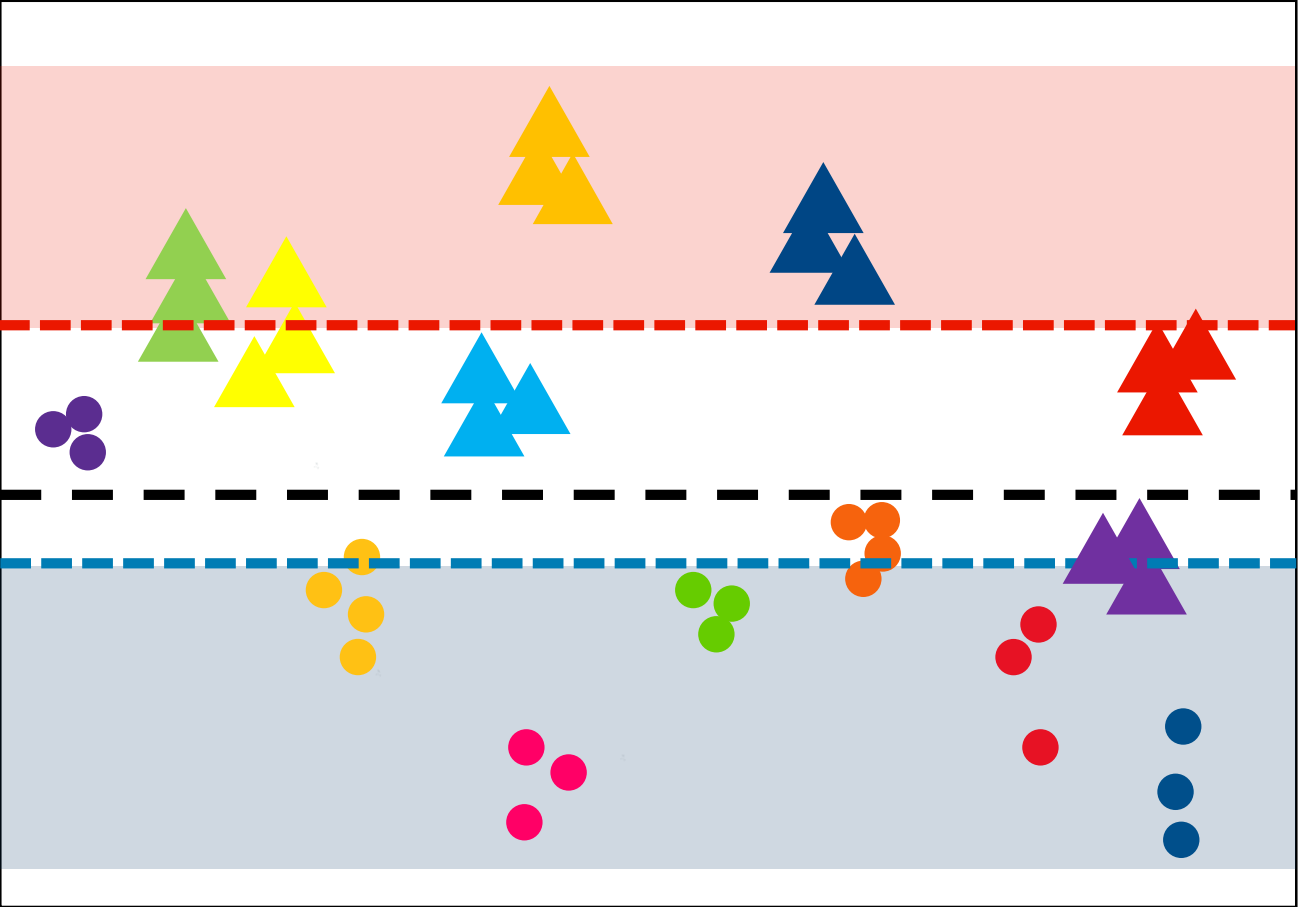


Establishing a new assay

Collect data on positive and negative controls

Set tolerance intervals

Compare to known commercial compounds, establish cut-off(s)



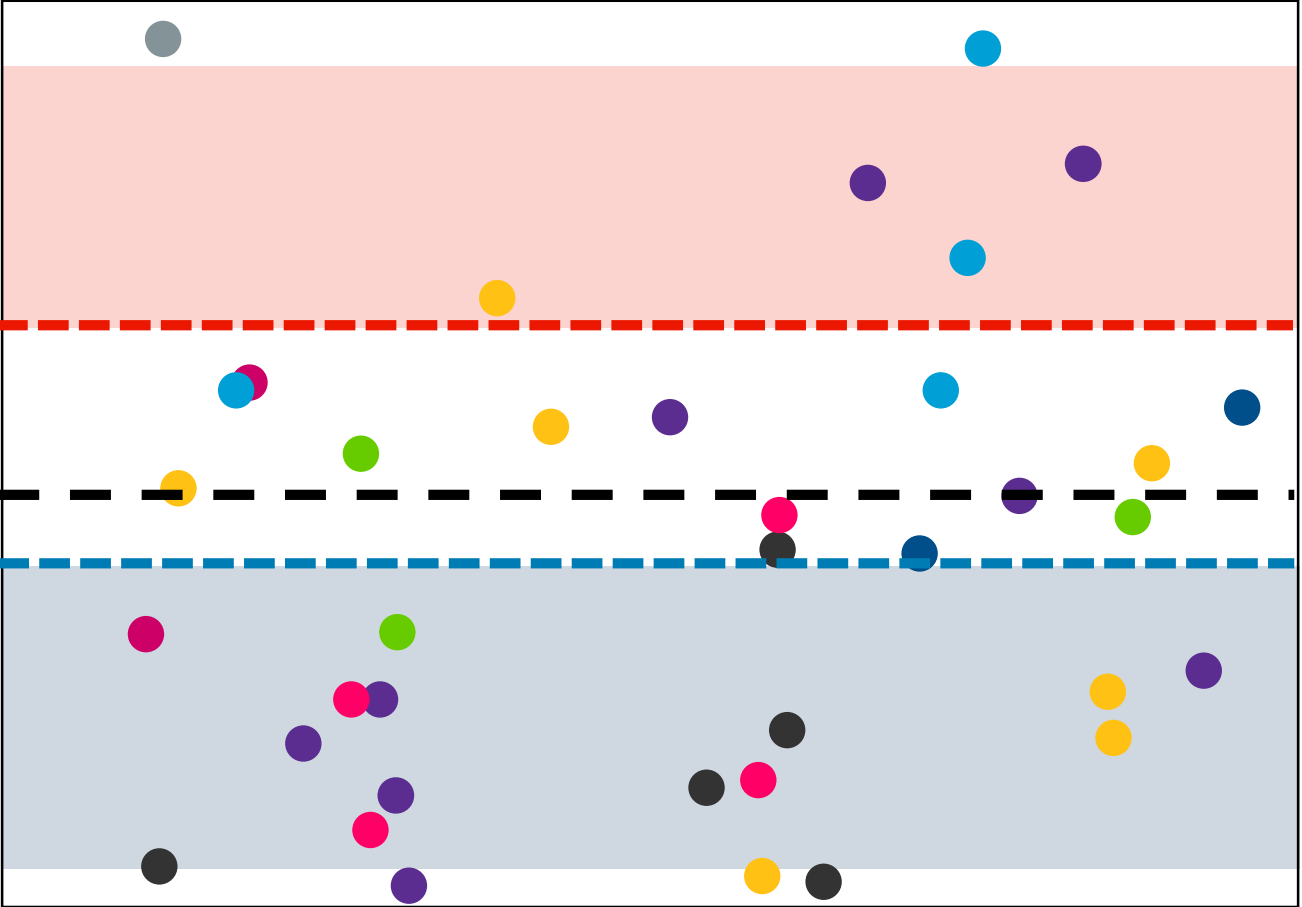
Establishing a new assay

Collect data on positive and negative controls

Set tolerance intervals

Compare to known commercial antibodies, establish cut-off(s)

Compare intervals to test compounds



Establishing a new assay

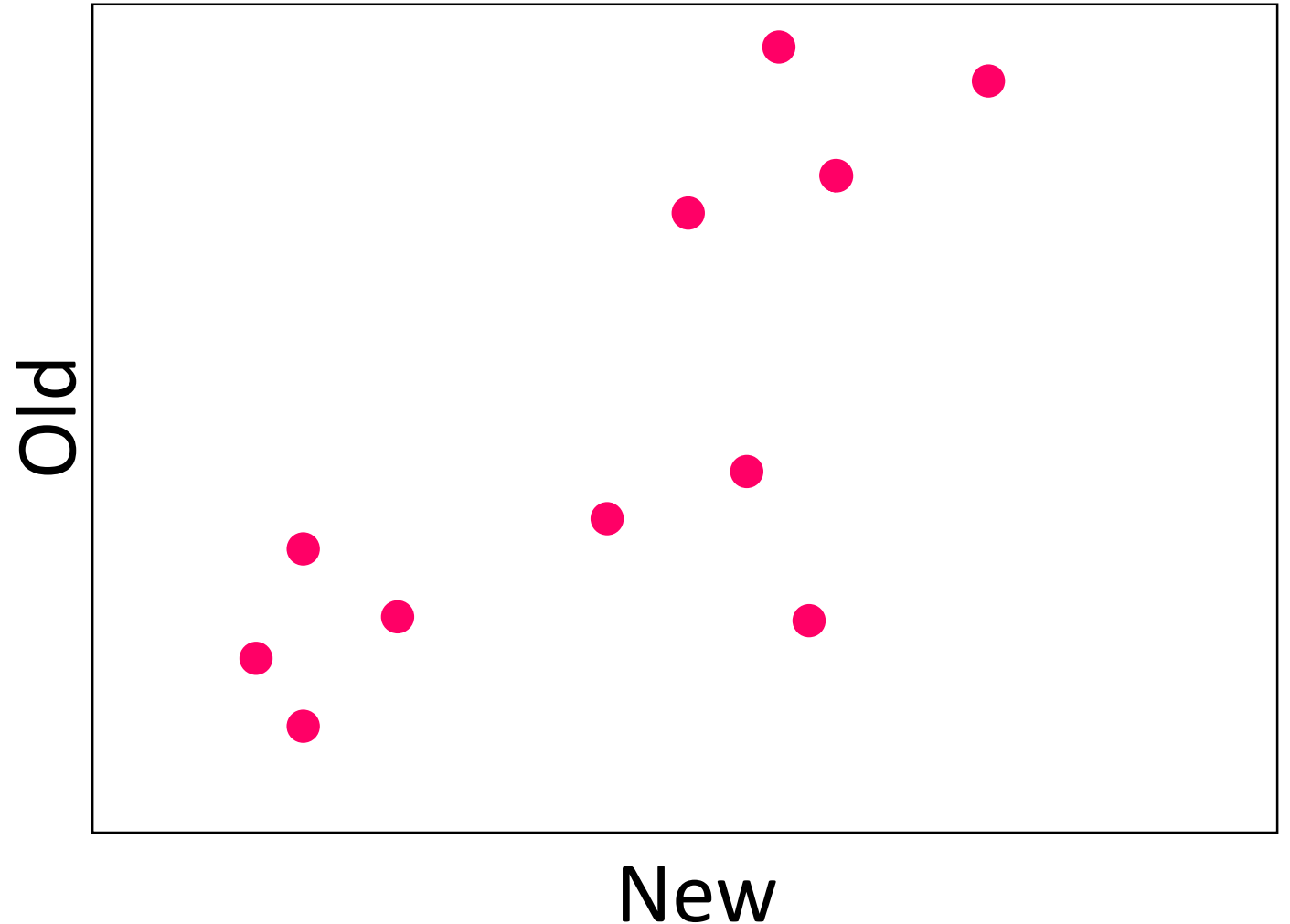
Collect data on positive and negative controls

Set tolerance intervals

Compare intervals to test compounds

Compare to known commercial antibodies,
establish cut-off(s)

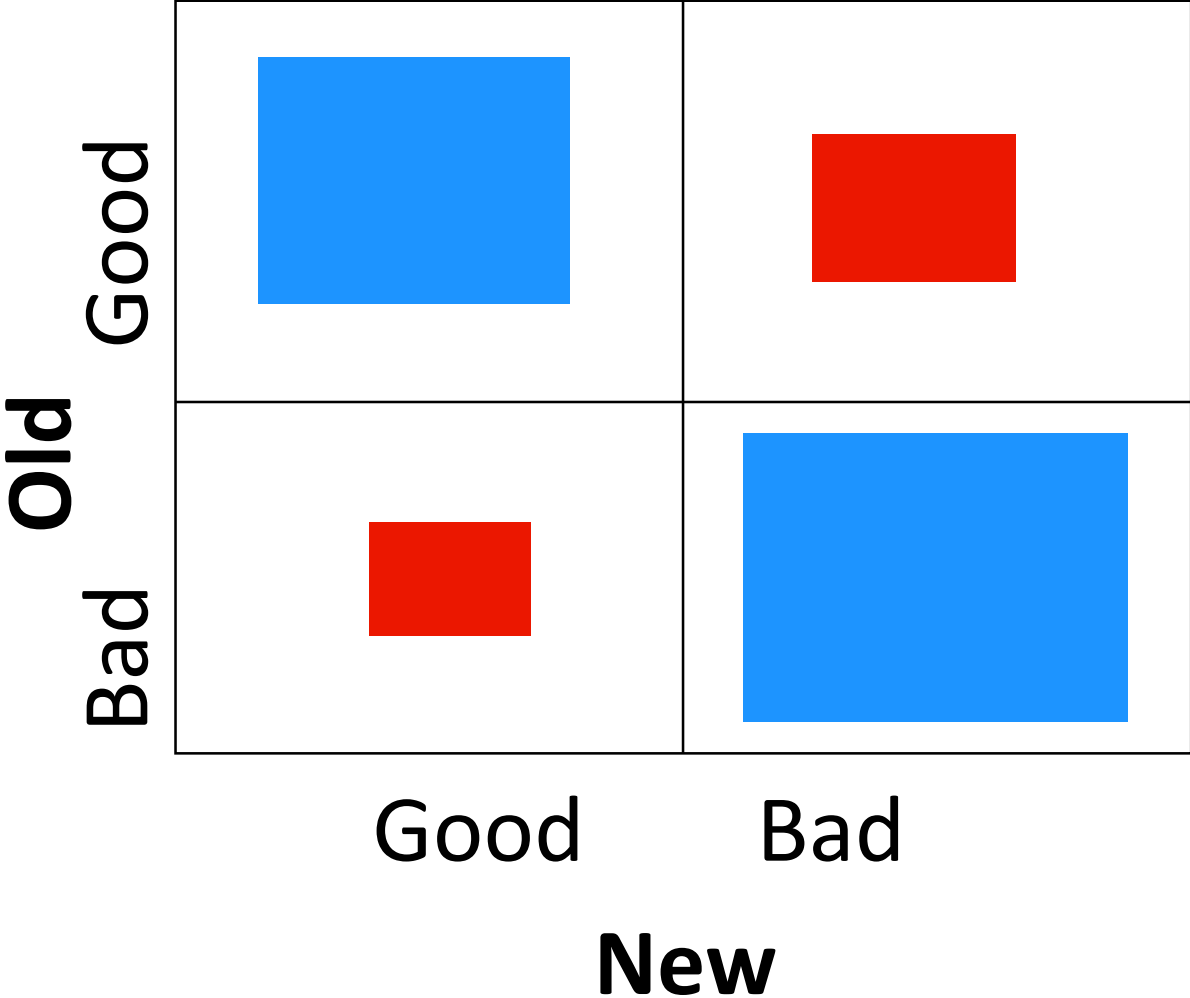
**Compare results to similar
assays**



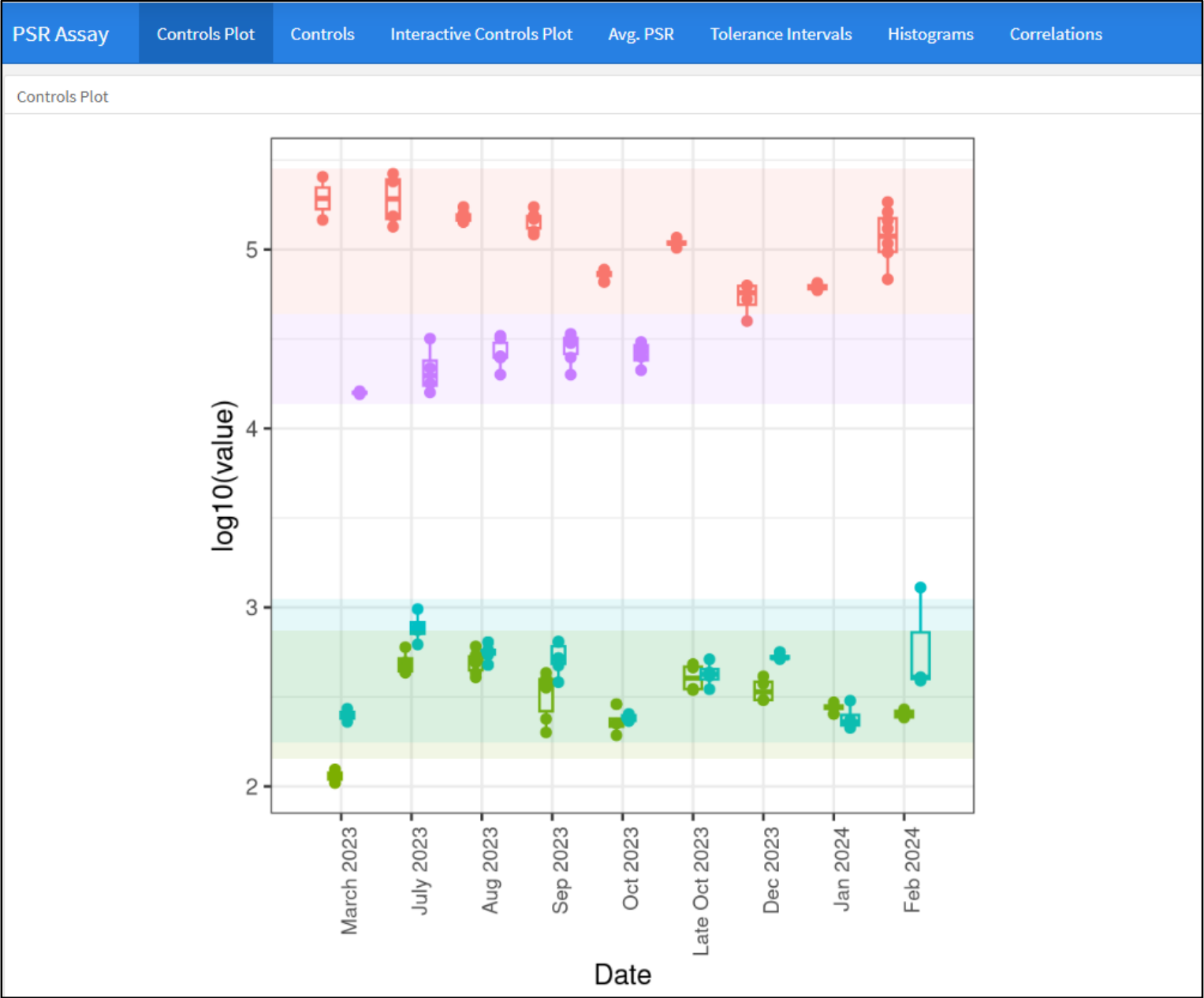
Establishing a new assay

- Collect data on positive and negative controls
- Set tolerance intervals
- Compare intervals to test compounds
- Compare to known commercial antibodies, establish cut-off(s)

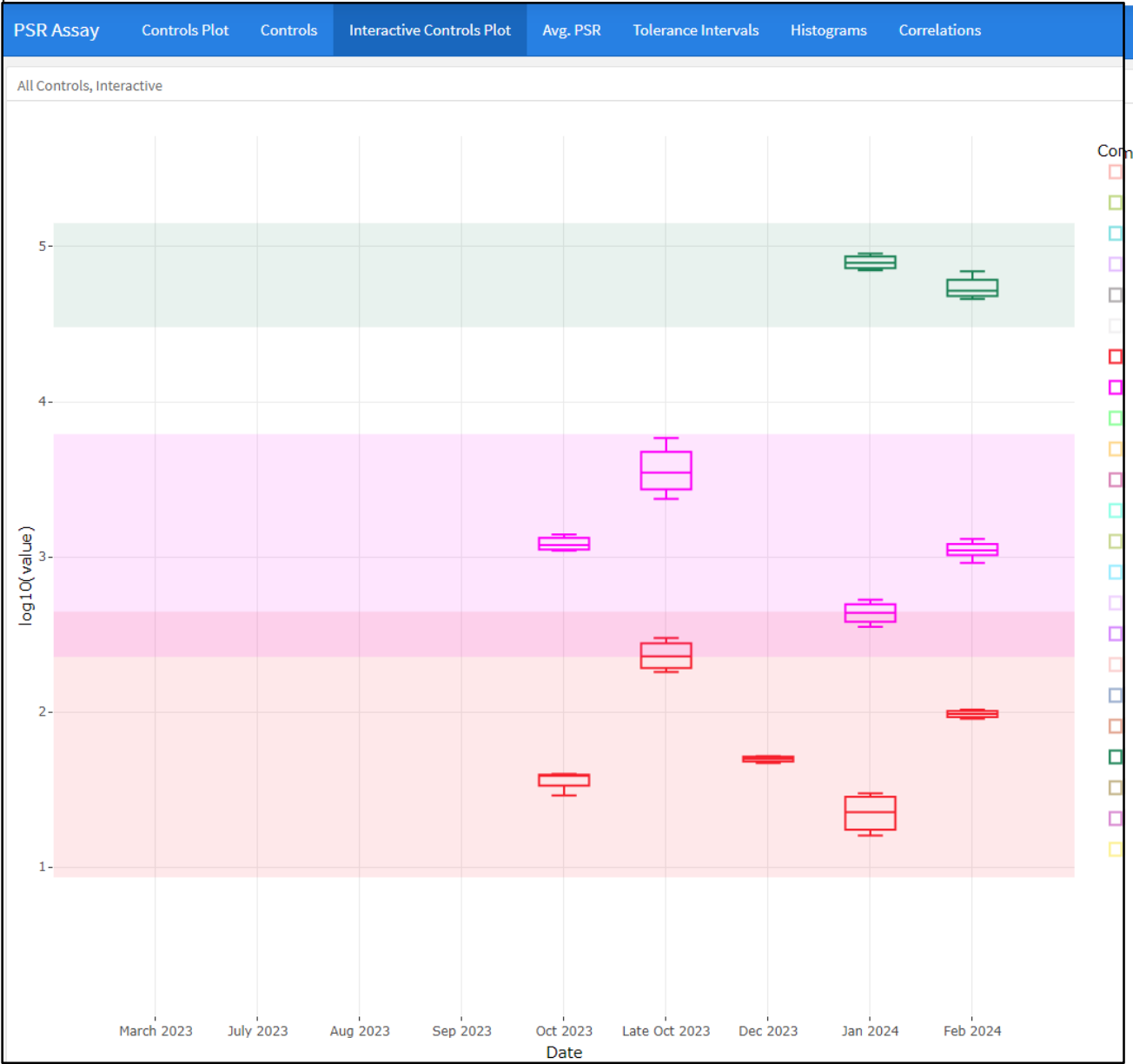
Compare results to similar assays



Automation in Shiny Dashboard



Interactive Graphics with Plotly



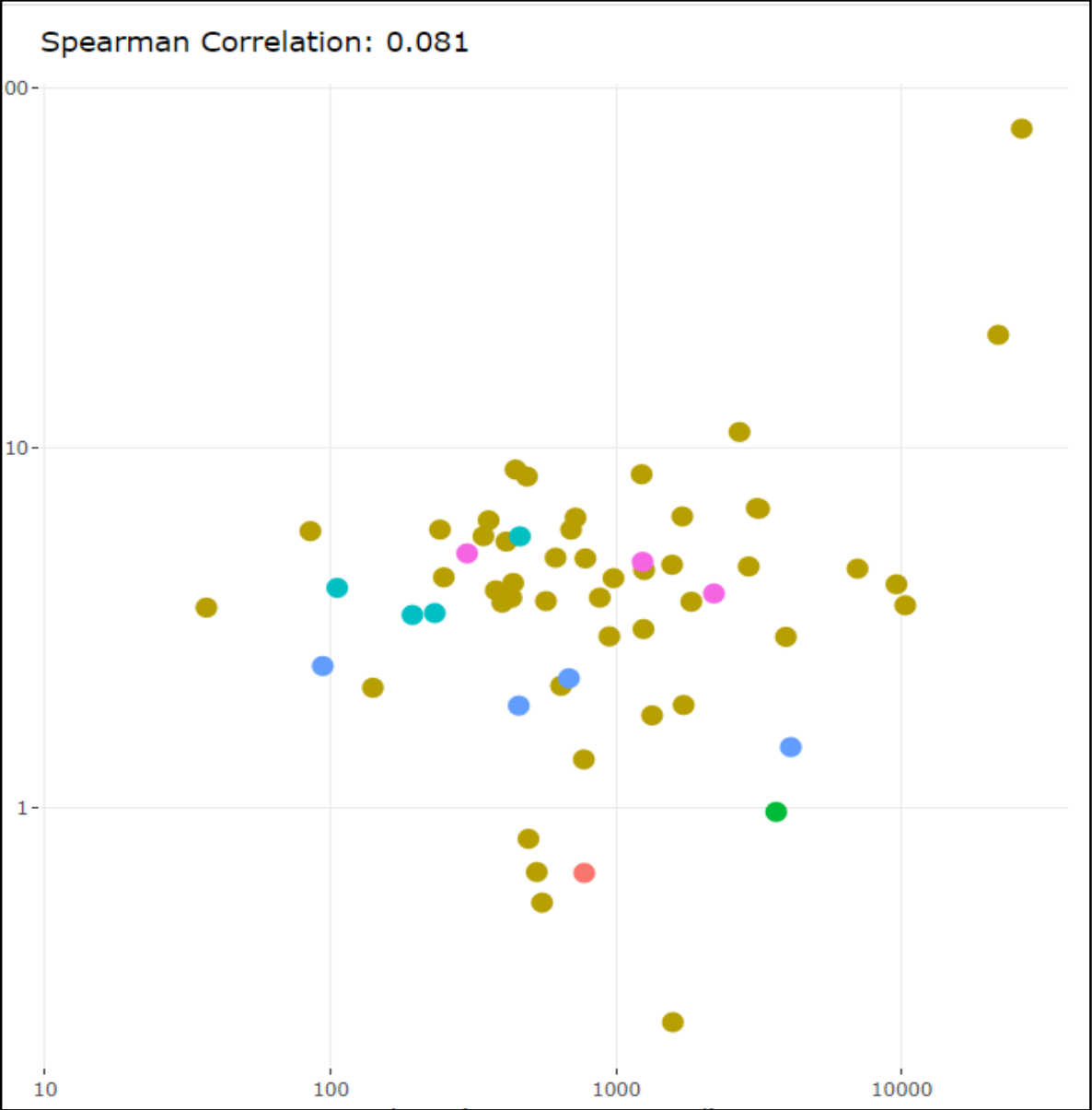
Comparing Test Compounds against Controls



Correlations with existing assays

Choice 1| ▲

- Choice 1
- Choice 2
- Choice 3



With Sincere Thanks to

Amruta Ronghe

Traymon Beavers

Simin Rahigi

Steve Jacobs