

**FACT SHEET**

# Own your molecules: Therapeutic antibody discovery

## Humanized antibodies without royalties

Curia 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 CDRs 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 hlgG complete the humanization process, prior to final delivery of sequence and materials.

### The five wildtype strains in the PentaMice® platform



b x s



d x u



k x g7



q x v



Mixed

### HIGHLIGHTS

Royalty-free platform that delivers humanized antibodies discovered via immunizations using the PentaMice platform and hybridoma based campaigns

Platform comprises 5 WT strains that cover 9 distinct MHC haplotypes

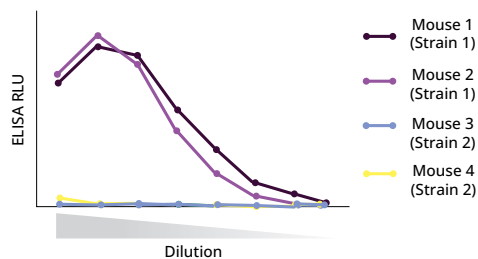
5+ years of successful humanization expertise and 1000 humanized variants delivered for client testing and development

Fast timeline of integrated services from immunization of PentaMice wild-type mice to humanized antibodies: ~7 months

# From mIgG to hIgG: Hybridoma discovery + humanization designs

**STEP 1**

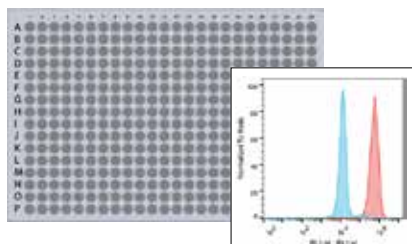
**IMMUNIZATION**



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

**STEP 2**

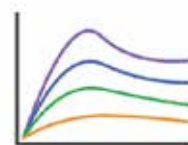
**FUSION & SCREENING**



- 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 humanness score analyser
- TunaCHO<sup>SM</sup> or Tuna293<sup>SM</sup> expression of humanized variants

**VARIANT ANALYSIS**

- Expression and productivity assessment
- Confirm binding by Octet<sup>®</sup> BLI system or cell-binding by flow cytometry as compared to parental sequence

## ABOUT CURIA

Curia is a Contract Development and Manufacturing Organization with over 30 years of experience, an integrated network of 29 global sites and over 3,500 employees partnering with customers to make treatments broadly accessible to patients. Our biologics and small molecule offering spans discovery through commercialization, with integrated regulatory and analytical capabilities. Our scientific and process experts and state-of-the-art facilities deliver best-in-class experience across drug substance and drug product manufacturing. From curiosity to cure, we deliver every step to accelerate and sustain life-changing therapeutics. [Learn more at curia.com](https://www.curia.com)

*Solutions developed by Curia*

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