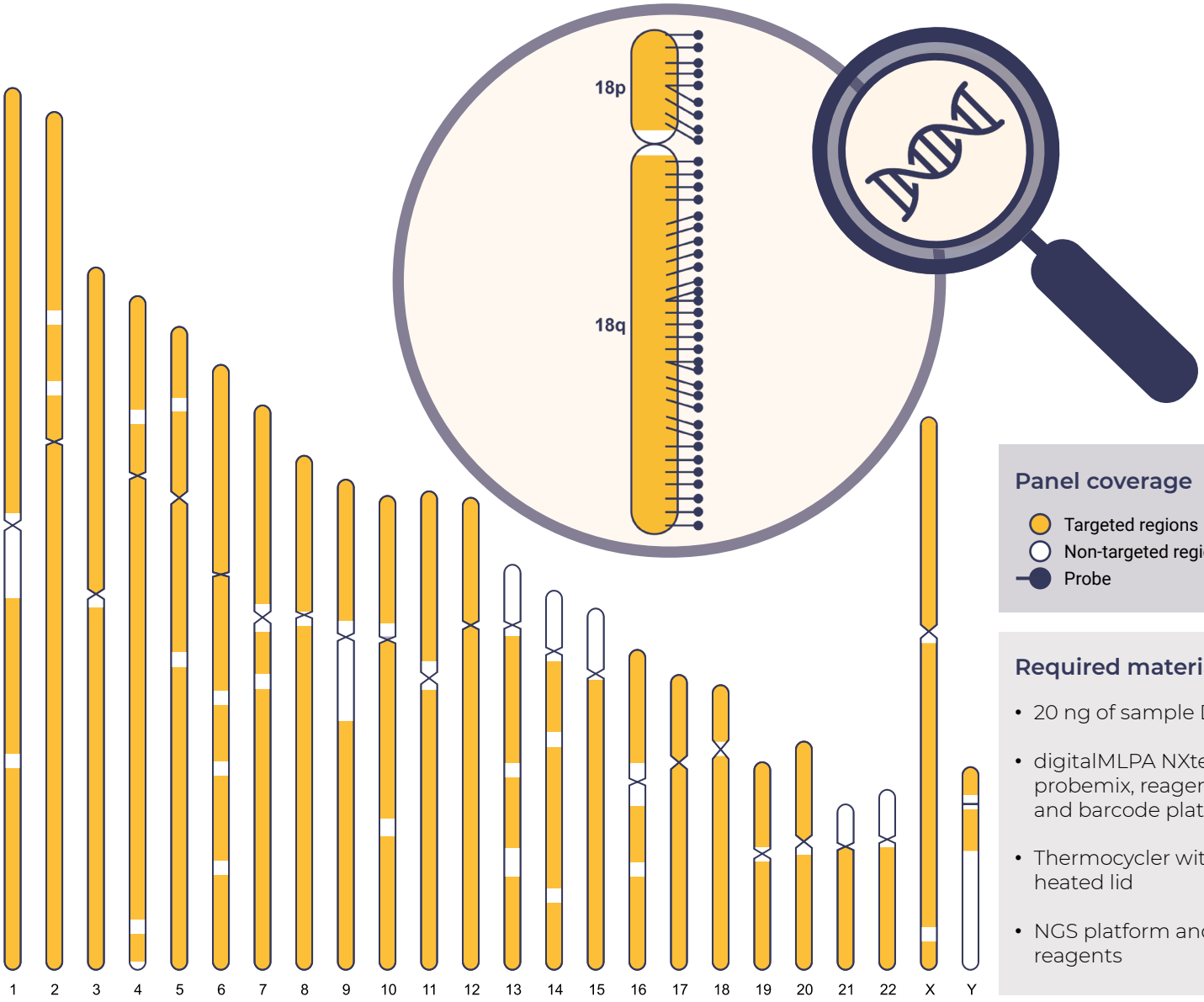
digitalMLPA™ NXtec™

D024 KaryoProfiler

MRC Holland

A high-throughput, high-resolution alternative to karyotyping

- ✓ **Genome-wide copy number detection** — 2-4 Mb resolution for large-scale chromosomal changes
- ✓ **Sensitive mosaicism detection** — even when present in only 30% of cells
- ✓ Integrated SNP-pair probe panel — **cell line authentication & cross-contamination checks**
- ✓ **Designed for cost-sensitive workflows** — frequent, large-scale monitoring without losing resolution
- ✓ **From DNA to sequencer in <24 hours** — high-throughput characterisation across diverse cell types
- ✓ **Combine with other libraries** to maximise sequencing capacity
- ✓ Free, easy-to-use analysis software — **no bioinformatics expertise needed**



Panel coverage

- Targeted regions
- Non-targeted regions
- Probe

Required materials

- 20 ng of sample DNA
- digitalMLPA NXtec probemix, reagents and barcode plates
- Thermocycler with heated lid
- NGS platform and reagents

D024 KaryoProfiler delivers fast, cost-effective, high-resolution chromosomal analysis — essential for modern genetic practices.

Sander Palit, PhD
Product Developer MRC Holland

Cytogenetic applications

- Detect constitutional & acquired CNVs, including submicroscopic and cryptic imbalances
- Characterise complex CNV patterns in developmental disorders
- Identify low-level mosaicism (≥30%)
- Complement or replace karyotyping in cases of unclear/failed results
- Follow up abnormal FISH, array CGH, or NGS findings

Cell culture and QC applications

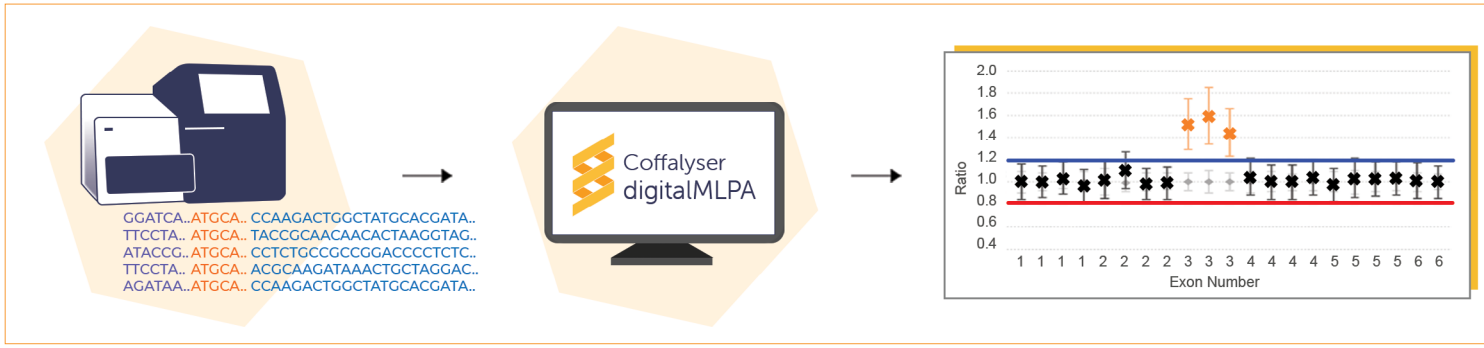
- Assess genomic stability in iPSC, ESC, and other cell models
- Monitor genomic drift & instability in long-term or high-passage cultures
- Screen and select clones prior to functional studies or drug testing
- Detect subclones (≥30%) and cross-contamination
- Ensure genomic integrity during cell-based product development
- Perform QC for manufacturing, biobanking & batch release

Comparison of NXtec D024 KaryoProfiler to common tools for detecting genomic variants

	D024 KaryoProfiler	Karyotyping	Array CGH	qPCR	WGS
Cost	$	$$	$$	$	$$$
Resolution	2-4 Mb	5-10 Mb	5-100 kB	>1bp	1bp
Coverage	whole genome	whole genome	whole genome	targeted	whole genome
Input	20 ng	dividing cells	~500 ng	5-15 ng	500-1000 ng
Speed	moderate	slow	moderate	rapid	slow
Limitation	misses balanced events	requires specialist skills	misses balanced events	limited to hotspots	complex data analysis

Coffalyser digitalMLPA™

Free software that processes FASTQ files, runs QC, and delivers clear CNV reports



MRC Holland

Confidence in Copy Number Determination

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F-D024-0012D