



Benthic Genomics

Get Industry Leading
Immunogenomics With The
Scale and Cost of Microarray

Enhanced performance powered by the Benthic Analysis Platform

www.b5genomics.com

For complex immunogenomic regions, Angler Imputation transforms standard microarray data into whole genome NGS-quality results, without new hardware or lab workflows.

Move beyond multiplex PCR and data heavy WGS and get deep characterization, including haplotypes and non-coding regions, of 45 immune genes with high HLA typing accuracy.

Accurate HLA Typing

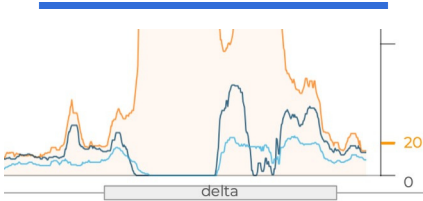
Achieve 95%+ accuracy for 3-field (6-digit) HLA typing from microarray data

Accuracy			
	1- field	2- field	3- field
11 genes	0.99	0.98	0.96
45 genes	0.99	0.98	0.96

Simulated array data for 44 samples. Performance evaluated against allele calls obtained from ground-truth-quality assemblies from long-read data.

Greater Diversity

More variants in graph references improve polymorphic region performance



Unlike other panels (blues) that completely miss variation in the highly polymorphic HLA delta block, Angler (orange) detects hundreds of variants in that same region.

Comprehensive Gene Coverage: Analyze 45 immune genes at once with clinical-grade precision

HLA-A	HLA-B	HLA-C	HLA-E	HLA-F	HLA-G	HLA-H	HLA-J	HLA-K
HLA-L	HLA-N	HLA-P	HLA-R	HLA-S	HLA-T	HLA-U	HLA-V	HLA-W
HLA-Y	HLA-DMA	HLA-DMB	HLA-DOA	HLA-DOB	HLA-DPA1	HLA-DPA2	HLA-DPB1	HLA-DPB2
HLA-DQA1	HLA-DQA2	HLA-DQB1	HLA-DQB2	HLA-DRA	HLA-DRB1	HLA-DRB2	HLA-DRB3	HLA-DRB4
HLA-DRB5	HLA-DRB6	HLA-DRB7	HLA-DRB8	HLA-DRB9	MICA	MICB	TAP1	TAP2

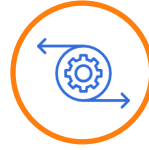
Why It Works



Graph-based reference panels built from thousands of samples, including long-read, phased haplotypes for complex regions



Specialized algorithms that outperform standard tools in variant recall and typing accuracy, especially in diverse populations



Seamless integration with existing microarray workflows - all improvements happen in the analysis step

How It Works

1

Run samples on any microarray platform

- Infinium Global Screening Array
- Infinium Global Clinical Research Array
- Your custom array

2

Transfer and analyze data on Benthic Platform

- Secure data transfer
- Simple web interface
- Analysis of thousands of samples in just a few minutes

3

Get accurate results for complex regions

- Filter and sort data for export in CSV format
- Download a PDF of HLA typing with known drug associations & allele frequency

Economic Impact

For Mixed Platform Labs

Consolidate multiple platform tests to a single microarray, reduce operational complexity, and standardize workflows

For High-Volume Testing

Realize a significant cost reduction with Angler + microarray vs PCR and NGS for equivalent data

For Research Applications

Add complete immune gene analysis (SVs and non-coding variants) to existing studies with no new lab workflows

No new equipment, No protocol changes. Just better results.

**Want to see what comprehensive
immune gene analysis looks like
on your data?**

Get in touch for a demo.

www.b5genomics.com