HIP HIP ARRAY

CytoScan HD Accel offers improved coverage

Leverage updated content for reproducible and reliable results

Rise above current limitations in your cytogenetics research with the new Applied Biosystems™ CytoScan™ HD Accel† Array featuring updated content and faster assay turnaround time. Enhancements in analysis, and reporting, support your investigations at a whole new level of productivity and efficiency.

Raise the bar of your copy number analysis with CytoScan HD Accel

Sometimes even a single SNP or copy-number variant (CNV) may be the key to gaining critical new insights you need to advance your cytogenetics research to a whole new level. CMAs that incorporate some of the latest available content is essential to helping maximize the value of cytogenetics assays. The CytoScan HD Accel Array is designed with improved coverage in more than 5000 regions as categorized by multiple leading scientific databases.

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† The content provided herein may relate to products that have not been officially released.

Maximize the value of your CMA assays with improved coverage

- Broaden your investigations with **updated content** in more than 5,000 critical genome regions
- Investigate **all genes in the genome**, both with established significance and emerging evidence
- Gain insights from high-resolution DNA copy number analysis with **breakpoint accuracy** for a wide range of applications in prenatal, postnatal and oncology research

Speed your cytogenetics research forward with faster assay turnaround time

Accelerate your testing by as much as 100% compared to some other assays. The CytoScan HD Accel assay workflow can be completed in just two days' time.

Save time, money, and resources with highly reproducible data even from challenging sample types

The CytoScan HD Accel reference model has been expanded to enable improved data quality from a broad range of samples including buccal swabs, saliva, products of conception, amnio, CVS and cell lines. Even with just **100 ng input DNA**, CytoScan HD Accel Arrays uphold the stringent reproducibility and reliability needed to support excellent results with minimal failure rate.

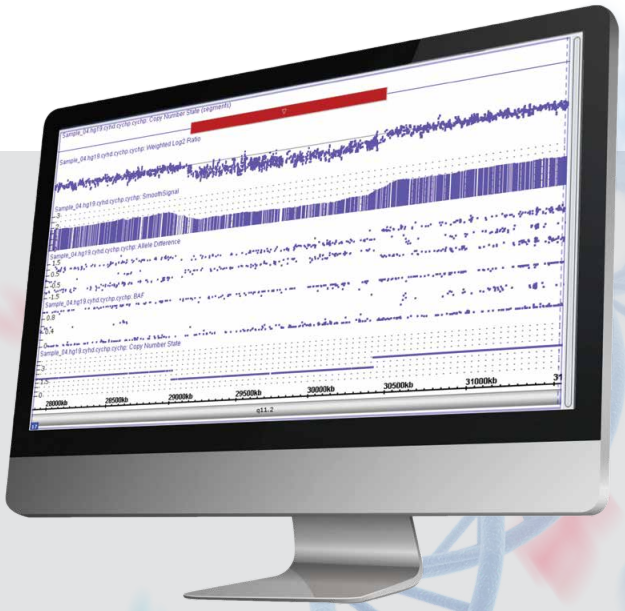
Cytoscan HD Accel Array coverage

CytoScan HD Accel Array			
Description	**# of genes**	**# of genes with ≥25M in 100 kb extended**	**% coverage**
ClinGen	1,185	1,185	100.00%
Morbid OMIM®	4,397	4,394	99.93%
DDG2P	1,949	1,949	100.00%
All clinical genes	**5,078**	**5,074**	**99.92%**

Streamline your CMA research with enhancements throughout the CytoScan cytogenetics suite

Updated CMA content is just one aspect of maximizing the value of CMA studies. Enhancements to the intuitive and flexible Applied Biosystems™ Chromosome Analysis™ Suite (ChAS) software offer powerful new features for customized visualization and analysis of chromosomal aberrations across the genome.

Boost your discovery yield and simplify variant interpretation. The new **Applied Biosystems™ CytoScan™ Automated Interpretation and Reporting (AIR)** solution unites ChAS software with Franklin (by Genoox) an end-to-end, Artificial Intelligence Intelligence (AI)-driven research solution for genetic data analysis.



Leverage the power of AI for instant and precise variant identification with CytoScan AIR

- **Fast data interpretation and reporting:** results available in seconds so you can focus on discovery
- **Improved evidence support:** options for segment prioritization including the most up-to-date American College of Medical Genetics (ACMG) classifications, phenotype matching, literature searches and historic data
- **Customized reporting:** intuitive interface enables easy customization, reporting, evaluation, and sign-off
- **Evidence-based database development:** access to Franklin enables users to link evidence with observations for internal database management and expansion
- **Relevant insights:** more than 350,000 shared variant classifications and advanced findings from community-driven cytogenetics research

Advancing cytogenetics research with the GeneChip System 3000

Our commitment to advancement in cytogenetics research continues with updates to the high-performance microarray instrument for array processing, Applied Biosystems™ GeneChip™ System† (GCS) 3000.

Updates include:

- More efficient installation with the autoloader pre-assembled inside the scanner
- Easier and safer operation of the scanner lid with new grip and counterbalance
- Updated internal components to support longevity
- Modernized look and feel

CytoScan HD Accel Array provides valuable enhancements over alternative CMAs

	CytoScan HD Accel	CytoScan HD	Illumina Infinium GDACyto	Agilent GenetiSure
Research application	Faster turnaround time with improved coverage for highest genome-wide resolution of CNVs for applications in prenatal, postnatal, and oncology research	The benchmark in cytogenetics research with highest genome-wide CNV resolution for applications in prenatal, postnatal, and oncology research	Global population array with supplemental targeting of a select number of cytogenetic regions	Genome-wide copy number CGH+SNP array focused on disease-associated regions linked to a range of disorders
Sample type	Blood; buccal swabs; saliva; bone marrow; uncultured or cultured cells; chorionic villi; amniocytes; POC; and fresh, frozen, or FFPE tissue	Blood; buccal swabs; saliva; bone marrow; uncultured or cultured cells; chorionic villi; amniocytes; POC; and fresh, frozen, or FFPE tissue	Blood, buccal swabs, saliva, or FFPE tissue (purchase of additional kit required)	Blood, saliva, bone marrow, amniotic fluid, chorionic villi, or FFPE tissues
Size of aberration	Losses: 25 kb Gains: 50 kb LOH/AOH: 3 Mb Mosaicism: >15% (approximately)	Losses: 25 kb Gains: 50 kb LOH/AOH: 3 Mb Mosaicism: >15% (approximately)	Losses: 50 kb* Gains: 200 kb* LOH/AOH: 5 Mb Mosaicism: >20% Average resolution: 1.5 Mb (Genome-wide)	No publicly available resolution claims. The specs are based on median probe spacing and coverage of 5 or more probes Overall: 223 Kb (180K CGH+SNP) LOH/AOH: 2.5 Mb (only for 4x180K CGH+SNP) Mosaicism: >15%
Input	100 ng	10–250 ng**	200 ng	350 ng
Probe structure	2.8 million markers for whole genome coverage 2 million nonpolymorphic markers 750,000 SNP probes for LOH/AOH analysis, duo-trio assessment, and sample tracking	2.7 million markers for whole genome coverage 1.9 million nonpolymorphic markers 750,000 SNP probes for LOH/AOH analysis, duo-trio assessment, and sample tracking	Approximately 1.8 million markers	60,000 probes (60K CGH) 180,000 probes (180K CGH+SNP)
Balanced hybrid dual-probe design	Yes	Yes	No	Only 180,000 probes (180K CGH+SNP)
Balanced whole-genome coverage	Yes	Yes	No	No
Protocol	2 days	3 or 4 days	3 days	2 days

*As reported by current customers in publicly available material

**250 ng is optimal but users have reported success using as little as 10 ng starting DNA.

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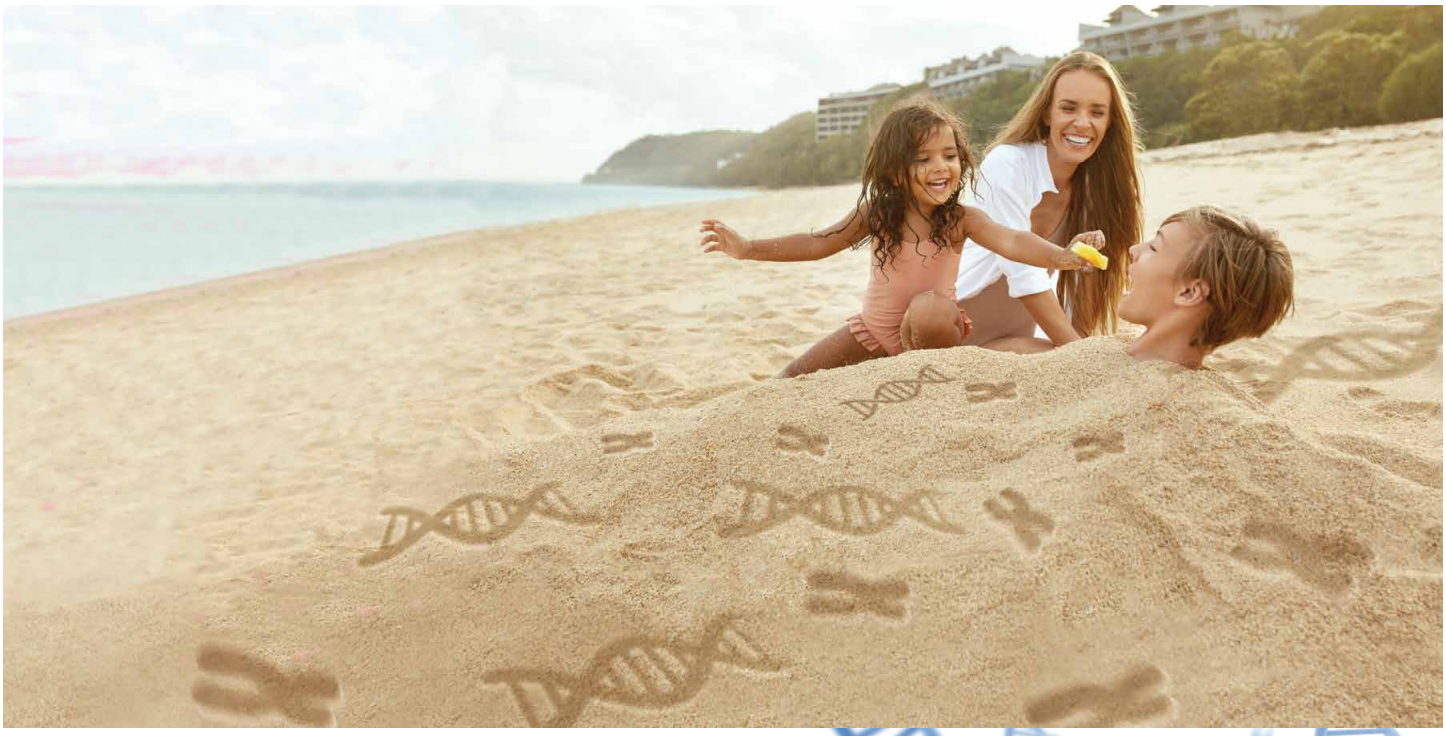

Raise your productivity and efficiency to a whole new level with CytoScan HD Accel Array

- Sample to report in just **2 days**, including updated array content with balanced genome coverage
- 50% less sample input than most competitors
- Improved data quality due to a supplemented reference model that includes challenging sample types

With the new CytoScan HD Accel Array, CytoScan AIR solution and updated GCS 3000 instrument, CytoScan cytogenetics suite can help accelerate your research forward at a new pace.

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