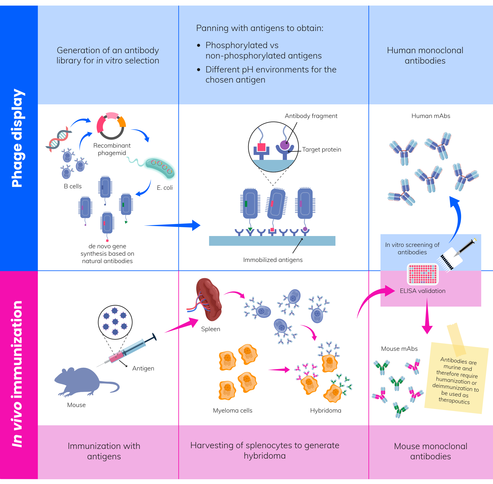
Bioanalysis ZONE

BIO-RAD

Monoclonal antibody production strategies: phage display vs *in vivo* immunization

Monoclonal antibodies have transformed the way we treat cancer, autoimmune conditions and infectious diseases. Take a deep dive into the intricacies of custom antibody discovery with a focus on phage display and *in vivo* immunization and elevate your understanding of Bio-Rad's antibody production capabilities through the Pioneer™ Antibody Discovery Platform and HuCAL® technology.

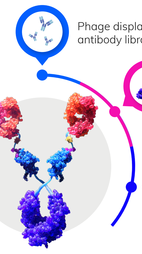


	Phage display	*In vivo* immunization
Pros	• **Speed:** generates well-characterized antibodies in weeks • **Animal-free:** antibodies can be obtained against self, non-immunogenic or toxic antigens • **Established** and **therapeutically-proven** technology • **Sequence-defined** antibodies providing a **secure antibody source**	• **Established technology** with **expertise** and **infrastructure** present in numerous labs • **Produces high-affinity antibodies** thanks to in vivo affinity maturation • **Cost effective** • Enables *in vivo* selection of antibodies with **favorable properties**
Cons	• Antibodies may have **low affinity** and require ***in vitro* affinity maturation** • **Laborious** to develop large and high-quality antibody libraries • **Developability concerns** need to be actively addressed • Requires **specialized expertise**	• Development of hybridomas requires **animals**, **specialized facilities** as well as **considerable time** and **expertise** • Mouse mAbs are **unsuitable for use as therapeutic agents** and require **humanization** • **Possible loss of clones** due to low efficiency of hybridoma generation steps

Applications

Therapeutic discovery

Pioneer Antibody Discovery Platform



Learn more about SpyTag technology here

Bioanalysis

Catalog anti-idiotypic antibodies

Access >100 highly specific antibodies for idiotypes for PK and ADA assays

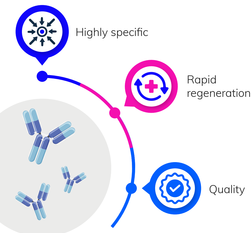
Suitable to support bioanalytical assays for:

Explore anti-idiotypic antibodies

Human Combinatorial Antibody Libraries:

HuCAL Technology

In vitro generation of recombinant monoclonal antibodies that are:



Custom recombinant antibodies eliminate:

- the need for sourcing and testing multiple commercial products
- waiting for hybridoma generation

Type 3 antibodies that recognize antibody-target complex are only produced by Bio-Rad

Discover HuCAL technology

This infographic has been created as part of a Bioanalysis Zone feature with Bio-Rad.

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