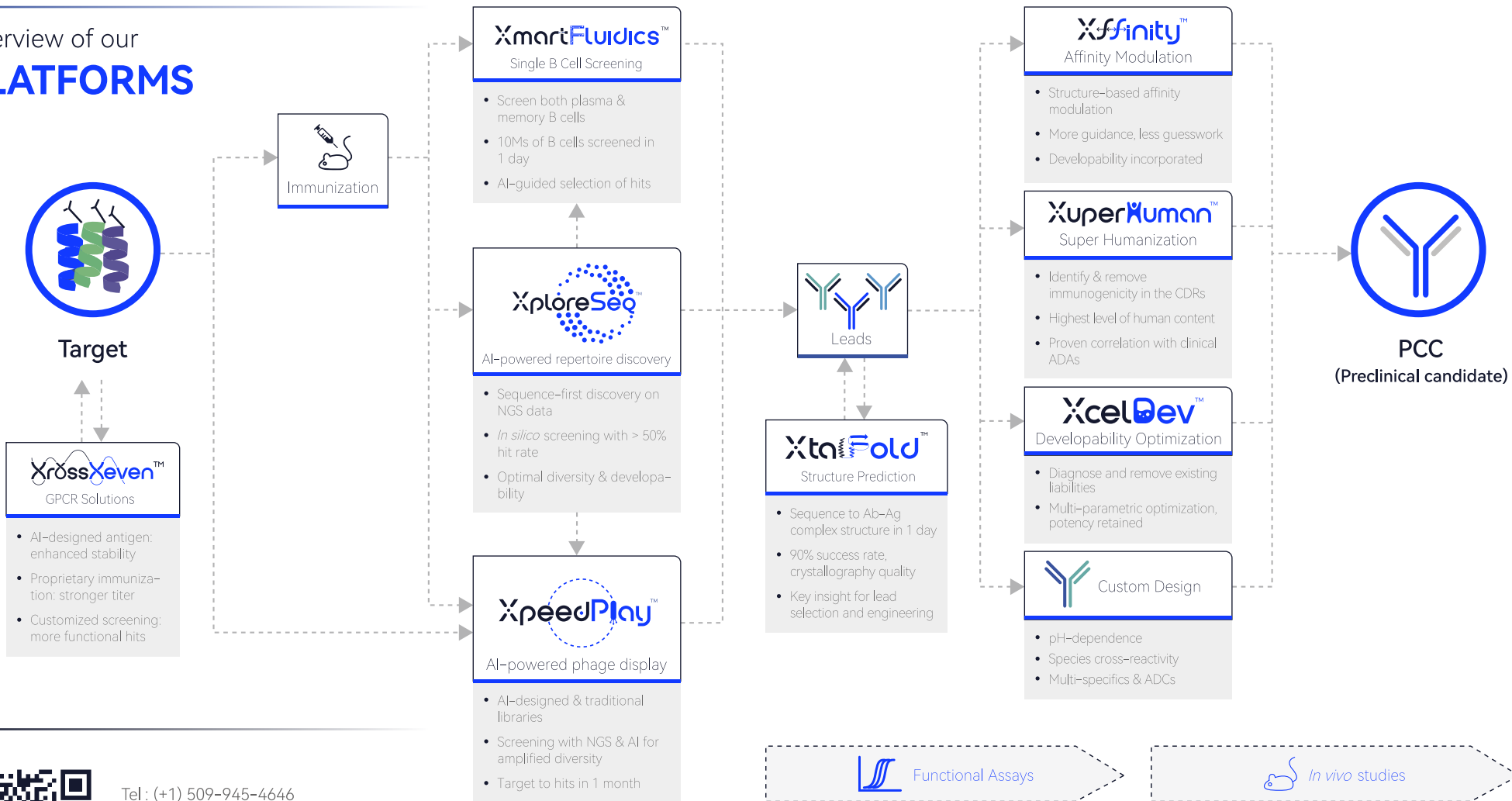




**XupremAb™** | AI-Powered Next-Gen Antibody Discovery Platform

Overview of our **PLATFORMS**



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E-mail: ab.bd@xtalpi.com  
Global BD Center: 245 Main St, 11th Floor,  
Cambridge, MA 02142

Scan for brochure

Functional Assays

*In vivo* studies

**XcelDev™** Developability Assessment

- Predict 15+ developability metrics *in silico*
- Comprehensive wet-lab characterization

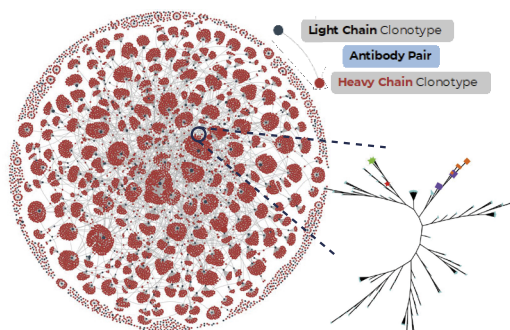
# XupremAb™ is Ailux's antibody discovery platform that combines the best of wet-lab techniques and cutting-edge AI technology

## Hit-Gen

Tap into greater search space for more quality hits

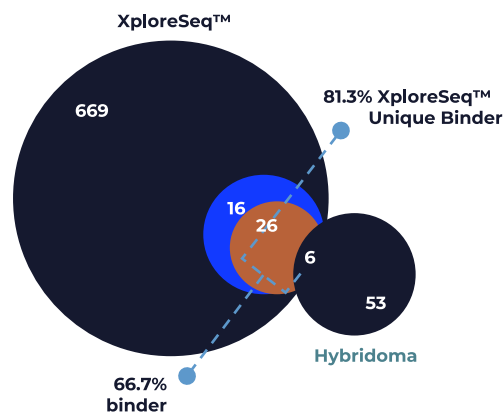
CASE 01

*In silico* screening of millions of antibody sequences in the immune repertoire



**6** Animals  
**17,955** VL Clonotypes  
**1,783,559** Unique VL Sequences

**14** NGS Datasets  
**89,777** VH Clonotypes  
**4,015,228** Unique VH Sequences



XploreSeq™ routinely sequences millions of BCRs and identifies hits with high confidence (above). In this project, XploreSeq™ predicted 717 binders, from which 48 were randomly chosen for expression and testing. 66.7% (32/48) were confirmed to be binders, and only 18.6% (6/32) binders overlap with hybridoma hits (below).

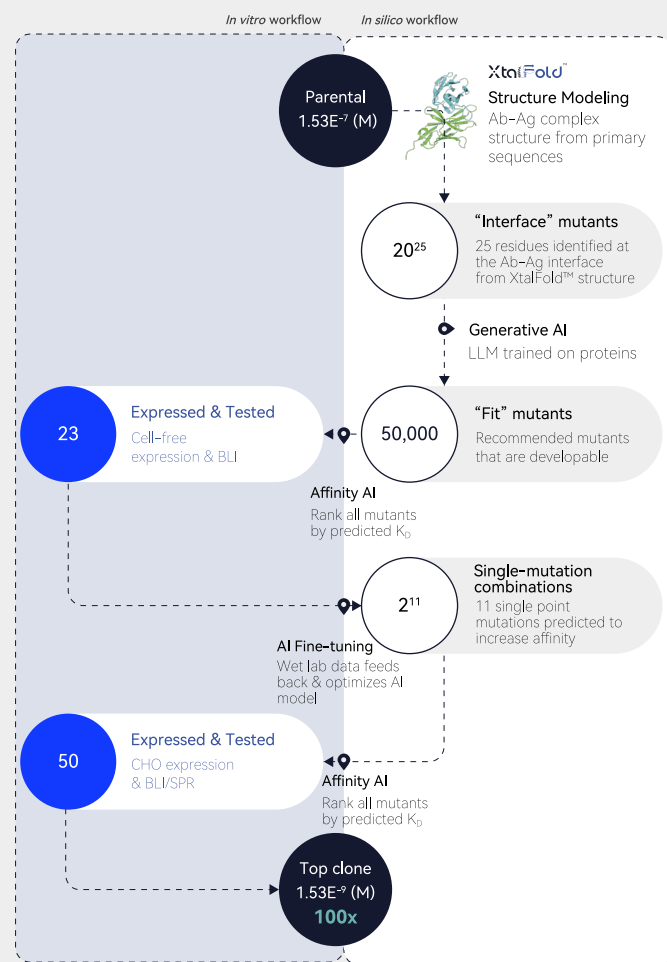
## Engineering

Utilize AI to make antibody engineering more efficient, enabling multi-objective optimization

CASE 02

Affinity 100x ↑ in 3.5 weeks – no structure information

- **Goal:** Improve VHH KD from hundred nM to single-digit nM in a short timeframe
  - Ultra-fast iteration enables active learning
- 2** rounds of optimization  
**73** variants expressed  
**3.5** weeks  
**100x** increase in affinity

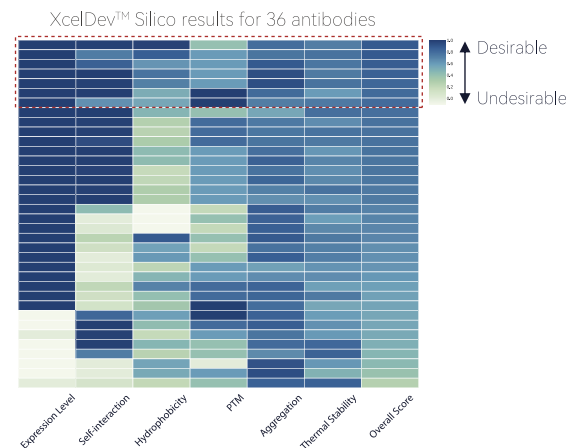


## Developability

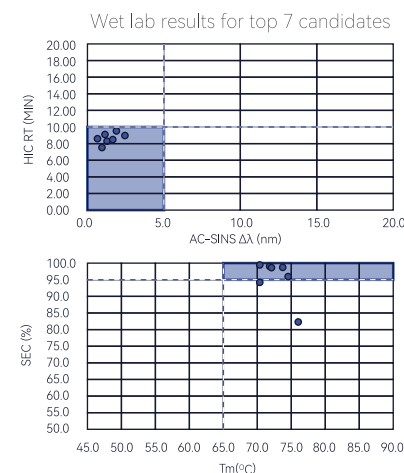
Instill excellent developability into every molecule

CASE 03

XcelDev™ Silico evaluates and ranks 30+ candidates in terms of developability



36 hits that had passed binding and functional screening were analyzed by XcelDev™ Silico. 6 properties of each antibody was predicted and scored on a scale of 0-1 (displayed in color gradient).



An overall developability score was calculated to rank all 36 hits. To verify the effectiveness of the ranking, the top 7 (in the red box) were expressed and subject to a battery of *in vitro* developability assays. All 7 performed well in these assays, their T<sub>m</sub>, SEC, AC-SINS and HIC results shown above.