

Part of Neo's Antibody Toolkit™

neoSwitch™ enables binder discovery and protein production in the same host under control of a chemical trigger, eliminating weeks of subcloning and protein expression in a secondary host to obtain soluble protein for characterization (SPR, ELISA etc). neoSwitch™ comes pre-transformed with high diversity libraries for "plug and play" yeast display workflows.



Figure 1: neoSwitch™ "switches" between display and secretion with a media change.

Validation of neoSwitch™

After transforming neoSwitch™ with Neo's synthetic Llama VHH library, we randomly selected 12 clones from Neo's naive llama VHH library to measure surface display by FACS with an anti-Myc secondary. As expected, the majority of clones expressed at levels comparable to a control VHH with validated high expression. Next, we grew these clones in 96-well plates for 44°C hours at 25°C in specialty media. 6/12 clones secreted detectable protein in this format with 3 clones having robust yield. These data demonstrate the utility of neoSwitch™ to accelerate antibody discovery workflows and validate high performing clones in a few days instead of the weeks required to do the same in standard workflows.

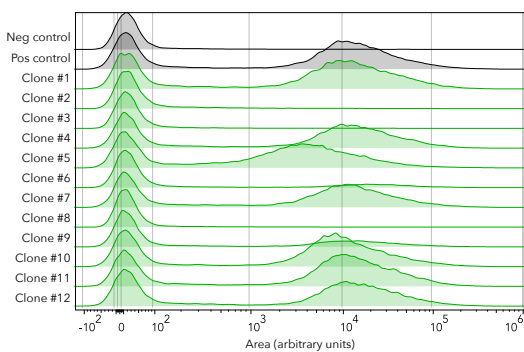


Figure 2: Normalized surface display efficiency (AU) as measured by anti-cMyc signal in a flow cytometry assay of 12 randomly selected clones from neo's synthetic VHH library (green) compared to pAV116 negative plasmid control (black, top) and VHH anti-GFP positive control (black, bottom).

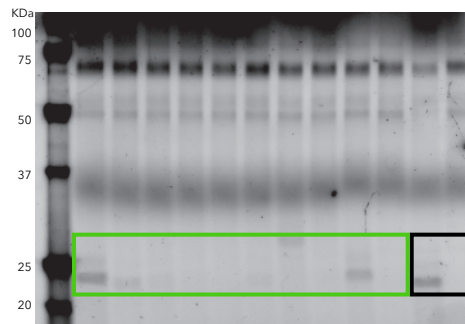


Figure 3: Stain free PAGE-gel of supernatant. Ten randomly selected clones (green) were compared to positive (black, left) and negative (black, right) controls. Six clones had measurable 5-40mg/L and one clone was equivalent to the positive control (40mg/L).

Produce soluble protein in 96-well plates from library clones in 3 days.

neoSwitch™

Iterative campaigns to generate diversity from top hits

FEATURES	DETAILS
% of population display	70% (comparable to EBY100)
Pre-transformed	Aliquots of yeast transformed with Neo's synthetic naive VHH library or customer library at high diversity (e.g. 10 ⁹)
Protein yield	5-40mg/L VHH yield from a randomly sampled library subset
Protein production timeline	Obtain protein for downstream assays in ~72 hours

Library Types

PRE-TRANSFORMED LIBRARY	DETAILS	TIME TO DELIVERY
Neo-Designed Synthetic VHH Library	Llama VHH library	Ships immediately
Customer-defined Library	Custom mutational schema	Subject to library build time
Existing Starting Material	e.g. cDNA from immunization, pre-existing library	Subject to library build time

Join Neo's Ecosystem

Perform affinity maturation and humanization campaigns more rapidly by combining libraries delivered in neoSwitch™ with Neo's 3-day sequencing and rapid variant library construction.



HOW TO WORK WITH NEO

To get started, please reach out to info@neochromosome.com