CytoSure™

CytoSure™ DMD Array (4 x 44k)

High resolution detection of abnormalities within the DMD gene

CytoSure DMD arrays

Duchenne muscular dystrophy (DMD) is an X-linked (Xp21) condition caused by mutations in the DMD gene. It is a relatively common disease, affecting an estimated 1 in 3,000 male births, and is characterised by progressive muscle degeneration.

The DMD gene is one of the largest genes in the human genome (2.2 Mb), consisting of 79 exons encoding the protein dystrophin. It can be challenging to accurately detect and size deletions and duplications within the DMD gene using currently available non-array methods, which do not offer sufficiently high resolution. In cytogenetics, array CGH (aCGH) is increasingly being used for the identification of chromosomal copy number and structural changes at a higher resolution than conventional techniques. The CytoSure DMD array is a 4 x 44k feature oligonucleotide microarray providing comprehensive coverage of the whole DMD gene in a single assay, for efficient, accurate and cost-effective determination of deletions and duplications.

Reasons to use CytoSure DMD arrays
aCGH allows equal detection/sensitivity for carrier females as well as duplicated males
High density probe spacing enables comprehensive coverage of the entire DMD gene on one array, permitting accurate determination of deletions and duplications
Empirical testing and optimisation of probe set designs delivers the highest performance arrays
Simple workflow, with minimal sample handling, gives you increased confidence and peace of mind
Four samples per slide minimises cost-per-sample and reduces variability

High resolution detection

CytoSure DMD arrays are supplied as slides with 4 arrays of 44,000 high quality 60mer oligonucleotides. Average probe spacing of 10 bp within the exons, and 106 bp within introns, enables coverage of the entire dystrophin gene on a single array. This high density probe spacing also increases the likelihood of detecting duplications and deletions.

Figure 1: Detection of a 4 kb deletion within the DMD gene. (Data courtesy of Emory University)

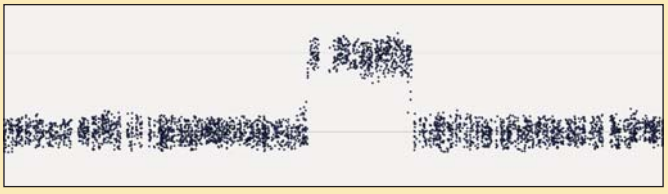
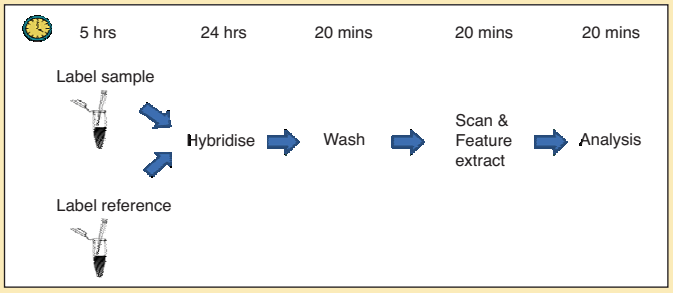


Figure 2: Detection of an 85 kb duplication within the DMD gene. (Data courtesy of Emory University)

Simple microarray processing workflow

Manual processing of the CytoSure DMD array is straightforward and requires only two tubes per sample to label the reference and experimental DNA. Samples are subsequently co-hybridised to the array, washed, then scanned on a microarray scanner. Data is exported to CytoSure Interpret software for analysis.

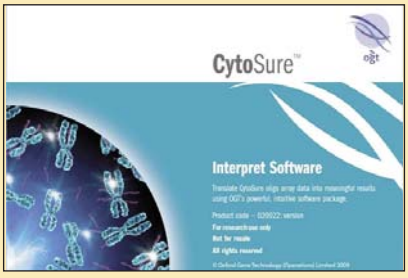
Should you require automated array processing for higher throughput applications, OGT offers a range of aCGH workflow automation products from SciGene. For full details, please visit www.ogt.co.uk/cytoscigene.html.



CytoSure™

Simple but powerful data analysis

CytoSure Interpret is a user-friendly, powerful software package developed by OGT specifically for the analysis, interpretation and storage of aCGH data. Interpret's Accelerate module provides automation of the data analysis workflow to minimise user intervention, increase speed and improve consistency of data interpretation. For maximum flexibility, the Accelerate module also enables customisation of normalisation, aberration detection and report generation. Furthermore, the software maintains a database of processed samples, including information relating to each aberration detected, as well as experimental details and quality control metrics. Whether you need a simple data-to-report workflow, customisable settings for complex analyses or database functionality, CytoSure Interpret is the software of choice.



Part numbers and ordering information

CytoSure DMD Array (4 x 44k) with Interpret software	020023 (order by number of slides)
CytoSure genomic DNA labelling kit (24 reactions)	020020

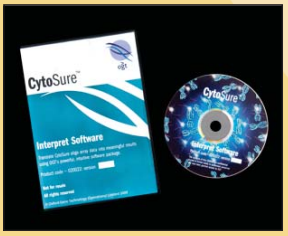
Acknowledgements: OGT would like to acknowledge the significant contribution of the Emory Genetics Laboratory, Emory University, in the development of this array.

For research use only
Only available outside USA

CytoSure product range

The complete oligonucleotide array solution, designed exclusively for the research community, providing:

- Highest quality oligonucleotide arrays
- Genomic DNA labelling kit
- Complimentary CytoSure Interpret software
- SciGene equipment for automated array processing



Reasons to use CytoSure arrays

- Dense probe coverage of syndromic regions increases confidence in aberration calling and detection of chromosomal abnormalities
- 60mer oligonucleotide probes offer high specificity, sensitivity and reproducibility, for high quality data that gives you confidence and peace of mind
- OGT's extensive bioinformatics expertise, coupled with Agilent-manufactured slides, gives you reassurance and confidence in the quality of array design and performance
- Process automation increases reproducibility and reduces labour costs
- Complimentary CytoSure Interpret software developed by OGT to provide a user-friendly, powerful package to analyse, interpret and store aCGH data.

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