

Own Your Molecules: Therapeutic Antibody Discovery

Humanized Antibodies without Royalties

Integrated platform from PentaMice™ to Humanized Antibodies

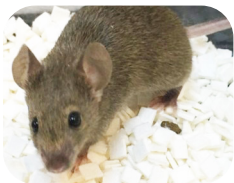
LakePharma provides a seamless transition from discovery to humanization that brings your molecules closer to the bedside. Discovery begins with the PentaMice™ Platform, a royalty-free set of mice comprising 5 WT strains that cover 9 distinct MHC haplotypes. A total of 10 mice (2 mice of each strain) are included in each set to cover a wide range of MHC haplotypes to enable effective T cell help, thus achieving maximum plasma titers and boosting the opportunity to generate high-quality antibodies *in vivo*.

Humanization of your mouse IgG's aims to lower the risk of patient immunogenicity. Antibody CDR's from your novel sequences are grafted onto a human framework. This strategy aims to maintain the original affinity and specificity and is coupled with performing back mutations to afford CDR loop stability and VH-VL pairing. Recombinant production and kinetic assessment of the humanized hIgG complete the humanization process, prior to final delivery of sequence and materials.

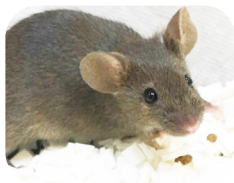
Highlights

- Royalty-free platform that delivers humanized antibodies discovered via PentaMice immunizations and hybridoma based campaigns
- Platform comprises 5 WT strains that cover 9 distinct MHC haplotypes
- 5+ years of successful humanization expertise and 1000 humanized variants delivered for client testing and development
- Fast timeline of integrated services from PentaMice immunization to humanized antibodies: ~6 months

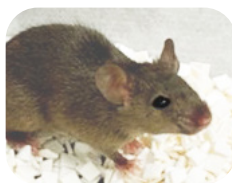
The Five Wildtype Strains in the PentaMice™ Platform



b x s



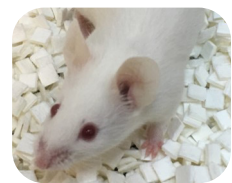
d x u



k x g7



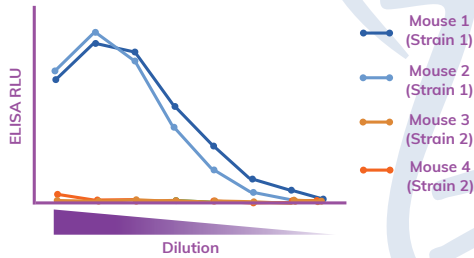
q x v



Mixed

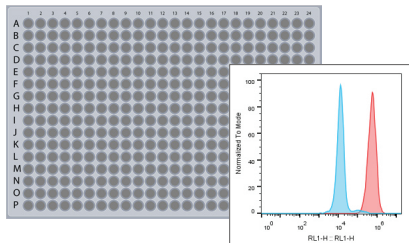
From mIgG to hIgG: Hybridoma Discovery + Humanization Designs

STEP 1 Immunization



Plasma titers are highly predictive of antibody discovery success. Based on LakePharma's experience, there is often a strong strain-dependent difference in plasma titers for most targets.

STEP 2 Fusion & Screening



- Hybridoma generation by electrofusion
- 384-well plate high throughput screens (ELISA or multiplex FACS)
- Data master files for candidate selection
- Monoclonal hybridoma generation & VH & VL sequencing

STEP 3 Humanization



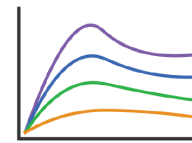
Sequence Analysis

- Antibody sequence analysis and homology modeling of mAb 3D structure
- Identification of key positions supporting CDR loop and VH-VL interface



Generate Humanized Variants

- At least 9 designed humanized variants for each parental sequence
- T20 humaness score analyser
- TunaCHO or 293 expression of humanized variants



Variant Analysis

- Expression and productivity assessment
- Confirm binding by Octet® or cell-binding by flow cytometry as compared to parental sequence

Please contact us at marketing@lakepharma.com or visit hybridoma.com.



Contact Us

Corporate Headquarters
201 Industrial Road
San Carlos, CA 94070

Tel. 650-288-4891
Tel. 888-406-5658 (Toll-free)
Fax 888-635-3618

Email inquiries@lakepharma.com
Web www.lakepharma.com