

Top 10 Pharma – Cyrus Design Advances Biologic from Discovery to Pre-Clinical

In Silico Design for Stabilization of Therapeutic Protein Improves Expression and Binding

- Target is a large symmetric homo-multimer therapeutic protein
(challenging design case)
- It forms a homo-multimer allowing it to bind another protein
(also makes design more challenging because of the binding modes on multiple binding sites that are symmetrical)
- Wild Type has low stability

	Normalized Data (%)		
	Expression	Binding to A	Binding to B
<i>WT</i>	100	100	100
<i>Cyrus Single Mutant</i>	196	1,830	1,579
<i>Cyrus Double Mutant</i>	230	2,063	1,920

Cyrus stabilizing mutations **improved expression levels and binding** to secondary partners (proteins A & B)