

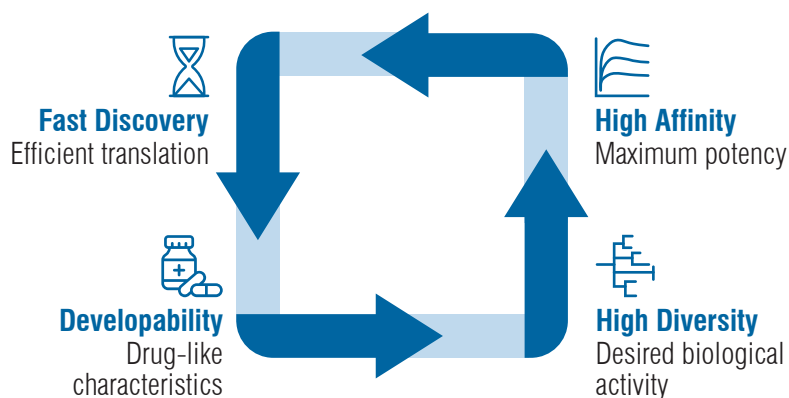


Turning Hope  
**Into Help**™

## Exclusive library transfers built using Specifica's Generation 3 platform

Discovery of antibody therapeutics remains challenging despite technological advances in both *in vitro* and *in vivo* discovery platforms, particularly as specificity requirements become more complex. The Generation 3 library platform at Specifica, a Q<sup>2</sup> Solutions company, was purpose-built to address the four main challenges of antibody discovery: speed, affinity, developability and diversity.

Specifica builds and transfers exclusive Generation 3 antibody library platforms to its clients. Each platform is constructed using a unique, client-specific HCDR3 donor that is only used once. This business model delivers a one-of-a-kind library, empowering clients to effectively execute antibody discovery locally.



Each library platform Specifica delivers is customized to the client, ensuring exclusivity and eliminating concerns about duplicate leads being discovered and patented by competitors, as has occurred with common libraries. Libraries are built on four highly developable — *and germline distinct* — therapeutic scaffolds into which validated CDR diversity is embedded. Because of their extremely high diversity, HCDR3s are amplified from a unique donor set and never used for more than one library. For the remaining CDRs, Specifica uses replicated natural diversity. Sequence liabilities have been purged to improve developability. Discovery is carried out with a combination of phage and yeast display.

**Use your  
exclusive library**



**Not one shared  
with competitors**



## Why bring the Specifica platform in-house?



### Clinical Scaffolds

Libraries built using clinical scaffolds chosen for germline diversity and excellent developability properties



### Quality Control

Next-generation sequencing guarantees that your library contains at least 100 million different HCDR3s and no clonal dominance in your platform



### Multiple Library Formats

- scFv, Fab, fixed VL for both scFv and Fab, VHH and other library formats
- Generation-2 platforms, comprising assembled natural VH and VL genes



### Affinity Maturation

Affinity maturation module provided as part of the platform, delivering up to 400-fold affinity improvement



### Collaborate and Customize

In addition to Specifica's in-house library design, libraries can be customized, modifying scaffolds, tags, vectors or excluded liabilities. When in-house capacity is limited, Specifica can conduct discovery using your exclusive library



### Flexibility

Specifica retains your HCDR3 diversity in-house, allowing further expansion of your antibody discovery capabilities by using your HCDR3 diversity to build additional libraries with different properties or formats



### Exclusive Assets

- Library as an exclusive asset
- Industry-leading antibody diversity on each project
- HCDR3 donor sets used once
- CDRs reassembled for each library



### Training

Staff can attend training at Specifica's lab in Santa Fe, NM, covering all aspects of the Generation 3 platform



### Straightforward Terms

Specifica's terms eliminate complexities typically seen in platform transfers. No royalties or milestone fees are charged. Pricing structures can be tailored to meet each customer's needs



### Deliverables

Exclusive client-specific libraries, NGS data, vectors and manual

## Specifica also offers:



### Antibody Discovery Campaigns

Using the in-house Generation 3 antibody or VHH libraries, Specifica can select antibodies for you against any target while meeting demanding specificity requirements. Selected antibodies have high affinities, excellent developability properties, and broad diversity.



### Affinity Maturation and Developability Improvement

Specifica has adapted the Generation 3 library platform to affinity mature antibodies from any source. As sequence liabilities are purged from the CDRs used, developability improvement occurs simultaneously with affinity maturation, which ranges from 10- to 400-fold over the starting antibody affinity.

#### References

1. Ferrara F, Erasmus MF, D'Angelo S, et al. A pandemic-enabled comparison of discovery platforms demonstrates a naïve antibody library can match the best immune-sourced antibodies. *Nat Commun.* 2022 Jan 24;13(1): 462. doi: 10.1038/s41467-021-27799-z.
2. Teixeira AAR, Erasmus MF, D'Angelo S, et al. Drug-like antibodies with high affinity, diversity and developability directly from next-generation antibody libraries. *mAbs.* 2021 Jan-Dec;13(1):1980942. doi: 10.1080/19420862.2021.1980942.



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