GeNeCaRe
Diagnostics & Research Centre
WE CARE FOR YOUR GENES

CHROMOSOME MICROARRAY

INDIA'S FIRST
FDA-cleared, IVDR-compliant Microarray System

GCS 3000 DX V2

It is the only FDA-cleared, IVDR-compliant microarray system for RNA- and DNA-based clinical tests.

The GCS 3000Dx v.2 is a robust and only microarray platform for clinical applications.

GENARRAY
THE DNA CHIP

Pioneers in Reproductive Genomics

·We firmly believe that Karyotype is the gold standard technique for chromosome analysis and it's not possible to replace karyotype but at the same time its required to acquire the latest and the most advance technology.
·Gene Care Diagnostics and Research centre is pleases to have most upgraded Chromosome Microarray platform affymetrix Gene Chip System (GCS) 3000Dx v.2.
·The Gene Chip System (GCS) 3000Dx v.2 is the first and the only microarray platform that is regulatory cleared for diagnostic use.

Types of GENArray

- **GENExon Array**
- **GENArray 315K Optima**
- **GENArray 750K DeepRoot**

- **The robust software and database that meet the needs of the Clinical Diagnostic lab.**
- **FAST & ACCURATE: Capacity to analyze 48 CHIPS in a one go.**

Recommendation for prenatal testing by CMA

Chromosomal Microarray has been recommended by the American College of Obstetrics and Gynecology (ACOG) for :

- Abnormal ultrasound findings.
- Abnormal screening tests.
- Family history of a genetic or chromosomal abnormality that is detectable by microarray technology.
- History of pregnancy loss

ALSO RECOMMENDED BY THE EXPERTS (POSTNATAL)

Chromosomal Microarray (CMA) is a first-tier diagnostic test recommended by the American College of Medical Genetics (ACMG), the American Academy of Neurology (AAN), and the American Academy of Pediatrics (AAP) for Intellectual disability, development delay, Autism, Dimorphism, Multiple congenital anomalies.

What are the different types of CMAs

1. GENXon Array offers very high-resolution DNA copy number analysis to detect gains and losses at exon level. GENXon Array detects loss of heterozygosity (LOH), regions identical-by descent, and uniparental isodisomy (UPD) on a single array Broad coverage for 453,076 Exons of 17974 genes with increased sensitivity and specificity in 7000 clinically relevant genes

2. GENArray 750K array Offers comprehensive gene-level coverage for known constitutional genes on a single array Ideas for investigation of neurological disorders , development delay, Autism, Dimorphism, Multiple congenital anomalies.

3. GENArray 315k Optima array Ideal for genetic analysis of POC / prenatal samples for Aneuploidy analysis.

ADVANTAGES

- Detects aneuploidy (including trisomy and sex chromosome abnormalities) & triploidy
- Detects sub-microscopic deletions and duplications in regions known to be associated with well-characterized microdeletion & microduplication syndromes.
- Offers enriched coverage of subtelomeric regions, often undetectable by traditional chromosome analysis.
- Bypasses cell culture in majority of cases with more efficient turnaround times.
- Often allows for results on suboptimal specimens for which chromosome analysis is not feasible
- SNP array allows detection of Triploidy, Uniparental disomy & LOH

LIMITATIONS

- The minimum resolution required for the reporting of GENArray Microarray Optima (315K) is 1 MB for losses, 2 MB for gains, and 5 MB for LOH / AOH for GENArray Microarray Optima (315K).
- The minimum resolution required for the reporting of GENArray Microarray (750K) is 200 KB for losses, 200 KB for gains, and 5 MB for LOH / AOH for Microarray GENArray Microaaray (750K).

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Gene Care Diagnostics and Research Centre is offering following Arrays

Type	GENXon Array	GENArray 750K	GENArray 315k Optima
Number of CNV probes used	6.55 Million	750436	18018
Number of SNPs covered	3,00,000	200436	148450
Probe density	>500Kb	>100Kb	>200Kb
Deletion	>25Kb	>100kb	> 1 Mb
Duplication	>200Kb	>400kb	> 2 Mb
Loss of Heterozygosity	>100Kb	>5 Mb	> 5 Mb
Absence of Heterozygosity	> 3% of total autosomal (>3Mb LCSH)	> 3% of total autosomal (>3Mb LCSH)	NOT REPORTED
Recommended for	First line screening for cases of Developmental Delay (DD), Mental Retardation (MR), Multiple Congenital Anomalies (MCA) and Autism Spectrum Disorders (ASD)		Aneuploidy from prenatal /POC Testing
TAT	18 working days	14 working days	14 working days