

Technology Comparison Chart

There are several diagnostic laboratories offering chromosome microarray analysis. The following chart compares the various technologies currently available. We hope that this information will assist you in choosing the technology that best suits the needs of your patients.

GenomeDx From GeneDx:

- Highest density array with genome-wide coverage clinically available
- Testing of parents is free of charge
- Thorough analysis down to the gene level

	BAC Array	Targeted Oligo Array	Genome-Wide and Targeted Oligo Array	Considerations
BACs or oligonucleotide probes on array	500–2,000 BACs (size ~200kb)	44,000 oligos (size 25-60 bases)	10,000–250,000 oligos* (size 25-60 bases) <i>*105,000–GeneDx</i>	Greater number and/or smaller size of clones/probes increases sensitivity
Sensitivity to the location of imbalances	Known regions	Known regions	Genome-wide coverage plus greater density in known disease regions	Genome-wide distribution of probes with increased probe density in known regions provides best sensitivity in known regions and identifies genomic imbalances elsewhere
Sensitivity to size of imbalance that can be detected	0.5-1 MB on average	>50-500 kb (Depends on number and placement of probes)	>50-500 kb (Depends on number and placement of probes)	BAC arrays are good at identifying large imbalances, but may miss smaller changes Oligo arrays can identify smaller genomic imbalances that BACs may miss Genome-wide distribution of probes with increased probe density in known regions provides best sensitivity in known regions and identifies genomic imbalances elsewhere
Complexity of analysis and interpretation	Fewer copy number variants (CNVs) → less complex analysis and easier interpretation	Fewer CNVs → less complex analysis and easier interpretation	More novel imbalances and CNVs found → more complex analysis and interpretation required	Higher sensitivity: Genome-wide and Targeted Oligo arrays reveal more CNVs and variants of unknown significance (VOUS) that require testing of parents Lower sensitivity: BAC and Targeted Oligo arrays uncover fewer CNVs and VOUS
Confirmation	Easy confirmation by FISH	Easy confirmation by FISH	Custom-FISH, qPCR, MLPA	Preferred method of confirmation will vary with array type